HOW THE PHYSICAL, SOCIAL, AND PSYCHOLOGICAL ENVIRONMENT IMPACTS BORDER SECURITY

by

John Joseph Smietana, Jr.

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

[Doctor of Philosophy]

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ABSTRACT

Crime prevention through environmental design (CPTED) is a theory of crime control that posits that crime can be mitigated by shaping the physical, psychological, and social environment to prevent the meeting of perpetrators and victims. Over several decades, the United States applied the principles of CPTED to the United States-Mexico border in San Diego to secure the international border. Despite the sovereign right to secure the international border, border security became a divisive and emotionally charged topic in the United States. Studies on the effectiveness of border security were qualitative and humanitarian, describing how border security negatively impacted certain groups and was not beneficial to safety. This observational, non-experimental, quantitative study looked at the correlation between the efforts of the United States to secure the border in San Diego and the violent and property crime rates in San Diego between 1996 and 2020, as the principles of CPTED were applied. The violent and property crime rates in San Diego fell significantly between 1996 and 2020, with the property crime rate declining the most. The study found a statistically significant, strong negative correlation between applying CPTED principles on the border and the violent and property crime rates in San Diego between 1996 and 2020.

Keywords: Crime Prevention Through Environmental Design, Border Security, Violent Crime Rate, Property Crime Rate.

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List of Abbreviations

Crime Prevention Through Environmental Design (CPTED)

Customs and Border Protection (CBP)

Department of Homeland Security (DHS)

Deterrence Theory (DT)

Drug Enforcement Administration (DEA)

Federal Bureau of Investigation (FBI)

Geographical Juxtaposition (GJ)

International Boundary and Water Commission (IBWC)

Multi-National Entities (MNE)

Nation-State (NS)

Rational Choice Theory (RCT)

Routine Activities Theory (RAT)

Transnational Criminal Organizations (TCO)

Unified Crime Report (UCR)

United States Border Patrol (USBP)

United States Financial Crimes Center (FinCEN)

Unmanned Aerial Vehicles (UAV)

CHAPTER ONE: INTRODUCTION

Overview

An international border is a geopolitical boundary that delineates the point at which a nation-state's sovereignty begins. As such, it is the primary duty of the nation-state to protect itself and the citizens of the nation-state. "Each state pursues its own interest, however, defined, in ways it judges best" (Waltz, 1959, p. 238). Therefore, as a sovereign nation, the United States must protect its citizens by controlling its borders. This paper aims to determine the effectiveness of applying the principles of Crime Prevention Through Environmental Design (CPTED) to border security on the United States – Mexico Border in the San Diego, California area, specifically, if the application of CPTED secures the border and mitigates crime.

Background

The nation-state, as it exists today, originated in Europe with the Treaty of Westphalia in 1648. Westphalia allowed each nation and its leaders to decide what happened within its borders (Russett & Oneal, 2001). Before the Treaty of Westphalia, a sort of globalism dominated by the Pope and the Catholic Church existed. The church was a force more significant than the individual nation. Before Westphalia, the church held the authority and power to control what happened within a nation (Mendelsohn, 2012).

The international community today is based on the concept of the nation-state. There is no higher authority in the world than the nation-state. Each nation does what it considers to be in its best interest and survival (Waltz, 1959). However, globalization has made it difficult for the nation-state to fully exert its dominance within borders. "The growth of communication and transport technologies have reinforced a common perception of shrinking distance, porous

borders, and planetary unity that undermined the centrality of the nation-state as a hub of power and authority in international affairs" (Rosenboim, 2019, p. 234).

Despite the impact of globalization, the nation-state still has the responsibility to ensure its safety and national sovereignty (Chambers, 2015). National borders symbolize sovereignty and security (Givens et al., 2018). In the United States, the Constitution is the supreme law of the land (Wilson et al., 2019). One of the United States government's primary duties is protecting the United States and its member states (McClellan, 2000). The Constitution provides the authority and power needed by the government of the United States to ensure border security (Corn et al., 2017).

Within the United States, due to the federalist system established by the Constitution, most areas of the criminal justice system are the responsibility of the states. However, policing the international border is a specific area of the criminal justice system that is a federal responsibility; thus, policy concerning border security is more concentrated and consistent than most other types of criminal justice policy (Cole et al., 2017). Border security plays a crucial part in the physical safety and economic health of the United States. International border security operations promote national sovereignty providing for the legitimate movement of goods, the prevention and detection of crime, the safety of the border area, and the protection of the nation-state's resources. Challenges that are a high priority today are terrorism, illegal drugs, and illegal migration (Al Fayez et al., 2019).

Specific threats to the safety of the American public today are significant. For example, Fazel-Zarandi et al. (2018) estimate that up to 22.1 million illegal aliens live in the United States. According to Leach (2022), "human sex trafficking is the most common form of modern slavery, victimizing over 4.5 million people across the globe and generating industry profits of

approximately $99 billion per year" (p.236). Drugs are also an issue of national interest and security. Chitadze (2016) estimates that the drug trade generates over $300 billion annually. In 2016, an estimated one million admitted heroin users were living in the United States (Finklea, 2020). In the last decade, there have been over 600,000 deaths related to fentanyl in the United States (Friedman et al., 2022).

Because it is a national policy, border security is not only an issue of safety and economic health for the United States but also very political (Gravelle, 2018). Nothing is more politized than the idea of a border wall to achieve border security. "As a complex and often emotional topic, border security efforts will almost certainly begin with an emphasis on the campaign promise of building a 'border wall' between the United States and Mexico" (Manjarrez Jr, 2017, p. 325). Indeed, Callahan (2018) says that border walls may be the embodiment of political debate. A debate between the ideals of the nation-state and those who embrace globalism. According to Manjarrrez Jr (2017), the requirement for border barriers and infrastructure became a national issue with the Secure Fence Act of 2006. The debate on border security pits the concepts of national security and safety against the ideals of humanitarianism raised through globalization (Massey, 2019).

The Crime Prevention Through Environmental Design Theory (CPTED) justifies using border barriers to prevent crime and increase safety, thus allowing criminological theory to review the effectiveness of border security measures. CPTED "emerged in the 1970s and 1980s as an innovative approach to crime reduction that incorporated architecture, urban design, psychology, and criminology" (Armitage, 2018, p. 286). Although the term CPTED and its crime prevention theory emerged in the 1970s, "the use of design and CPTED ideas goes back a long way, and CPTED-style security measures can be traced to early human settlements" (Cozens &

Love, 2015, p. 393). While the principles of CPTED may be old, Cozens and Love (2015) report that numerous studies indicate that CPTED is still a successful means of lowering crime.

The foundation of CPTED is based on Rational Choice Theory (RCT), Routine Activities Theory (RAT), and Deterrence Theory (DT). RCT posits that people are rational beings, making rational decisions when deciding to act (Bernard et al., 2016). RAT states that crime occurs when there is a convergence of individuals willing to commit crimes, potential victims, and a lack of guardians (Bernard et al., 2016). DT holds that if prospective offenders understand that they will be punished for a crime, they will decide not to commit it. DT can be directed at individuals and society (Cullen & Jonson, 2017). CPTED mitigates crime by manipulating the physical, social, and psychological environment in a location, preventing the meeting of those who wish to commit offenses and potential victims in time and space (Cozens et al., 2019). The concept is that the physical, social, and psychological environment can be manipulated so that rational human beings decide not to undertake a specific course of action, thus preventing criminal activity.

As the United States enters the third decade of the 21st century, its safety and security threats increase. In addition, the world seems to be shrinking because of technological advances, population growth, and ever-improving means of transportation (Obradovic & Black, 2020; Patrick, 2017). The federal government's primary duty is to protect the nation's component states and citizens from external threats. However, most border security studies are qualitative and based on humanitarianism. The studies look at how specific issues of border security impact specific groups of people rather than their effectiveness in achieving security. For example, Espejo (2018) looks at the morality of borders and their impact on immigrant rights. Linebarger and Braithwaite (2022) believe that borders are fortified not for national security but because of

insecure leaders for a domestic rally effect. Rodriguez and DeMaio (2021) believe the issue of border walls is seen not by their effectiveness but rather by how it is framed in the United States and Mexico media. Globalization and politics have made border security a contentious topic. Therefore, it is vital to determine if border security, including barriers based on ideas thousands of years old, can help prevent crime and protect the United States by shaping the border environment. The effectiveness of border security can be determined by studying the border using CPTED as the study's theoretical basis.

Problem Statement

The concept of national sovereignty is the ability of a nation-state to control what occurs in its territory and who and what can enter a nation. The concept emerged in Europe with the Treaty of Westphalia in 1648 (Russett & Oneal, 2001). Maintaining and controlling borders is a critical requirement impacting the well-being of a nation. Borders are an issue of national sovereignty, allowing governments to decide who and what may enter or leave a country (Givens et al., 2018). Threats encountered at international borders include terrorism, drug smuggling, human trafficking, prohibited and regulated goods smuggling, and other criminal behavior, significantly impacting the nation's safety and security (Lyzhenkov, 2015). The magnitude of threats increases due to globalization and increased opportunities to profit from crime (Simmons et al., 2018). The media and politicians elevated border security to a prominent national issue over the last decade. The application of a strategy to ensure border security has divided the citizens of the United States and hindered its ability to achieve a border that provides national security and public safety (Manjarrez, 2017).

This study looks at Crime Prevention Through Environmental Design as a strategy for border security over several decades in the San Diego, CA, area. CPTED is the shaping and

design of the environment to prevent crime and the fear of crime (Armitage, 2018). CPTED is based on the theoretical foundations of Rational Choice Theory (RCT) and Routine Activities Theory (RAT). RCT is based on the premise that people are rational beings who use cost-benefit analysis to decide if they should commit a criminal act. RCT states that crimes occur when individuals are disposed to commit a crime, the availability of victims, and a lack of guardians in a particular location (Bernard et al., 2016). CPTED prevents the meeting of perpetrators and victims in time and space by shaping the physical, social, and psychological environment, thus mitigating the chance of crime (Cozens et al., 2019).

Numerous studies have shown that applying CPTED can mitigate crime in smaller areas. Armitage (2018) conducted a study of the influence of CPTED on criminal activity by interviewing imprisoned burglars. In another study, Mihinjac and Saville (2019) looked at CPTED and its influence on school security. Wang et al. (2019) found that CPTED and building design influenced criminal activity. However, none of the studies show the impact of CPTED on a larger area, such as a border.

Few studies look at border security effectiveness. Linebarger and Braithwaite (2020) note the expansion of border fortifications in the world due to globalization and their ability to provide security against militant activity. They find that fortifications require monitoring and policing to be effective. The study can be built upon by showing how the fortifications impact crime. Ali et al. (2021) studied the fence built on the Pakistan-Afghanistan border. They concluded that it decreased terror activity by 90% and helped control smuggling and illegal immigration at lesser efficiency. The study does not look at the impact on other criminal activities. Perry et al. (2017) evaluate the border fence and fortifications on the West Bank in

Israel. They find that the border fortifications significantly lowered acts of terrorism and did so without displacement. The study did not look at the impact on other criminal activity.

In a study looking at the impact of the West Bank wall, Gelbman (2016) found that despite a negative impact on tourism, the wall contributed to a significant decline in terror activity. Unfortunately, the study did not look at other criminal activities. The most infamous of border barriers, the Berlin Wall, was studied by Barnstone (2016), who determined that it did precisely what the East German government wanted, significantly ending escapes from East Berlin. The study showed how brutally efficient the applications of CPTED can be in a totalitarian state. Unfortunately, the study did not look at the impact on crime in general. The problem is that most border security studies are humanitarian and address the impact of policy on different populations. The limited number of studies on border security effectiveness do not address criminal activity.

Purpose Statement

The purpose of this study is to analyze the government's efforts to shape the physical, social, and psychological environment through the application of CPTED on the border in the San Diego, CA, area over the last several decades and determine if those efforts are lowering violent and property crime in the San Diego area. Most studies on the impact of border security are humanitarian and qualitative. In contrast, this quantitative study looks at how the physical changes in the environment, including changing the landscape, the construction of barriers, increased border patrol access, increased surveillance, and added personnel, influenced specific criminal activity. Crimes to be reviewed include illegal entry, alien smuggling, narcotics smuggling, narcotics seizures, violent crimes, and property crimes. The border and criminal

activity statistics come from federal, state, and local government agencies collected over 25 years and concern San Diego, California, where CPTED principles were applied.

Significance of the Study

This study is significant because current literature reveals that border security strategies are often reviewed through the lens of humanitarianism (Koca, 2019). However, looking at border security using humanitarian theory to judge effectiveness is dangerous. It does not address the issues of sovereignty, safety, or the effectiveness of a particular border security strategy in preventing crime (Ticktin, 2016). Most of the studies are qualitative and designed to demonstrate and measure the damaging impact of the United States border security policies on different groups and populations. For example, Massey (2019) posits that the crisis on the border is humanitarian, not one of illegal immigration and sovereignty. Linebarger and Braithwaite (2022) reviewed the construction of border walls through the lens of domestic politics and hypothesized that weak leaders build walls for domestic political reasons rather than national security.

This study looks to fill a void by examining border security through a quantitative lens to determine if the border security policies of the United States effectively secure the border and mitigate crime. In addition, the study can help to determine if the resources spent on border security in the San Diego area, where CPTED has been robustly implemented, should be applied along the rest of the border. Quantitative research allows for a definitive answer based on mathematical analysis of specific data, currently an area lacking in border security literature. The data analysis methods used in this quantitative study have existed for some time, and the studies can be reproduced and replicated, helping verify conclusions (Specht, 2019). Maxfield and Babbie (2018) point out that criminal justice research is a social science and can be examined through scientific methods using logic and observation. Causation is a significant part of all

criminal justice theory and requires that four elements be present: correlation, theoretical rationale, time sequence, and the absence of spuriousness (Bernard et al., 2016).

Research Question

The primary and overriding duty of the government of the United States is to provide for the nation's national security, public safety, and sovereignty. Ensuring border security is a critical and fundamental mission required of the United States in completing its national security, public safety, and sovereignty obligations. The nation's ability to secure its border and decide who and what enters the country enhances national security, public safety, and sovereignty (Givens et al., 2018). CBP is the agency charged with securing the United States borders. CBP's mission is to "protect the American people, safeguard our borders, and enhance the nation's economic prosperity" (Customs and Border Protection, 2022, para. 4).

CBP's approach to border security is based on classical criminology and the theory of rational choice (RCT), believing that individuals are rational and make a cost-benefit analysis of the variables before committing criminal acts (Bernard et al., 2016). CBP has applied the strategy of CPTED in the San Diego, CA, area over several decades to secure the border. CPTED posits that by shaping the physical, social, and psychological environment, crime can be prevented by influencing the decision-making process, thus mitigating the chances of the geographical juxtaposition of those wishing to violate the law and the victims of crime (Cozens et al., 2019). The study will look at the CBP strategy's effectiveness and use secondary data collected by government sources over several decades. The study does not induce moral or ethical issues.

RQ1: *Has the violent crime rate, as captured by the Federal Bureau of Investigation's (FBI) Unified Crime Report (UCR), changed since the application of CPTED principles, utilized by CBP, in the San Diego, CA metropolitan area?*

RQ2: *Has the property crime rate, as captured by the Federal Bureau of Investigation's (FBI) Unified Crime Report (UCR), changed since the application of CPTED principles, utilized by CBP, in the San Diego, CA metropolitan area?*

An international border is a geopolitical boundary that delineates the point at which a nation-state's sovereignty begins. As such, it is the primary duty of the nation-state to protect itself and the citizens of the nation-state. "Each state pursues its own interest, however, defined, in ways it judges best" (Waltz, 1959, p. 238). Therefore, as a sovereign nation, the United States must protect its citizens by controlling its borders. This paper aims to determine the effectiveness of applying the principles of Crime Prevention Through Environmental Design (CPTED) to border security on the United States – Mexico Border in the San Diego, California area, specifically, if the application of CPTED secures the border and mitigates crime.

Definitions

The following terms and definitions are used in this study:

1. *Border* - The juridical lines that separate nations allow for the execution of sovereignty. "Borders constitute the international system of states. In principle, borders clearly and efficiently demarcate a shift in the jurisdictional responsibilities of states" (Carter & Post, 2017, p. 240).
2. *Border Security* - "Protecting the borders from the illegal movement of weapons, drugs, contraband, and people, while promoting lawful trade and travel, essential to homeland security, economic prosperity, and national sovereignty" (Department of Homeland Security, 2019, p. 1).
3. *Border Barrier System* - Infrastructure or system of walls, fences, and other structures designed to filter or block entry across a nation's international border (Korte, 2021).

4. *Crime* – “A specific act of commission or omission in violation of the law, for which a punishment is prescribed” (Cole et al., 2017, p. 7). The statistical report on the compilation of crimes listed as violent and property crimes in the Federal Bureau of Investigations' (FBI) unified crime report (UCR).
5. *Crime Prevention Through Environmental Design (CPTED)* - A process of manipulating and designing the environment to control movement, access, physical security, surveillance, and geographical juxtaposition produces a system that prevents crime through physical and psychological means (Armitage & Monchuk, 2017).
6. *Deterrence Theory (DT)* - A criminological concept posits that a specific criminal act will be deterred if the punishment and chances of apprehension are certain (Cullen & Jonson, 2017).
7. *Ports of Entry* - The locations prescribed by Title 8 and Title 19 of the United States Code and Code of Federal Regulations allow for the inspection and legal entry of persons and things into the United States (National Archives, 2022; National Archives, 2022).
8. *Rational Choice Theory (RCT)* - Classical criminology theory contends that people are rational beings and utilize a cost-benefit analysis when committing a specific crime (Bernard et al., 2016).
9. *Routine Activities Theory (RAT)* - A criminological theory that states crimes occur at a specific time and place because of the convergence of motivated offenders, suitable victims, and a lack of guardians (Cole et al., 2017).
10. *Sovereignty* - Sovereignty is supreme dominion, authority, or rule. When applied to the nation-state, there is no higher authority. "A sovereign government is one that is legally and politically independent of any other government” (Wilson et al., 2019, p. 51).

CHAPTER TWO: LITERATURE REVIEW

Overview

This paper evaluates the effectiveness of the application of the principles of CPTED to border security on the United States – Mexico Border in the San Diego, California area, specifically if CPTED can lower crime rates. The media and politicians elevated border security to a prominent national issue over the last decade (Manjarrez Jr, 2017). The Trump administration prioritized border security, while the Biden Administration has minimized border security issues. The policies of the two administrations have ignited passionate debate and division. The visceral nature of the border security debate is seen by the fact that Customs and Border Protection (CBP), the agency responsible for border security, is a politically controversial element of the security apparatus of the United States. The government shut down because of budget disagreement over border security and immigration issues, not other serious security concerns (Barnett, 2019). Barnett (2019) states that globalization makes border security and immigration contentious. He states that the United States was instrumental in the rise of globalization, an effort that increased global economic standards. Nevertheless, global growth has created new threats to the nation's security as competitors subvert the political and social fabric of the United States for their benefit. Globalization limits a nation's ability to decide who and what enters a country.

Literature confirms the importance of border security to a nation-state's safety and economic well-being. Nation-states face threats to their national security at their respective borders, including terrorism, human and narcotics smuggling, organized crime, and financial stability (Lyzhenkov, 2015). The ability to secure the border is a primary means for the nation-state to protect its sovereignty and power (Chambers, 2015). The literature review showed that

most articles concerning the impact of border security are qualitative and humanistic, looking at how policy impacts people. There is little information on quantitative studies on the effects of CPTED on the United States – Mexico border and how CPTED affects border security and crime.

Theoretical Framework

Maxfield and Babbie (2018) point out that criminal justice research is a social science and can be examined through scientific methods using logic and observation. Causation is a significant part of all criminal justice theory and requires that four elements be present: correlation, theoretical rationale, time sequence, and the absence of spuriousness (Bernard et al., 2016). Theoretically, each nation is sovereign and has the right to secure its borders. This study uses RCT, DT, and RAT as theoretical foundations for applying CPTED in border security.

The Nation-State

The concept of the nation-state developed directly from the Treaty of Westphalia in 1648. The treaty ended the Thirty Years' War in Europe. The principle of national sovereignty resulted from the treaty and established the belief that individual countries and their leaders decide what occurs within those borders (Russett & Oneal, 2001). The Treaty of Westphalia established sovereignty and national identity based on national culture and customs. The treaty effectively ended a sort of globalism based on principles of global religious authority (Russett & Oneal, 2001). The Pope no longer ruled within a country; the country's King and the government did. Indeed, today the principles of radical Islam, precisely the idea of the Caliphate, are at odds with secular nationalistic governments and sovereign nation-states controlling what happens within their borders (Mendelsohn, 2012).

According to the well-respected political scientist Kenneth Waltz, nation-states do whatever is in their best interest when interacting with other nations. The nation-state does what it believes is necessary to survive (Waltz, 1959). Nation-states, like people, practice rational choice. A sovereign right is “a unique right possessed by a state or its agencies that enable it to carry out its official functions for the public benefit" (Black's Law Dictionary, 2019, p. 1680). For example, the United States, as a sovereign state, exercises its sovereign right to secure the international border through the Department of Homeland Security (DHS) and CBP. Every nation-state has the right to decide who and what gets to enter and cross its boundaries (Givens et al., 2018). Laws express public policy. They explain the results the sovereign expects and justify the actions taken. "Public policies may regulate behavior, organize bureaucracies, distribute benefits, or extract takes – or all of these things at once” (Dye, 2013, p. 3).

The concept of international borders and the duty of the nation-state to protect those borders is well documented in the literature. Securing the border is the fundamental mission of the nation-state to ensure safety and economic security (Chambers, 2015; Givens et al., 2018; Lyzhenkov, 2015). The threats facing a nation-state have increased with globalization. Patru (2015) states that possible risks include "drug trafficking, illicit arms trafficking, illicit trafficking of nuclear or other radioactive material, terrorism, prostitution, pedophilia, money laundering, theft and smuggling of expensive cars, looting and smuggling of cultural heritage objects" (p.206).

In the United States, the federal government has a Constitutional duty to provide for the security of the United States and the states of the United States. The Constitution of the United States grants enumerated and implied powers to the federal government to achieve this duty (McClellan, 2000; Wilson et al., 2019). An essential part of the security of the United States

concerns border security. The Constitution allows the United States Congress to regulate naturalization, a powerful tool, and “it is often said that Congress has plenary power over naturalization, by which is meant complete power vis-à-vis other institutional actors such as the President or states. The power is indeed sweeping" (Corn et al., 2017). The President, by the Constitution, is charged with enforcing and carrying out the laws of the United States, as passed by Congress, to ensure the national security of the United States (Bardes et al., 2020).

Rational Choice Theory

The theoretical underpinning for looking at the effectiveness of CPTED as it relates to border security is RCT. Classical criminology posits that individuals are rational beings and choose to act. Indeed, the idea of choice is central to our justice system. To convict a person in the United States, the government must prove the elements of a specific crime, beyond a reasonable doubt, including intent, the choice, or voluntary decision to commit a prohibited act (Beatte & Fondacaro, 2018). RCT is based on the premise that an offender who commits a crime does so for a reason; the act is not senseless or irrational. Instead, it is the result of deciding the benefit or thing gained from the crime is more valuable than the possible costs of committing it. The decision is rational and situational (Bernard et al., 2016). Cornish and Clarke state that three factors are manifest in RCT. First, criminal behavior includes decisions and choices. Second, the decision process involves a specific crime. Finally, there is a difference between criminal involvement and illegal acts. Criminal involvement is a long-term event with a long-term decision process, while the criminal act is a short-term event with a short decision process (2002). The cost-benefit is demonstrated in a study by Walters et al. (2019), which found that "participants reported that they would be likely to engage in antisocial behavior when the

certainty of getting caught was low, and the level of proactive or reactive criminal thinking was high" (p. 805).

Interestingly the concept of RCT can be traced to the Bible. Genesis tells the story of Adam and Eve's desire for something forbidden. There were severe consequences associated with taking what was forbidden. "But of the tree of the knowledge of good and evil you shall not eat for in the day that you eat of it you shall surely die" (New King James Version, 1982, Genesis 2:17). Nevertheless, Adam and Eve believed that taking the forbidden fruit was worth the risk of getting caught. "So, when the woman saw that the tree was good for food, that it was pleasant to the eyes, and a tree desirable to make one wise, she took of its fruit and ate" (New King James Version, 1982, Genesis 3:6). The story represents the fact that God gives man the ability to choose. Man can decide what to do by measuring the variables in each situation.

Some criminologists are skeptical of RCT, saying it explains property crime but falters at violent crime. However, in a study of over 1,354 people involved in different crimes, Loughran et al. (2016) found that RCT is a general crime theory that explains why people commit all kinds of crimes. Numerous articles support the contention that RCT is a general theory of crime. In sex crimes, Pedneault et al. (2017) found that RCT explains offenders' actions in sex crimes, especially in the short term. Gilmour (2016), while studying the crime of money laundering, stated, "the application of rational choice theory when applied to money laundering reveals how at this, the uppermost level of organized criminality, a risk-averse process strictly exists in which every decision made is consistently rational" (p.1). Steele (2016) states that RCT is a dominant theory in the criminal justice system in England and Wales but is subject to criticism, yet at the same time found that motivation impacts the decision process, and that rationality varies in individuals and offense types.

The decision to commit a specific criminal act is unique to the individual committing the act. RCT is situational. The willingness to engage in criminal behavior is separate from the commission of a specific criminal act. One reason is that the value of the variables used to decide an action constantly changes. Thomas et al. (2020) found that some who fault RCT do so because they overlook that individuals respond to incentives differently depending on time. They also point out failures to recognize specialization in offending based on the intrinsic reward specific crimes provide to a particular offender.

Furthermore, they discovered that offenders found a particular reward for committing crimes of violence more significant than the reward for property crimes. Pickett (2018) states that another variable impacting the decision to offend may include public displays of punishment. In addition, an object's size or implied worth can overcome the fear of getting caught. Finally, an increase in the severity of the penalty has little effect on the decision to offend, which follows Beccaria's notion that punishment must be proportional to the crime. He stated that excessive severity of punishment did not deter but increased criminal activity (Bernard et al., 2016). The idea is consistent with Abramovaite et al. (2022) when they found that tough-on-crime campaigns only sometimes work. They stated, “this may explain for instance why sentencing length may matter less than certainty of detection” (p.13).

Deterrence Theory

Rational choice requires the individual to make a cost-benefit analysis to determine the likelihood of taking a specific action. Therefore, to have a rational individual decide not to take any action or deter the action, there must be a perceived high cost or consequence in acting. "Deterrence theory proposes that offenders should be punished so that they will be taught that 'crime does not pay' and thus will not return to crime" (Cullen & Jonson, 2017, p. 8). The

concept of deterrence is traced to Beccaria, who believed that the purpose of punishment was to deter crime. However, the concept of deterrence came to include more than punishment but also the certainty of apprehension, the social costs of being caught committing a crime, and the individual perceptions of risk based on prior activity (Bernard et al., 2016).

Deterrence affects both the individual and societal levels regarding border security. Cullen and Jonson (2017) posit that there are two forms of deterrence: specific and general. Specific deterrence is directed at the individual to cause the individual to believe that the cost of reoffending is too high to risk. General deterrence is directed at potential offenders in society who see the impact on an individual who has been caught and punished. General deterrence has a role in border security. According to Bun et al. (2019), criminals are rational people who use a cost-benefit analysis that considers the reward of the illegal act with the risk of arrest and conviction and the severity of potential punishment. They found in their study that "the criminal justice system exerts a large influence on criminal activity. Increasing the risk of apprehension and conviction is more influential in reducing crime than raising the expected severity of punishment" (Bun et al., 2019, p. 1).

Routine Activities Theory

RAT builds upon the decision-making process of RCT by adding time, space, and environment to the process. According to the theory, three specific criteria determine the likeliness of crime at a particular time and place. The requirements include motivated offenders, suitable targets, and the absence of capable guardians (Bernard et al., 2016). Jones and Pridemore (2019) claim that crime is concentrated in the neighborhood and at more minor levels. The probability of crime is higher when there is a convergence of targets, offenders, and low levels of guardianship.

Literature confirms the premise of RAT, which states the need for motivated offenders, the availability of targets or victims, and a lack of guardians at a specific place and time for crime to occur. The flow of legal activity of people that allows for the concentration in the community of offenders near suitable targets increases the chances of crime. Song et al. (2019) found that "even crimes that are premeditated and that are not perpetrated during the offender's routine activities are nevertheless supposed to be informed by what the offenders heard, saw, read or picked up otherwise during non-criminal routines" (p.832).

In a study of carjackings in Detroit, Lersch (2017) also showed that the likelihood of being the victim of carjacking increased with possible victims in areas such as shops, service stations, and other businesses with motivated offenders and a lack of guardians. "At the core of environmental criminology is the assumption of a rational offender moving through time and space which makes decisions about whether or not to commit a crime" (Lersch, 2017, p. 35). For a crime to occur, there needs to be a meeting between the offender and the victim.

> The convergence of victims and offenders at these locations is relevant to RAT in that an increase in the relative prevalence of individuals motivated to offend in conjunction with an increase in potential victims who lack capable guardianship is likely to result in more criminal opportunities that are acted upon. (Draw et al., p. 22)

One way to prevent crime in neighborhoods after determining the likelihood of criminal activity is by using neighborhood crime watch programs. In these programs, officials can identify motivated offenders, warn possible victims, and obtain guardians and police to respond. Using a neighborhood watch program has reduced crime (Louderback & Roy, 2018). The neighborhood watch programs increase surveillance leading to the probability of detection and guardian response. Several recent studies show the effectiveness of neighborhood watch

programs (Louderback & Roy, 2018; Lub, 2018). Heinzeroth Sr. (2021), using a quasi-experimental design and binomial regression models, found that the convergence of perpetrators, victims, and the lack of guardians frequently occurs at a socioeconomic edge. Heinzeroth mentions that rational choice and routine activities are associated with this environment and how perpetrators commit crimes. He posits that where two different socioeconomic areas meet, victims provide more significant opportunities for a perpetrator.

The convergence of people at a particular point and place in time influences the likelihood of crime. In a study of crime locations in Los Angeles, Brantingham (2016) states, "the spatial distribution of environmental cues and opportunities plays a central role in regulating crime diversity, much more so than the distribution of offenders [Brantingham and Brantingham, 1978, 1981; Weisburd et al., 1992]" (p. 558). It is possible to map the convergence of people at a particular place and time to predict crime. One may also test and predict gang violence spatially using RAT. For example, 85% of gang-related homicides occur in cities with more than 100,000 people. However, knowing where crime will happen is not enough to prevent the crime (Valasek, 2018). Once an area is known, some action must be taken to prevent the convergence of offenders and victims.

Crime Prevention Through Environmental Design

RCT posits that offenders commit a crime based on a cost-benefit analysis. RAT, building upon RCT, explains that crime occurs when there is a convergence in time and space between offenders and victims and a lack of guardians. CPTED uses the principles of RCT and RAT to prevent crime by changing the physical and psychological environment to influence the convergence of people in time and space. By changing the environment of an area, CPTED changes the value of the variables in the cost-benefit analysis used by offenders. “Crime

prevention through environmental design (CPTED) seeks to alter human behavior by changing the physical landscape; such efforts include the use of improved lighting, enhanced natural surveillance, and the reallocation of gather areas" (Bernard et al., 2016, p. 47).

While CPTED may appear to be a strategy to prevent crime using RCT and RAT, some scholars call CPTED a theory (Mihinjac & Saville, 2019). The idea behind CPTED, based on a literature review, is that by constructing and shaping the environment, one can reduce the likelihood of crime, lower fear, and improve quality of life (Cozens & Love, 2015; Cozens et al., 2005; Marzbali et al., 2016; Mihinjac & Saville, 2019)). Cozens and Love (2015) advise that the ideas behind CPTED have existed for almost 1,000 years, as evidenced by walls, moats, drawbridges, and landowners' requirements to clear brush beside roads. In addition, "There is a growing body of research that supports the assertion that crime prevention through environmental design is effective in reducing both crime and fear of crime in the community" (Cozens et al., 2005, p. 328).

Some have doubts about the degree of effectiveness of CPTED. The ambiguity results from how and to what degree CPTED is applied in a particular place. It also depends on the accuracy of the data used to evaluate its effectiveness (Cozens & Love, 2015). Another issue is the need for a common understanding of the framework and terminology of CPTED (Gibson & Johnson, 2016). Despite the ambiguity, CPTED has matured through the years. Several generations of these concepts currently exist. Basic principles include "limiting through movement, maximizing natural surveillance, ensuring that physical security is commensurate with crime risk, ensuring that properties and their surrounding areas are well managed and maintained, and maximizing what is often referred to as territoriality" (Armitage & Monchuk, 2017, p. 313).

Committing a crime requires the offender and the victim to be at the same place in space and time, creating a convergence of offender and victim. Cozens et al. (2019) call the confluence of the offender and victim geographical juxtaposition (GJ). They posit that to prevent crime, one needs to avoid GJ. Cozens et al. state that seven CPTED concepts help avoid offender/victim interaction, including territoriality, surveillance, image management, access control, activity support, target hardening, and GJ. They also provide four principles for the theory of CPTED.

- GJ is an essential basis for, and explanation of, ALL crime and crime prevention factors.
- CPTED investments should be inversely proportional to GJ factors at a distance.
- Practitioners can use distance from GJ factors to obscure perpetrators' perceptions of criminal opportunities.
- The CPTED principle of natural surveillance can be divided into two parts: promoting the visibility of criminal acts and obscuring crime opportunities. (Cozens et al., 2019, p.14)

The ambiguity of CPTED to some arises because the concepts can be utilized in many different environments with different evaluation requirements. For instance, Vagi et al. (2018) discuss the applicability of CPTED in schools for improved school safety. Davies and Johnson (2015) study the concepts of CPTED through street design to help prevent residential burglaries. In addition, CPTED changes even within a specific crime area depending on when a crime occurs. Montoya et al. (2016) discuss this issue when looking at what is needed to prevent residential burglaries and the difference between preventing them depending on whether they occur during the day or at night.

A study conducted interviewing 22 imprisoned burglars concerning CPTED showed that the application of CPTED influenced the burglar's decision-making process. It also showed that surveillance and physical security were deterrents, and that maintenance and defensible space were not as motivating to the decision (Armitage R., 2018). CPTED works to change the environment to prevent the CJ of offenders and victims. The change to the environment can be physical, social, and psychological. Mihinjac and Saville (2019) discuss how CPTED may change how an offender views crime in an area and how those who live in an area view the site. CPTED states that increasing the livability of a place helps prevent crime by raising residents' awareness of what occurs in an area.

Wang et al. (2019) demonstrated the application of CPTED to RCT and RAT when they studied the outside of buildings' design to mitigate crime. They arrived at a mathematical formula of the cost-benefit analysis offenders utilize when committing a crime. Wang et al. (2019) state that an offender will commit a crime if income is higher than zero after subtracting effort and risk from reward. "*Income = reward – [effort + risk]*" (p. 1). The formula demonstrates the relationship between RCT, RAT, and CPTED. Additionally, it is essential to realize that income may also have intrinsic value, as discussed by (Thomas et al., 2020).

Related Literature

For RCT to function, the perceived incentives for illegal border crossings must overcome the potential costs of the illegal crossings. Incentives are measured in both political and economic realms. The United States has a political and economic environment that attracts illegal immigrants and the need for trafficked people. Gonzalez-Gorman (2021) states that a pull factor in the United States is the high demand for loss of cheap labor, especially in the agricultural and construction industries. Fazel-Zarandi et al. (2018) estimate that there are

possibly up to 22.1 million illegal aliens in the United States. Van Buren III et al. (2021) report that human trafficking earns more than $150 billion annually and is one of the most profitable international criminal activities. The United States has been a destination for sex trafficking for some time. In 2006, some estimated that approximately 50,000 people were trafficked into the United States annually (Schauer & Wheaton, 2006).

> We have a major issue in the United States, Geoff Rodgers, co-founder of the United States Institute Against Human Trafficking [USIAHT], said in an interview with Fox News. The United States is the No. 1 consumer of sex worldwide. So, we are driving the demand as a society. (Chiaramonte & Keiper, 2019, p. 2)

According to Leach (2022), human trafficking conforms to low-risk, high-reward economic principles. The United States, with strict anti-trafficking laws, only convicted 475 traffickers in 2019. However, the return on investment in illegal activity is between 100 and 1000 percent. While only 19% of trafficking victims are trafficked for sex, 19% account for 66% of the illicit profit. The market and return on investment make trafficking a very lucrative business. Roe-Sepowitz et al. (2019), based on their study, estimate that 1 in every 25 males in the US purchases illicit sex within three years. Indeed, Enderwick (2019) states that “estimates suggest that the annual value of cross-border crime may be as high as US$1.6 to $2.2 trillion” (p.120). Economic liberty means people have money to spend and are willing to spend it on things that give them pleasure, an aspect of human nature called hedonism. Hedonism is "the natural law that human beings seek pleasure and avoid pain" (Samaha, 2014, p. 26). Sex is a hedonistic pleasure that can be commercial if illegally purchased, thus contributing to the smuggling and trafficking of persons.

Political System in the United States

A powerful magnet for people around the world who want to live in the United States is the political system of the United States. The United States is a constitutional federal representative republic. The Constitution designs a government of three separate and equal branches, the legislative, executive, and judicial. The design allows each branch to have unique and independent powers that help check the powers of the other branches. The Constitution protects the individual from their government and creates a unique culture in the world with core values of democracy, freedom, equality, and individualism (Barbour & Wright, 2015). The political system creates a culture or view that has five main elements: liberty, or the idea that individuals can do what they want; equality, the idea that the individual has an equal vote and an equal opportunity to succeed; and democracy, the idea that government answers to the people. Civic duty is the individual's responsibility to help. Individual responsibility means the individual is responsible for their actions (Wilson et al., 2019).

The political system that encourages individual rights and opportunity has also fueled an incredible economy allowing the average American to have a very high standard of living. The economy is a giant magnet that draws people globally. According to the Washington Post, the average American averages an income ten times that of the average person in the world, and most Americans are in the top ten percent of wage earners (Nair, 2018). Individual liberty allows for economic liberty, for which many in the world aspire.

The Criminal Justice System

The Constitution of the United States designed a system to protect the individual from the power of government; this ideal is evident in the American criminal justice system. The system that guarantees individual rights draws people to the United States to enjoy those safeguards.

Carling and Schewel (2018) state that immigration results from aspirations and abilities that depend on people making rational decisions. They state that “migration aspirations can take a variety of forms, from lifestyle-driven preferences to urgencies to escape danger, with innumerable possibilities in between” (p. 959).

The aspiration for freedom can be seen in a study of petitions by displaced Poles, after World War II, for entry into the United States. Nowak (2019) says that in the effort to be admitted into the United States, many displaced Poles "adopted the language of martyrology, patriotism, anti-communism, and freedom and inscribed their own life stories into this ideological universum" (p. 637). More recently, many attempting to enter the United States are from Central America. According to Venter (2021), “the Congressional Research Service notes that there has recently been an increase in what it terms mixed migration, with some individuals traveling north for economic opportunity, others seeking refuge from violence and insecurity” (P. 1378-1379).

However, criminal organizations and those disposed to commit crimes take advantage of the system for personal reward. The justice system in the United States is controlled by the Constitution, which guarantees each individual due process of law and equal protection under the law. "Due process of law denies the government the right, without due process, to deprive people of life, liberty, and property. Equal protection of the laws is a standard of equal treatment that the government must observe" (Wilson et al., 2019, p. 99). These protections apply to all, even those involved in crime.

The court system in the United States is designed to protect individual rights and ensure due process. The system is adversarial, meaning attorneys for each side battle over facts before a neutral third party, a jury, or a judge, who decides. It is the government's burden to prove beyond

a reasonable doubt that a defendant committed the elements of a crime, and the government followed the rules in obtaining and proving the evidence (Cole et al., 2017). Additionally, criminal justice in the United States is impacted by federalism. The division of powers between national and regional (state) governments. The Constitution gives specific or enumerated powers to the federal government, and all others remain with the states (Wilson et al., 2019). In the United States, criminal justice is generally a state power. There are 50 states which cause criminal justice to be fragmented and subject to local politics, priorities, and pressures. According to Cole et al. (2017), there are more than 15,000 law enforcement agencies in the United States, with the vast majority being local and county agencies. While border security and cross-border crime are federal responsibilities, most policing in the United States falls upon local agencies. Transnational Criminal Organizations (TCO) take advantage of this fact.

Illegal Profits

Organized human smuggling and trafficking provide the opportunity to make large profits. A United Nations (2012) report from the United Nations Office of Drugs and Crime (UNODC) states that the trafficking and sale of human beings generate almost 32 billion dollars annually. The United States Financial Crimes Center (FinCEN) estimated that trafficking generated 150 billion dollars a year (FinCEN, 2020). Then Homeland Security Secretary Kirsten Nielsen told Congress in 2018 that smugglers earn profits close to 500 million dollars a year just crossing people into the United States (Dinan, 2018). The profits may be greater than drug smuggling. "We assert that human trafficking is now more lucrative than drug trafficking and holds fewer risks" (Schauer & Wheaton, 2006, p. 164).

Interestingly, increased enforcement and a more difficult crossing may increase the incentive and profits for organized crime to smuggle and traffic. The increased security which

leads to greater participation by TCOs was found in a study by Newell et al. (2017). They reported would-be crossers in the Nogales, Arizona area stating, "You have to pay the mafia, you cannot just go to the border on your own, you have to pay the mafia, and they are also watching…otherwise they will take you, and they can kill you" (p. 32). Another article also talks of the increase of TCO in smuggling.

> Migrant flows crossing Mexican territory into the United States along the Gulf route are mainly driven by a demand for cheap labor. The decrease in migrants wishing to cross the border to escape the violence in Mexico has turned undocumented migrants into a rare and valuable commodity. In addition, the increasing costs of migrant smuggling due to organized crime and the activities of the immigration authorities have prompted employers to finance this activity to ensure that they receive enough workers. (Izcara-Palacios, 2017, p. 16)

The profits from trafficking increased as the profile of people smuggled into the United States changed. For example, around 2010, most people smuggled into the United States were Mexican men smuggled to fill the demand for cheap labor. However, by 2017 that changed; women and Central Americans are now primarily smuggled, with many of the women being smuggled to work as prostitutes (Izcara-Palacios, 2017).

Threats Facing the United States at the Border

Many threats to the national security and public safety of the United States are encountered at the border. Patrick (2017) states that the risks confronting the United States have increased due to fighting in numerous regions worldwide. Threats include terrorism, transnational organized crime, and infectious disease. The battle against transnational criminal organizations in Mexico threatens the United States and impacts the border. According to

Calderon et al. (2015), when officials in Mexico arrest or take out the heads of criminal organizations, the disruption causes a spike in violence, including homicides, kidnappings, and violence. The increased violence may spill over the border, creating security and safety problems in the United States. The threat is from possible violence and the economic fallout the violence causes. (Nino et al., 2015). Violent crime is bad for business.

Globalization supplies the perfect environment for increasing transnational criminal organizations (TCO) and cross-border crime. Simmons et al. (2018) call this the global diffusion of law. An increase in cross-border human movement, particularly in human trafficking, results from globalization. Trafficking children for sex work has also resulted in organized crime controlling the smuggling routes and entry points for illegal entry (Servin et al., 2015). Ease of movement worldwide has increased the risk of illegal immigration and human trafficking.

The number of people caught crossing the border illegally into the United States is a testament to the threat. The United States Border Patrol (USBP) apprehended 859,501 people between the ports of entry in 2019. In addition, 4,269 people had criminal records, and 4,153 had active criminal warrants (Customs & Border Protection, 2021). In the fiscal year 2020 USBP, after strict enforcement and wall-building by the Trump Administration, the number of arrests was 405,036. In the fiscal year 2021, with the more relaxed policies of the Biden Administration, the number of arrests was 1,662,167. Through the end of the first quarter of the fiscal year 2022, USBP has arrested almost 500,000 people (Customs & Border Protection, 2022). The number of illegal aliens in the United States in 1990 was estimated at 8.5 million. In 2016 the number was estimated to be as high as 27 million (Capps et al., 2018). Fazel-Zarandi et al. (2018) estimate that the conservative number of illegal aliens in the United States in 2016 was 16.7 million, much larger than the accepted number of 11.3 million. Further, the authors stated that their

simulations indicate the number could be as high as 22.1 million illegal aliens, almost double the accepted figure.

Chitadze (2016) estimated that the proceeds earned by criminal organizations engaged in smuggling illegal aliens were seven billion dollars a year. The smuggling of people into a country denies the sovereign nation-state the right to decide who enters that nation-state. There are two distinct types of alien smuggling; one provides for the illegal border crossing at the behest of the individual, and the other, the trafficking of people across borders but retaining control for sexual exploitation or forced labor (Kar & Beladi, 2017).

Narcotics smuggling is another threat, a threat filled with violence. The number of narcotics seizures by USBP also illustrates the danger. In the fiscal year 2019, USBP sized 11,682 pounds of cocaine, 808 pounds of heroin, 266,882 pounds of marijuana (After legalization in many US states), 14,434 pounds of Methamphetamine, and 226 pounds of fentanyl (Customs & Border Protection, 2020). In addition, the Drug Enforcement Administration (DEA) says that in 2016 the number of deaths in the United States from drug poisoning was 174 each day. According to the Centers for Disease Control and Prevention (CDC), an estimated 932,000 people have died of drug overdoses since 1999. In 2020 the number was 91,799, with 82% of those deaths attributed to synthetic opioids (Centers for Disease Control and Prevention, 2022). DEA believes Mexican transnational criminal organizations remain the most significant criminal drug threat to the United States (Drug Enforcement Administration, 2018). "Today, Mexican drug trafficking organizations control most of the US drug market. They have established varied transportation routes, advanced communications capabilities, and strong affiliations with gangs in the United States, overseeing drug distribution in more than 230 US cities" (Abadinsky, 2017, p. 107).

The illegal drug trade proceeds are approximately 300 billion dollars annually (Chitadze, 2016). Attempting to prevent smuggling by these groups is difficult and dangerous. TCOs have the money, personnel, and resources to overcome many border security strategies. Strategies that stop smuggling outside of ports of entry may lead to increased smuggling through the ports of entry. TCOs are concerned with making money. Trafficking outside the ports of entry usually entails building infrastructure; this takes money. Smuggling through a port of entry subverts the legal infrastructure somebody else has created and paid to have constructed. TCOs corrupt and piggyback on legitimate trade. "The logic is simple, TCOs smuggle products and conduct illicit business because they make money at it – this is the sole purpose of the business" (Schroeder, 2014, p.22).

Securing the Border

The USBP has used elements of CPTED to secure the border since 1924. The International Boundary and Water Commission (IBWC) and the USBP built the first significant border fence totaling 237 miles (Alvarez, 2019). The strategy of CBP to secure the border after the passage of the Secure Fence Act of 2006 stated the need for the right combination of technology, personnel, and infrastructure. Technology means sensors, cameras, and other surveillance systems. Infrastructure is barriers, fences, and roads for access to the border, as defined by former acting CBP Commissioner David Aguilar when he described the strategy in testimony to the Senate Homeland Security and Governmental Affairs Committee on April 4, 2017 (Garrett, 2018).

As we look at the Border Security Strategy, it is essential to recall several theoretical points. First, RCT requires that the decision to commit a crime is related to a specific crime (Cornish & Clarke, 2002). RAT posits that the probability of crime is higher with the

convergence of a motivated offender, potential victims, and a low level of guardianship (Jones & Pridemore, 2019). Further, Cozens et al. (2019) state that geographic juxtaposition is the basis for all crime prevention when discussing CPTED. In simple terms, there must be a meeting or convergence of the offender and victim at a point in space and time for a crime to occur. Indeed, the concept is shown in the legal basis for what the government must prove before prosecuting a person for a criminal act. The government must show that a crime was committed in the first place. Commission of the act, intent, concurrence of the action and intent, circumstances, and harm must have occurred. These elements must occur at a specific point in space and time, or no crime was committed (Samaha, 2014). The government's border security strategy is designed to decrease the probability of the GJ of potential offenders and victims. “Without geographical juxtaposition, crime does not occur” (Cozens et al., 2019, p. 14).

This study's application of CPTED principles to evaluate the border security strategy is unique. It is applied on a scale much larger than the typical application of CPTED. The literature on the subject involves CPTED application in specific neighborhoods, housing projects, schools, parks, or smaller geographical areas. CBP's plan attempts to apply the concept along a 2000-mile border, and this study looks at the border in the San Diego, CA, area where the strategy has most fully been implemented. The study may be impacted by political, social, economic, and environmental factors not generally associated with CPTED evaluations.

Additionally, the application of the strategy has taken more than a decade. Literature relating specifically to CPTED, and border barriers is almost nonexistent. Most research on border security, including border barriers, is viewed by applying numerous social, humanitarian, and critical theories that provide anecdotal information on the effects of border barriers on different segments of society. Ticktin (2016) advises of the danger of looking at border security

policy through the language of humanitarianism, as it may cause more harm than good to those it reports to help. Lynch et al. (2017) provide a similar warning about green criminology. Many green criminology studies fail to utilize the scientific method and are not quantitative.

Garrett (2018) describes the three pillars of the USBP's border security strategy: technology or border surveillance, personnel, or the number of agents along the border, and the border wall or physical infrastructure. As with CPTED in general, it is critical to remember that the border barrier system is not just a barrier, but a set of systems designed to prevent the GJ of the offender and victim. The system is designed to alter behavior, both physical and psychological.

The three parts of the USBP security plan can be related to specific CPTED concepts. The first part of the USBP plan is technology. Technology is associated with the CPTED concept of territoriality. "Territoriality comprises the geographical juxtaposition of the psychological signs of potential defenders between a potential criminal and a target" (Cozens et al., 2019, p. 13). The technology comprises cameras and sensors, both visible and invisible to people. They create the psychological image that defenders are always watching and that if an individual approaches a particular area, there will be a physical response.

The second part of the USBP strategy is personnel. Personnel relates to the CPTED concept of surveillance. "Surveillance [and sousveillance] comprise the geographical juxtaposition of potential guardians between a potential criminal and a target" (Cozens et al., 2019, p.13). A barrier and the ability of agents to respond are critical to the system. A wall slows people down and allows agents more time to react to a potentially criminal act, thus increasing the certainty of apprehension. Increased time is critical to the process. Proper surveillance ensures that a guardian will be present to insert themselves between an offender and a victim.

The third part of the USBP strategy is infrastructure. Infrastructure includes barriers, fences, roads, and towers for technology. Infrastructure corresponds to the CPTED concepts of target hardening. Target hardening is defined as:

> Target hardening is based on the existence of and the separation of the geographical juxtaposition of two different kinds of spaces: [a] safe and secure areas with legitimate, private activities with legitimately own resources; and [b] spaces with higher motivations for crime and risks that threaten to exploit the legitimate activities and resources of the former. Target hardening can be seen as the geographical juxtaposition of a physical barrier between these two kinds of spaces with high costs to cross, i.e., highly secure doors between a potential criminal and a target. (Cozens et al., 2019, p.14)

A physical barrier separates the United States from Mexico in many locations along the border. The barrier prevents those wishing to illegally enter the United States quickly, thus avoiding contact between possible offenders and victims. The highly secure doors are the ports of entry, where CBP controls the environment and has officers and technology to inspect every entrant.

All three USBP elements, technology, personnel, and infrastructure relate to the CPTED access control concept. Access control is like target hardening and includes psychological/habitual and physical barriers. Individuals see legitimate businesses and residences in the area and associate that with a safe zone. However, a difference exists from the other side of the fence, where those who might wish to commit criminal acts are located (Cozens et al., 2019).

Of importance to border security is the understanding that CBP does not just consider the border and border area as part of the border security system. Unmanned aerial vehicles (UAV)

and conventional aircraft also patrol the border, providing a quick response for guardians and even a psychological deterrent. Additionally, CBP has deployed to foreign countries assets to provide advanced knowledge of criminal activity and obtain the help of foreign governments to stop would-be offenders before they reach the border. The border has become more fluid because of technology and transportation, creating the need to extend the boundaries outward. Therefore, the forward deployment of border security becomes imperative to a nation-state's safety (Givens et al., 2018). Rosenboim (2019) discusses the current tensions in international relations that result from globalization and a shrinking world. Further globalization may also be at odds with the individual liberties enjoyed in the United States.

> The rise of the global political space was motivated not only by material conditions of global interconnectedness facilitated by flight and communication technologies but also by the upsurge of totalitarian regimes based on universal ideologies that sought to curb individual liberty. (Rosenboim, 2019, p. 236)

Application of CPTED

The Clinton, Bush, Obama, and Trump administrations improved border barriers. For example, the Secure Fence Act of 2006 required constructing and improving a border barrier system. Despite all the debate, as of 2017, the 2000-mile-long border between the United States and Mexico had approximately 654 miles of barrier. Still, only 354 miles were designed to stop pedestrian traffic (Brandys et al., 2018). Korte (2021) states that about one-third of the United States-Mexico border has fencing and that most are located in large urban areas.

Effects

Literature on the specific effects of a border barrier system using CPTED as a theoretical base must be included. Most of the research in the subject area deals with the impact of border

security on the individuals the barriers are designed to prevent from entering the United States by crossing the border illegally; possibly because, as of 2017, only 18% or so of the border had barriers to prevent the illegal entry of people. Nonetheless, a review of this literature can be used to provide anecdotal information on the effectiveness of a border barrier system. The El Paso border area is an example, as it has a border barrier system. El Paso sits across the border north of the Mexican city of Juarez, one of the most dangerous cities in the world with a very high homicide rate. Nevertheless, El Paso is rated as one of the safest cities in the United States (Nino et al., 2015).

The effectiveness of border security on crime manifests in how it impacts other social and cultural areas, significantly if those areas are affected because it is difficult to cross the border. Urbina and Pena (2019) claim that increased security at the border is a type of social control that has made it more difficult for the indigenous populations, leading to an assumption that border security has made it more challenging to move back and forth across the border and changed behavior.

In a study modeling the smuggling routes of drugs into the United States by drug organizations, Medel et al. (2015) found that drug trafficking organizations look to maximize profit and minimize the cost of smuggling. Therefore, they attempt to take the shortest path with the least cost to move their product into the United States, suggesting they avoid locations where it is challenging to move contraband and have the highest chance of interdiction.

In another study Palacios (2019) suggests that corruption has increased, and smuggling has become more profitable because border security has made it more challenging to cross the border illegally. Bohn and Pugatch (2015) found that adding border patrol agents in a particular area decreased a state's share of illegal immigrants by 21.9%. They state, "for migrants currently

at a US destination; greater enforcement increases the cost of return migration to Mexico by making it more difficult to engage in circular migration, which increases the incentives for migrants to remain at their US destination" (p.1559). A study by Paredes-Orozco (2019) determined that migration from Mexico to the United States from urban areas is self-reproducing. A pull factor from the United States is created, where relatives and friends continue to cause a draw from their places of origin. The self-reproducing migration, coupled with the difficulty in crossing the border, leads many undocumented aliens to remain in the United States, possibly causing the growth of the undocumented population in the United States, an unintended consequence of the success of border barriers.

Displacement

Giordano and Spradley (2017) studied the increasing number of immigrant deaths while crossing Mexico to Arizona illegally. They found that fatalities increased because more people were attempting entry in the inhospitable Arizona desert than entering the San Diego area, where border barriers were erected. The change in entry points suggests that the barriers are practical, but they also increase the risk to would-be illegal immigrants by funneling them to more dangerous locations. In another study related to the Arizona area, Martinez et al. (2017) interviewed prior removals from the United States concerning their trip. Martinez et al. state that migrants cross away from San Diego and El Paso, which have border barrier systems, and move to more remote areas. They found that 70% of people interviewed had paid a smuggler an average of $1,625 to make the trip north.

USBP noted the movement of organized crossings to more remote areas and questioned if this was the best move as it made the USBP job much more difficult.

> After successfully deploying law enforcement resources in urban areas such as San Diego, CA, Nogales, AZ, and El Paso, Texas, the smugglers changed tactics. They moved to the sparse desert regions of Arizona, an expected effect, and looked upon as a success at the time, as the open deserts gave border patrol agents more time to detect and apprehend smugglers. Rather than mere minutes, agents were assigned to respond in most urban environments. Was pushing traffic to sparsely populated areas the best way to combat smugglers?
>
> Consider Altar, Sonora, Mexico, a town 60 miles south of the Arizona/Mexico border. Altar quickly became a staging point for smugglers where as many as 60 buses, each day, arrived with immigrants intending to cross illegally into the US. This organized buildup of infrastructure in Altar, Mexico, by smugglers was different from anything the US Border Patrol had experienced in the past, as there was no major urban area north of the international border. Instead, the western deserts of Arizona provided little infrastructure that agents could use to maneuver and intercept smugglers once they crossed the US border. (Schroeder, 2014, p.7)

Newell et al. (2016) also tell how future illegal entrants feel about facing walls, technology, and agents on ATVs. Newell et al. say illegal entrants seek information through word of mouth and technology using cell phones. However, the illegal entrants are worried that cell phones will reveal their locations. The aliens must also worry about other issues. As the would-be unlawful immigrants moved from areas with border barriers and increased security to more remote areas, so did those that prey on them. Newell found that would-be immigrants fear relying on cell phones, for it may introduce them to those who rob, rape, and murder on the border.

While the border barrier system has forced the aspiring illegal immigrant to move to rougher and more remote terrain, supporting the notion that barriers are somewhat effective, they have also made it more difficult for the USBP in those areas to complete their mission. Boyce (2016) discusses the need for newer technologies to assist border patrol because of the difficulty of reaching specific points on the border with no infrastructure, such as roads, cell towers, or even radio communications. Remote terrain does not impede illegal entry. To meet the needs of CPTED, one needs the ability to detect and the ability of a guardian to be in those areas. To implement CPTED in remote regions, USBP will need to know what is happening in those areas to respond. Al Fayez et al. (2019) suggest that a flying network mounted in an aircraft may provide technology connectivity in remote areas. According to the DHS, border security is about three items, infrastructure, technology, and human resources. DHS believes that walls work.

> The bottom line: Walls Work. When it comes to stopping drugs and illegal aliens from crossing our borders, border walls have proven to be extremely effective. Border security relies on a combination of border infrastructure, technology, personnel, and partnerships with law enforcement at the state, local, tribal, and federal levels. For example, when we installed a border wall in the Yuma Sector, we have seen border apprehensions decrease by 90 percent. In San Diego, we saw on Sunday that dilapidated, decades-old barriers are not sufficient for today's threat and need to be removed so new – up to 30-foot wall sections can be completed. (Department of Homeland Security, 2018, p.3)

As Schroeder (2014) points out, there are lessons to be learned from building barriers and their impact on the border. The first, displacement, needs to be considered. Moving the problem to another area where securing the border is more complex must be considered. The other primary consideration is the issue of what is used to determine effectiveness. Many people today

are more worried about an outcome's humanitarian, geopolitical, or political correctness than about preventing crime. These serious issues must be taken into consideration. As mentioned, displacement was an issue related to the success of border barriers along the U.S.-Mexico Border. However, a psychological change may also occur over time. In the fiscal year 2000, the USBP averaged 6,202 apprehensions each day. In the fiscal year 2012, six years after the Secure Fence Act of 2006, the USBP averaged 978 arrests a day. The decrease is about 84% (Schroeder, 2014).

Examples

The United States is not the only country worldwide with border walls. Koca (2019) reports that European countries have been building walls and fences in response to the massive migration of refugees since the end of the second world war. Koca claims that the Europeans are responding with walls instead of needed humanitarianism and accuses numerous countries of only allowing those with money and wealth to enter. Garcia-Zamora (2017) provides similar comments. Fences are built for a humanitarian crisis caused by the proliferation of transnational criminal organizations. "There is an increasing influx of immigrants streaming into Europe from nations such as Eritrea, Libya, Iraq, Syria, and on a broader spectrum. Africa, South Asia, and the Middle East" (p.581). Along the same lines, Massey (2020) states, "although the Trump administration portrays the situation as an immigration crisis, what is really unfolding along the border and within the United States is an unprecedented humanitarian cross" (p.787). According to Stevenson (2018), Trump-era policies on border security undid Obama-era policies and cast immigrants as criminals destroying immigrant families through the separation of parents and children.

Carter and Post (2017) believe a border is central to the idea of a nation-state and our current international system. The advent of borders developed a disparity between states. As a result, border walls were constructed to stop the illegal flow of goods and people between poor and rich countries. The difference between the rich and poor creates an environment where the criminal transportation of goods and people earn vast profits. Walls were also erected because of fear of attack, but the primary purpose was to protect a country's economy. A unique look at border walls by Linebarger and Braithwaite (2022) suggests that weak leaders construct walls to gain domestic support. Border walls are a rallying point in politics.

Korte (2021) looked at four unique border barrier systems, or what Korte called fortified borders. The four areas studied include the U.S.-Mexico border, the India-Pakistan border, the Hungarian-Serbian border, and the Morocco-Algerian border. Korte looked at borders through the lens of international relations, with power, wealth, and economics being motivating factors. The fortifications, according to Korte, are designed to filter how people enter a country or block all entry into a country. The border areas differ in size, purpose, and the relationships between the two nation-states that share a particular border. According to Korte, filtering fortifications inhibit immigrants' mobility, reinforcing a power and wealth gap, while blocking borders is about internal power issues. For example, the US- Mexico border is a filtering fortification, while the Morocco-Algerian border is a blocking border. “Filter borders are related to a clear gap in wealth and power, with one state exploiting the fortifications to its advantage. By contrast, at the deadlock borders, the power balance is more ambiguous and contested” (Korte, 2021, p. 49).

One of the most famous walls is the Berlin Wall. Leaving the wall's moral and ethical implications aside allows for determining whether the Berlin Wall effectively controlled crime using CPTED. Recall that CPTED requires that we prevent the GJ of those who wish to commit

crimes and the victims of the crime. Cozens et al. (2019) state that you must employ territoriality, surveillance, image management, access control, activity support, and target hardening to achieve this goal. The Berlin Wall achieved this, even if we believe it was the reverse of what CPTED should be. "Over time, the barrier developed into a double concrete wall, one east and one west, with a complicated 'security zone' in between that comprised watchtowers, sand beds, tank barriers, dog runs, and bright lights" (Barnstone, 2016, p. 289). From the end of World War II in 1945 until 1961, when construction of the wall started, some 2 million East Germans escaped into West Berlin (Barnstone, 2016). After the wall was completed, the number of people fleeing averaged about 179 people per year, or once every other day. The reduction in escapes was substantial. The Berlin wall changed behavior, both physically and psychologically.

Israel has also used walls and barriers to secure the border. Despite the success of the barrier in Israel in stopping illegal crossings and preventing terror attacks, the walls remain controversial. Gelbman (2016), while looking at the barrier in the Holy Land, admits that it has significantly reduced terror attacks while also saying it has had negative consequences in humanitarian and geopolitical terms. He claims the barrier impedes tourism, causing harm to tourism development, image, and critical attention. In this light, one might ask how terror attacks impact tourism. When evaluating the effectiveness of a border barrier, it is essential to ensure a specific definition of what one is measuring. It would also be beneficial if the border security policy initiating the border barrier had an agreed-upon end state.

In discussing RCT and RAT, the literature mentioned that crime is situational, and each offense is unique in decision-making. It was also discussed that crime depends on a motivated offender, targets, and lack of guardians. CPTED requires a convergence of the offender and

victim, or no crime can be committed. Perry et al. (2017) studied the Israeli-West Bank barrier and determined that it effectively prevented terror. “Together with associated security activities, the barrier effectively prevented suicide bombings, other attacks, and fatalities with slight apparent displacement. Changes in terrorist behavior likely resulted from the barrier's construction, not from other external factors or events” (Perry et al., 2017, p. 727). They noted an essential element of the border barrier on the West bank: there was no displacement. The barrier had changed behavior not only in a physical sense but also psychologically. The violence did not move to the Palestinian side of the border. In the United States, there was displacement. It moved from areas with border barriers to the vast open desert. A physical change had occurred, but a psychological change had not, at least not at first.

Ali et al. (2021) looked at the border fence Pakistan constructed on its border with Afghanistan to help control that border. As with the wall on the West Bank, the primary issue with the Pakistan-Afghanistan border was preventing terrorism. According to Ali et al., the fences were responsible for reducing terrorism deaths and smuggling, and illegal immigration in that order. "The annual fatalities due to terrorism in 2018 decreased to about 1000, which was about 10000 in the past years. In short, border fencing helps in controlling terrorism in the context of Pakistan" (Ali et al., 2021, p. 781).

The application of CPTED to border security is apparent in a study conducted by Linebarger and Braithwaite (2020), looking at the effectiveness of barriers in preventing the spread of violent militancy. They state that the use of border barriers has rapidly increased since the end of the Cold War. They suggest that barriers do not adequately prevent the spread of violent militancy. However, as CPTED suggests, the barrier needs to be surveilled and requires adequate policing to be effective. "Our argument is that the effectiveness of border fortification

in limiting the international diffusion of violent militancy is conditional upon the ability of the state to monitor and police border fortifications" (Linebarger and Braithwaite, p. 487). These studies show that CPTED can be applied to border security. However, the studies have been limited to terrorism and violence and have not evaluated the effectiveness of CPTED on crime.

Another indication of the success of the border barrier system is the length that those wishing to commit criminal acts will go to avoid the barriers. As stated earlier in this study, TCOs are about making money; they cease to exist if they do not. Therefore, TCOs will invest in an alternative way to smuggle their products as long the return on the investment is profitable. If one cannot get through the barrier, alternatives include going around, under, or over the wall.

As shown earlier, TCOs have moved their operations around the barrier. TCOs moved operations to remote areas with little infrastructure, and USBP had difficulty responding. The tactic works well when trying to move large groups of people. If people are caught, they can try again after returning to Mexico. However, the tactic does not work as well for drugs as it exposes the product to interdiction over a more extended time. All profit is lost with the interdiction.

Going under the barrier using tunnels is an option that reduces the risk of interdiction and the loss of product. "Earthen tunnels have been used to cross under country borders, in military conflicts, and to smuggle supplies, people, weapons, and drugs. Tunneling is a battle military tactic that goes back more than 2500 years" (Olson & Speidel, 2020). Tunnels have been used worldwide to cross borders, including the United States border. Therefore, DHS and USBP must develop a monitoring system to detect these tunnels (Olson & Speidel, 2020). CPB states that through the end of 2013, 168 tunnels have been identified in Arizona alone. In addition, many tunnels are found in Nogales and are associated with the drainage system between Mexico and the United States (McCammack, 2014). "TCOs have increased both the number and the

sophistication of smuggling tunnels. The tunnel threat consists of four categories of tunnels: conduit, rudimentary, interconnecting, and sophisticated" (Department of Homeland Security, 2017, p.2).

TCOs have also used air cannons to launch bundles of drugs over 100 pounds over the barrier. Unmanned aerial vehicles (UAVs) have also been utilized to smuggle drugs. Another way to smuggle both people and drugs is by using boats. These boats can be both commercial fishing vessels and pleasure boats. Most often, TCOs will use pangas. Pangas are wooden or fiberglass boats, often homemade. They can run the coast at night in the dark or mix in with heavy boat traffic during the day (Department of Homeland Security, 2017). The TCOs figure out ways to allow for the convergence of the offender and the victim by avoiding the guardians or overcoming the barrier to prevent the convergence.

There needs to be more literature on the specific effects of a border barrier system on crime prevention. As discussed, most research concerns border security's impact on individuals, groups of individuals, countries, and industries. There are no significant studies on border barrier effectiveness because there exists a conflict in public policies and conflicting interests. On the one hand, as we can see in political debates, some wish to control the border while others prefer less border control.

> The economic goals of the nation-state (NS) and business enterprises operating within its jurisdiction quite obviously differ. The former is concerned with the welfare of its citizens, while the latter seeks to maximize its value to those who effectively control it, regardless of where they reside. Consequently, conflicts between NSs and Multi-national Entities (MNEs) are inevitable. (Hirsch, 2016, p. 18)

Literature Review Summary

The literature review reveals that NS have the right of sovereignty and, therefore, the right and duty to decide who and what can enter their country. The concept of sovereignty is essential to national security and public safety. At the same time, sovereignty and border security are understood concepts, a drift developed in the world due to globalization. Globalization means a more collectivized world where nation-states have fewer rights regarding who and what enters their borders. The creep of globalization is very apparent in politics in the United States concerning the issue of border security. Border Security concepts are divided between humanitarian theory and crime theory.

According to the literature, RCT, RAT, and CPTED are accepted as sound criminology theories. Researchers can utilize these theories to study the effectiveness of border security measures on the impact of crime. RCT posits that people choose to act and use a cost-benefit analysis to determine the likelihood of committing criminal acts. RAT theory builds on RCT and states that the decision to commit a crime depends on the environment where there is a convergence of willing offenders, the presence of victims, and a lack of guardians. CPTED theorizes that there needs to be a GJ of the perpetrator and victims for crime to occur. By shaping the physical, social, and psychological environment, one can mitigate the likelihood of criminal activity by preventing GJ.

Many threats face the United States at the border, including terrorism, drug smuggling, migrant smuggling, human trafficking, and other illicit traffic. In response to these threats, the United States has implemented border security measures that utilize the concepts of CPTED. Most of the literature on border security concerns the reasons and justifications why people wish to cross borders illegally and how border security strategy impacts different members of society.

The literature is humanistic, relying primarily on a qualitative study. There needs to be more quantitative studies that evaluate the effectiveness of specific border security strategies and their impact on safety and crime for the country implementing the security policies. More needs to be done to ascertain the effect of CPTED on crime rates in the border area using quantitative means.

CHAPTER THREE: METHODS

Overview

This study analyzes the effectiveness of border security efforts in the San Diego, CA, border area to mitigate crime using the principles of CPTED. The study is quantitative, timely, and necessary. The United States, as a sovereign nation, has the right to determine who and what crosses its international border. Despite the sovereign right, the issue of border security is emotional and divisive in the United States. Rodriguez and DeMaio (2021) state that the issue of border security is contentious for both political parties in the United States. Border security was a significant part of the Trump campaign platform in his 2016 election victory when he said he would build the wall (Gravelle, 2022). On the other side of the political spectrum, shortly after coming to power, the Biden Administration halted all wall construction and reversed numerous immigration policies of the Trump Administration (American Journal of International Law, 2021). Even while reversing Trump's policies, the Biden Administration stated that "like every nation, the United States has a right and a duty to secure its borders and protect its people against threats" (American Journal of International Law, 2021, p. 343). A major difficulty is that both parties associate border security with immigration policy and allow emotion to obscure other issues like the impact of border security on crime.

Design

The study provides a quantitative review of secondary statistical data. The investigation is longitudinal and non-experimental. Non-Experimental studies are observational, descriptive, and report on what has already occurred. A non-experimental study is used as the researcher cannot influence or control variables and only observe the results (Manheim et al., 2002). The study will be a before and after study. It uses the Secure Fence Act of 2006 as a point in time for

the before and after embarkation. The study is supported by secondary data compiled between 1996 and 2020. According to Maxfield and Babbie (2018), analyzing secondary data is common in criminal justice research. Secondary information is collected for or by government/public agencies and published for public benefit.

Before and after studies take advantage of changes in the independent variables to compare outcomes at different times (Thompson & Panacek, 2006). The study will use longitudinal means to evaluate data at multiple points in time. A longitudinal study is critical because the border barrier system is constructed over time; hence any impact will be realized over time in the form of trends in criminal activity. According to Holder (2018), time is critical to a longitudinal study. Longitudinal trend studies look at how different variables impact a general population over an extended period and work well when using data from sources such as the FBI's Uniform Crime Report [UCR} (Maxfield and Babbie, 2018). Longitudinal studies allow for a very natural way of looking at correlations because the researcher is not influencing the population being studied in any way (Field, 2018).

Research Question

This quantitative study and the data to be analyzed are designed to answer the following research questions.

RQ1: *Has the violent crime rate, as captured by the Federal Bureau of Investigation's (FBI) Unified Crime Report (UCR), changed since the application of CPTED principles, utilized by CBP, in the San Diego, CA, metropolitan area?*

RQ2: *Has the property crime rate, as captured by the Federal Bureau of Investigation's (FBI) Unified Crime Report (UCR), changed since the application of CPTED principles, utilized by CBP, in the San Diego, CA, metropolitan area?*

Hypothesis(es)

The hypotheses for this study are:

RQ1: *Has the violent crime rate, as captured by the Federal Bureau of Investigation's (FBI) Unified Crime Report (UCR), changed since the application of CPTED principles, utilized by CBP, in the San Diego, CA, metropolitan area?*

- $H_0$1: There is no correlation between CBP's application of CPTED principles on the border in San Diego, CA, and the violent crime rate in San Diego, CA.

- H_a1: There is a correlation between CBP's application of CPTED principles on the border in San Diego, CA, and the violent crime rate in San Diego, CA.

RQ2: *Has the property crime rate, as captured by the Federal Bureau of Investigation's (FBI) Unified Crime Report (UCR), changed since the application of CPTED principles, utilized by CBP, in the San Diego, CA, metropolitan area?*

- $H_0$2: There is no correlation between CBP's application of CPTED principles on the border in San Diego, CA, and the property crime rate in San Diego, CA.

- H_a2: There is a correlation between CBP's application of CPTED principles on the border in San Diego, CA, and the property crime rate in San Diego, CA.

Participants and Setting

The study will analyze secondary data from multiple public sources, including the Federal Bureau of Investigation's (FBI) unified crime report (UCR), U.S. Customs and Border Protection (CBP), U.S. Border Patrol (USBP), U.S. Bureau of Economic Analysis (BEA), U.S. Bureau of Labor Statistics (BLS), the U.S. Census Bureau, and the Los Angeles Almanac. Statistical datasets are available for public download and use. Data on specific CPTED applications, including the timing, quantity, and environmental changes, was obtained from the USBP San Diego Sector.

This study is needed as much of the literature concerning border security reflects qualitative research. According to Specht (2019), qualitative research concerns the observation of the interaction of people and how people believe an issue impacts them. Qualitative research concerns feelings and how people feel or believe conditions hurt or help them. This quantitative study will provide a statistical analysis of violent and property crime rates in San Diego, CA,

before and after the Secure Fence Act of 2006, as CPTED principles were applied. Field (2018) defines the quantitative method of research as "inferring evidenced for a theory through measurement of variables that produce numeric outcomes" (p.750). Quantitative research allows for a definitive answer based on the mathematical analysis of specific data. The data analysis methods have existed for some time, and the studies can be reproduced and replicated, helping verify conclusions (Specht, 2019).

Instrumentation

As stated earlier, the data for this study is secondary data collected by multiple government sources. Sources of information include the FBI UCR, CBP, USBP, BEA, BLS, the U.S. Census Bureau (CB), and the Los Angeles Almanac (LAA). The datasets are available for public download and use. Several decades of data will be utilized, starting in 1996 through 2020.

Data For Dependent Variables

The dependent variable in a scientific study is what changes or results from the manipulation of the independent variables in the study. The FBI UCR is the repository for crime statistics from federal, state, county, and local agencies. The FBI has been collecting UCR data since the 1930s, with the data available for students, researchers, and the public (Federal Bureau of Investigation, 2020). There will be two specific variables or categories of crime in this study. The first category of crime is violent crime. The FBI defines violent crime for the UCR to include the offenses of murder and nonnegligent manslaughter, rape, robbery, and aggravated assault (Federal Bureau of Investigation, 2020). The second category of crime retrieved from the UCR is property crime. The UCR property crime category includes burglary, larceny, theft, motor vehicle theft, and arson (Federal Bureau of Investigation, 2020).

Data For Independent Variables

The independent variable is the variable controlled or manipulated in a study to impact the dependent variable. Ten independent variables are used in the study. The first three variables are specific to CPTED applications. For example, among the independent variables to be used and specific to the federal government are USBP staffing. Staffing levels will be divided between law enforcement personnel and support personnel. Support personnel include mechanics, technicians, intelligence analysts, and administrative staff. Another variable is the acquisition and deployment of technology, including sensors and surveillance systems. Additionally, the construction of fences, barriers, roads, and physical changes to the geography will be utilized. The data concerning staffing, technology, and infrastructure will be obtained from CBP (Customs & Border Protection, 2020).

Data on cross-border traffic is also used as independent variables. The data includes the number of people arrested or detained for illegally entering the United States across the southwest border. This data indicates volume and flow patterns. Data will also include the number of people arrested or detained for illegally entering the United States in the San Diego area. This data relates to the specific area where CPTED principles are being deployed (Customs & Border Protection, 2022).

Additionally, the population of San Diego is an independent variable utilized by the researcher in this study. Population data will be obtained from the United States Census Bureau (Census Bureau, 2021). Another independent variable that impacts crime is the economy. The gross domestic product (GDP) measures the economy's health by determining if the economy is growing or shrinking. GDP is the value of goods and services that have been produced minus the value of the goods and services needed to make them. The writer will obtain specific data from

the United States Bureau of Economic Analysis (BEA) statistics relating to San Diego, CA (Bureau of Economic Analysis, 2022).

The unemployment rate is also an independent variable impacting crime and reflects economic stability. Employment opportunities may also be a factor that draws people to cross the border illegally. The Bureau of Labor Statistics (BLS) provides data on unemployment rates, wages, and areas of employment such as heavy industries, agriculture, and services (Bureau of Labor Statistics, 2022). Property values are also an independent variable that impacts crime rates. The concept is that as crime goes down and is mitigated, the value of a property will go up. This study evaluates property value using the median home price per year in San Diego County. The data is obtained from the Los Angeles Almanac (Los Angeles Almanac, 2021).

A final independent variable the study will use to examine border security's impact on crime in the San Diego area is whether a Republican or Democratic administration oversees border security policy. This variable is important because the social and psychological environment is integral to crime prevention through environmental design strategy. Therefore, the approach put forward by a particular administration will impact the social and psychological environment.

Procedures

Institutional Review Board approval will be obtained prior to initiating the study. As all data will be from secondary sources collected by government agencies and publicly available, no procedures are required concerning participants or obtaining data from primary sources. Secondary data obtained from government sources will be referenced appropriately and contained in tables included in appendices.

Data Analysis

The prospective study examined the relationship between the dependent variables of violent and property crime in San Diego and the independent variables that may impact them. The study will look at the correlation between the variables or the strength of the relationship, and the Pearson's coefficient which measures the amount and direction of change the variables have on one another. The study will also use linear regressions, providing Ordinary Least Squared (OLS) estimates obtained using the IBM Statistical Package for Social Sciences (SPSS) with an ordinary least square regression model. Regressions are a means of mathematically determining the probability of correlation between variables. OLS allows us to describe the relationship between one or more independent variables and the dependent variables. Linear regressions determine the predictability of future events based on the values of the variables collected. The R Square and Adjusted R Square tell how well the regression line fits the data. A value closer to one is best (Field, 2018). Per the study's intent, as provided in the problem and purpose statements, a quantitative non-experimental research design evaluating a longitudinal view of the secondary data is the appropriate course of action for this study. Quantitative studies are widely used in research on the effectiveness of CPTED (Herranz de Rafael & Fernandez-Prados, 2019; Kang & Kang, 2017; Kim et al., 2019).

All research projects in social science are subject to limitations based on a threat to validity. Threats to validity are classified as internal and external (Maxfield & Babbie, 2018). Ethical concerns also impact validity. The ability to overcome these threats to validity is critical to legitimizing the research study. The limitations of this study are addressed.

Internal Validity

Internal validity relates to whether the observed causal effects of the study might relate to other variables (Maxfield & Babbie, 2018). Internal validity in the proposed research will be

addressed using all the independent variables measured against the dependent variable of multiple periods to ensure the validity of the results. Each independent variable will also be used against the dependent variable for the same periods to measure its impact on the dependent variable outside the influence of other independent variables. One area of concern relates to independent variables not measurable in this study, such as the impact of defunding the police, local prosecutors' decisions on charging people with crimes, criminal justice reform, and sanctuary cities, all relevant in California.

External Validity

External validity concerns whether the study's results can be duplicated in other studies, which may involve different conditions (Maxfield & Babbie, 2018). Literature indicates that non-experimental design allows results to be replicated in other studies (Ferraro & Miranda, 2014).

Ethical Concerns

Professional ethics is critical to the acceptance of a study. The proposed study is a non-experimental study that does not require subjects' participation; as such, concerns over the ethical treatment of subjects do not exist. The data used in the study is provided through secondary sources maintained by the United States government and is available to the public, thus reducing concerns about privacy and collection. Non-experimental studies try to understand the relationship between phenomena that naturally happen without researcher involvement. The events have already taken place. Therefore, the research is ex post facto and limits the researcher's ability to manipulate the data (Radhakrishnan, 2013).

CHAPTER FOUR: FINDINGS

Overview

Border security has become politically contentious and divisive in the United States over the past decade. Supporters claim that border security is necessary for national security and public safety. Detractors claim border security wastes money, is racist, xenophobic, and does more harm than good. More quantitative research needs to be completed on the subject. This quantitative, exploratory, correlational research study used existing data to examine the CPTED-inspired border security measures applied in San Diego and their relationship to criminal activity in San Diego. The two dependent variables for this study are violent crime and property crime. The ten independent variables include population, GDP, property values, unemployment rates, the president's political party, infrastructure and technology applied, the number of agents, and support personnel, alien encounters in San Diego, and alien encounters along the southwest border. The research questions and hypotheses used in the study are:

RQ1: *Has the violent crime rate, as captured by the Federal Bureau of Investigation's (FBI) Unified Crime Report (UCR), changed since the application of CPTED principles, utilized by CBP, in the San Diego, CA, metropolitan area?*

- $H_0$1: There is no correlation between CBP's application of CPTED principles on the border in San Diego, CA, and the violent crime rate in San Diego, CA.
- H_a1: There is a correlation between CBP's application of CPTED principles on the border in San Diego, CA, and the violent crime rate in San Diego, CA.

RQ2: *Has the property crime rate, as captured by the Federal Bureau of Investigation's (FBI) Unified Crime Report (UCR), changed since the application of CPTED principles, utilized by CBP, in the San Diego, CA, metropolitan area?*

- $H_0$2: There is no correlation between CBP's application of CPTED principles on the border in San Diego, CA, and the property crime rate in San Diego, CA.
- H_a2: There is a correlation between CBP's application of CPTED principles on the border in San Diego, CA, and the property crime rate in San Diego, CA.

Descriptive Statistics

The Liberty University Institutional Review Board (IRB) approved the study on February 8, 2023, under number IRB-FY22-23-944, HOW THE PHYSICAL, SOCIAL, AND PSYCHOLOGICAL ENVIRONMENT IMPACTS BORDER SECURITY. The data for this study were separated by variable and year from 1996 through 2020. Descriptive statistics for the dependent variables of violent and property crime between 1996 and 2020 for San Diego and the independent variables of infrastructure and technology and border patrol law enforcement staffing are presented.

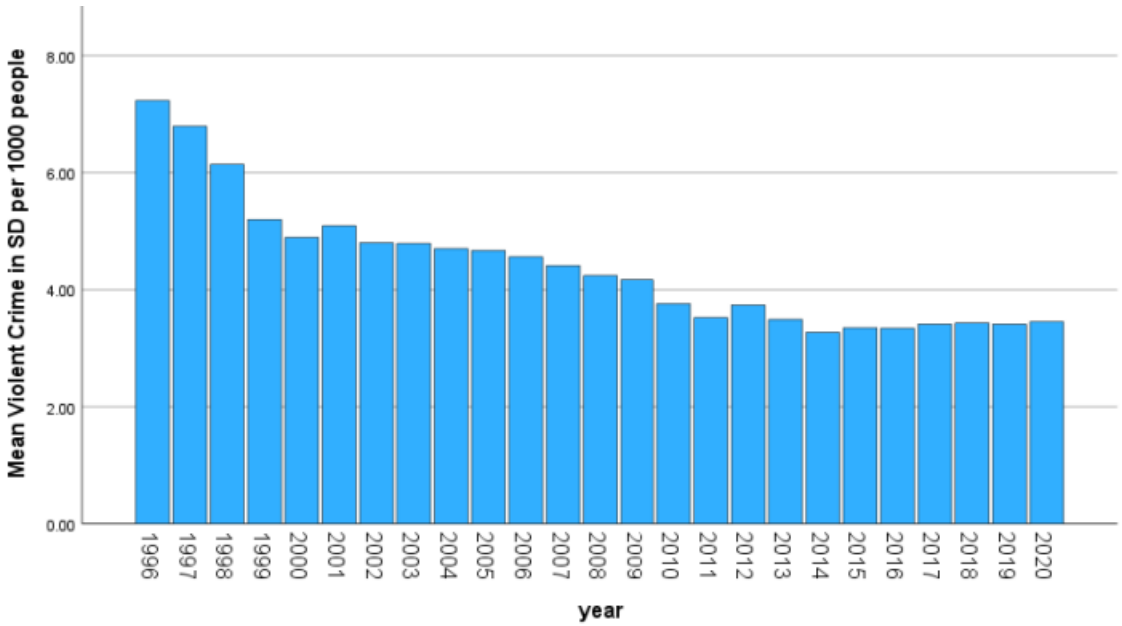
Violent Crime

The FBI UCR statistics for violent crime in San Diego in 1996 was 7.23 per 1,000 people. In the year 2020, the rate was 3.45 per 1,000 people. The violent crime rate per 1,000 people in San Diego in 2020 dropped to 47 percent of what it was in 1996. The low point for violent crime per 1,000 people in San Diego between 1996 and 2020 was 3.41 in 2019. The mean violent crime rate per 1000 people in San Diego between 1996 and 2020 was 4.39. The standard deviation for violent crime in San Diego between 1996 and 2020 was 1.09 per 1,000 people.

Figure 1

Violent Crime Descriptive Statistics and Simple Bar Mean

	Mean	Std. Deviation	N
Violent Crime in SD per 1000 people	4.3940	1.08853	25



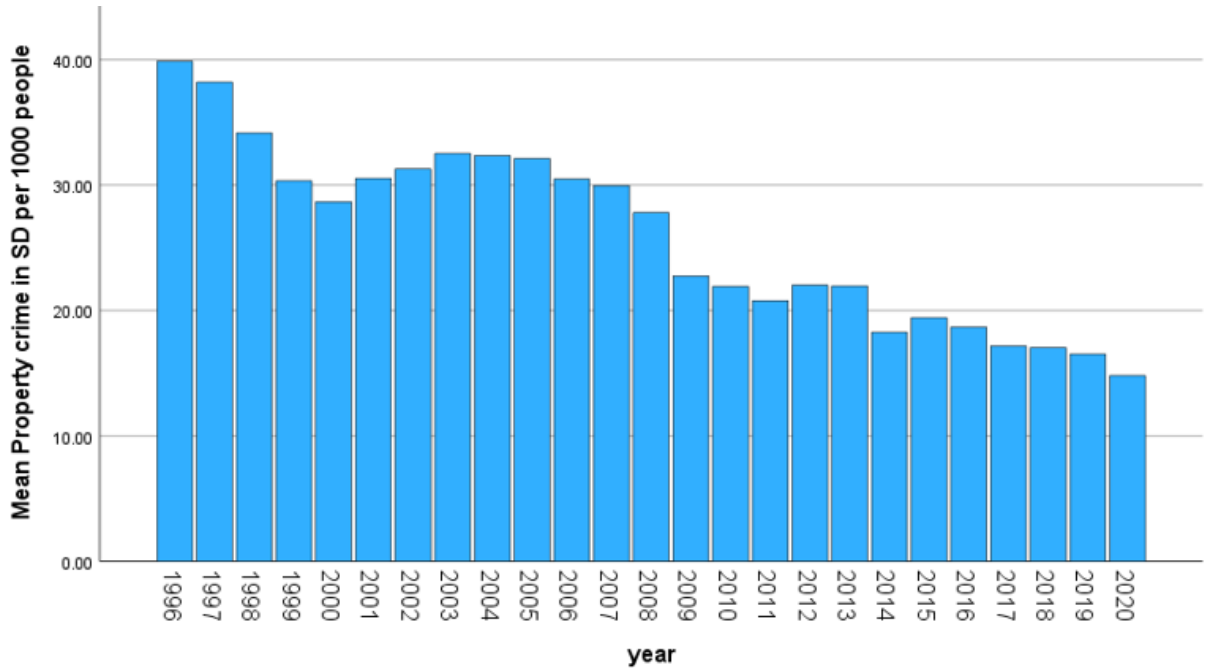
Property Crime

The FBI UCR for property crime in San Diego in 1996 was 39.86 per 1,000 people. In the year 2020, the rate was 14.8 per 1,000 people. The property crime rate per 1,000 people in San Diego dropped to 37 percent of what it was in 1996. The low point for property crime per 1,000 people in San Diego between 1996 and 2020 was 14.8 in 2020. The mean property crime rate per 1000 people in San Diego between 1996 and 2020 was 25.98. The standard deviation for property crime per 1,000 people in San Diego between 1996 and 2020 was 7.24.

Figure 2

Property Crime Descriptive Statistics and Simple Bar Mean

	Mean	Std. Deviation	N
Property crime in SD per 1000 people	25.9840	7.23717	25



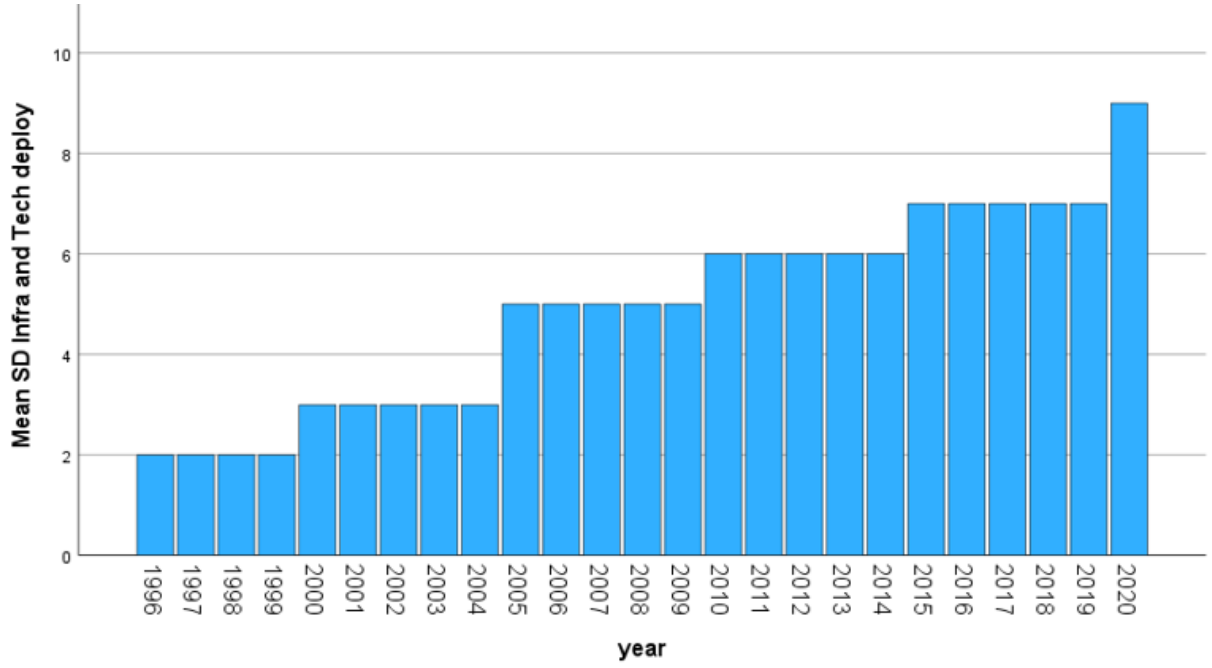
Infrastructure and Technology

In this study, infrastructure and technology are measured in five-year blocks. Infrastructure and technology started with a base score of two as existing fencing existed in part of the San Diego area. For each proceeding five-year block, one point was added to the score if additional infrastructure was applied, and one point per year was added if technology was applied during the five years. The San Diego Border Patrol Sector provided the data. The infrastructure and technology score for San Diego in 1996 was two. In 2020 the infrastructure and technology score in San Diego had risen to nine. Between 1996 and 2020, the level of infrastructure and technology increased by four and one-half times. The mean score for infrastructure and technology in San Diego between 1996 and 2020 was 4.88. The standard deviation for infrastructure and technology in San Diego between 1996 and 2020 was 2.01.

Figure 3

Infrastructure and Technology Descriptive Statistics and Simple Bar Mean

	Mean	Std. Deviation	N
SD Infra and Tech deploy	4.88	2.007	25



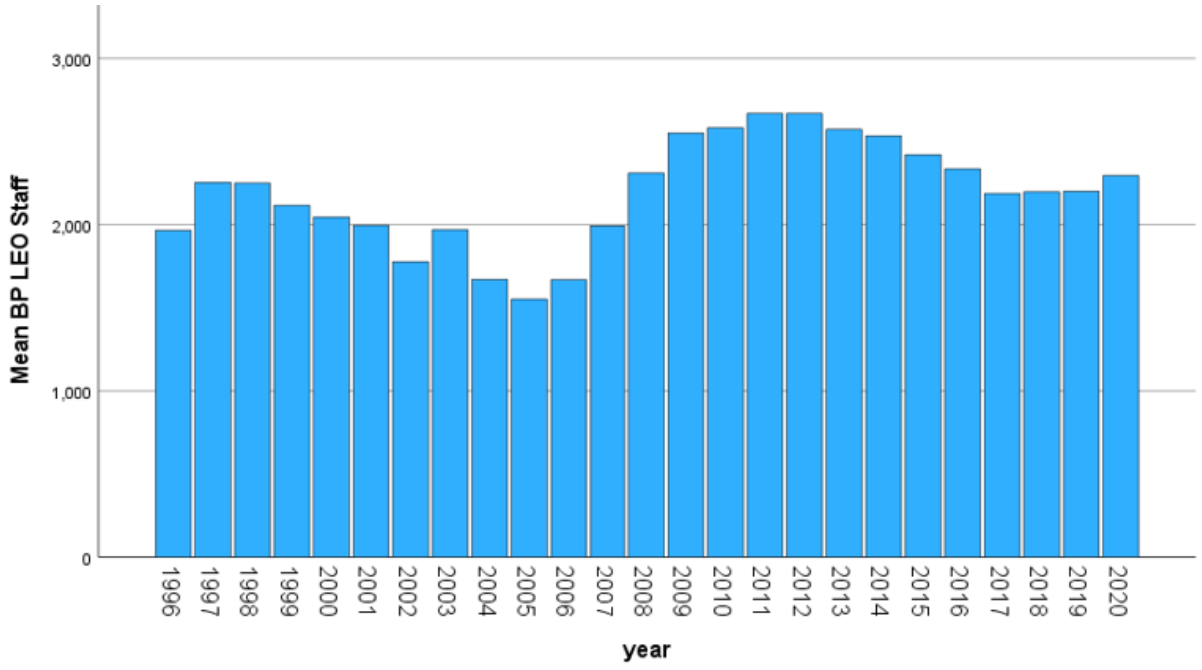
San Diego Border Patrol LEO Staffing

The number of Border Patrol Agents in San Diego in 1996 was 1,966. The number of Border Patrol Agents in 2020 was 2,295, an increase of 15%. The minimum number of Border Patrol Agents in San Diego between 1996 and 2020 was 1,553 in 2005. The maximum number of Border Patrol Agents in San Diego between 1996 and 2020 was 2,667 in 2012. The mean number of Border Patrol Agents in San Diego between 1996 and 2020 was 2,191. The standard deviation of Border Patrol Agents in San Diego between 1996 and 2020 was 318.

Figure 4

Border Patrol LEO Staffing Descriptive Statistics and Simple Bar Mean

	Mean	Std. Deviation	N
BP LEO Staff	2191.20	318.142	25



Results

Hypothesis – Violent Crime

The first hypothesis states no correlation exists between CBP's application of CPTED principles on the border in San Diego, CA, and the violent crime rate in San Diego, CA. It is a null hypothesis. Violent crime is the dependent variable for the analysis. The independent variables in the analysis include population, GDP, unemployment rate, BP arrests in San Diego, BP arrests on the southwest border, BP law enforcement staffing in San Diego, BP support staffing, the political party of the president, mean property values in San Diego, and infrastructure and surveillance technology deployed on the border in San Diego. Data analysis was conducted through a multiple linear regression utilizing IBM's SPSS for 25 years between 1996 and 2020.

Correlations

A Correlation describes the relationship between two variables. Correlations are measured through the p-value, expressed as *p*, and the Pearson correlation, expressed as *r*. A p-

value measures the significance of the relationship between variables. A value less than .05 is said to be significant, meaning the null hypothesis can be rejected. A Pearson correlation measures the strength and direction of the linear relationship between the variables. Pearson correlation scores are -1 to 1. A score of -1 is a perfect negative correlation, meaning that as one variable increases, the other decreases. A score of 0 indicates no correlation. A score of 1 is a perfect positive correlation, meaning that as one variable increases, so does the other. The following correlations examine the relationship between the dependent variable of violent crime and each independent variable and are found in Figure Five.

Population. There was a statistically significant, strong negative correlation between the violent crime rate and population in San Diego between 1996 and 2020, r (23) = -.937, $p < .001$. A strong negative correlation indicates that as the population increased, the violent crime rate in San Diego declined.

GDP. There was a statistically significant, strong negative correlation between the violent crime rate and GDP in San Diego between 1996 and 2020, r (23) = -.874, $p < .001$. A strong negative correlation indicates that as the GDP increased, the violent crime rate in San Diego declined.

Unemployment. There was a statistically significant, low negative correlation between the violent crime rate and unemployment in San Diego between 1996 and 2020, r (23) = -.358, p =.039. A low negative correlation indicates that as the unemployment rate increased, there was a slight decline in violent crime in San Diego.

Border Patrol Arrests, San Diego. There was a statistically significant, strong positive correlation between the violent crime rate and local Border Patrol arrests in San Diego between

1996 and 2020, r (23) = .934, p <.001. A strong positive correlation indicates that as the number of border patrol arrests increased, there was an increase in violent crime in San Diego.

Border Patrol Arrests, Southwest Border. There was a statistically significant, strong positive correlation between the violent crime rate and Border Patrol southwest border arrests in San Diego between 1996 and 2020, r (23) = .853, p < .001. A strong positive correlation indicates that as the number of border patrol arrests on the Southwest Border increased, there was an increase in violent crime in San Diego.

Border Patrol Law Enforcement Staffing. A statistically significant, moderate negative correlation existed between the violent crime rate and border patrol law enforcement staffing in San Diego between 1996 and 2020, r (23) = -.438, p = .014. A moderate negative correlation indicates that as the number of border patrol law enforcement positions increased, there was a moderate decrease in violent crime in San Diego.

Border Patrol Support Staffing. A statistically significant, moderate positive correlation existed between the violent crime rate and border patrol support staffing in San Diego between 1996 and 2020, r (23) = .626, p < .001. A moderate positive correlation indicates that violent crime in San Diego increased moderately as the number of border patrol support staff positions increased.

Mean Property Value. There was a statistically significant, strong negative correlation between the violent crime rate and the mean property value in San Diego between 1996 and 2020, r (23) = -.732, p < .001. A strong negative correlation indicates that as the mean property value increased, there was a significant decrease in violent crime in San Diego.

San Diego Infrastructure and Technology Deployment. There was a statistically significant, strong negative correlation between the violent crime rate and infrastructure and

technology deployment in San Diego between 1996 and 2020, r (23) = -.877, p < .001. A strong negative correlation indicates that as infrastructure and technology deployment increased, there was a significant decrease in violent crime in San Diego.

Political Party of the President. This is a dichotomous variable; the analysis was completed using Kendall Tau and Spearman's rho. There was no statistically significant correlation between the violent crime rate in San Diego and the president's political party in San Diego between 1996 and 2020. Kendall Tau, p = .957 and Spearman's rho, p = .958.

Figure 5

Violent Crime Correlations

	Violent Crime in SD per 1000 people	Population in millions	GDP thous of current $	Unemployment rate yearly avg in SD	BP Arrests SDC	BP Arrests SWB	BP LEO Staff	BP Sup Staff	Pol Party of Pres	Property Value mean in SD in Dec	SD Infra and Tech deploy
Pearson Correlation	1.000	-.937	-.874	-.358	.934	.853	-.438	.626	-.133	-.732	-.877
P-Score	.	<.001	<.001	.039	<.001	<.001	.014	<.001	.264	<.001	<.001

			Violent Crime in SD per 1000 people	Pol Party of Pres
Kendall's tau_b	Violent Crime in SD per 1000 people	Correlation Coefficient	1.000	-.009
		Sig. (2-tailed)	.	.957
		N	25	25
	Pol Party of Pres	Correlation Coefficient	-.009	1.000
		Sig. (2-tailed)	.957	.
		N	25	25
Spearman's rho	Violent Crime in SD per 1000 people	Correlation Coefficient	1.000	-.011
		Sig. (2-tailed)	.	.958
		N	25	25
	Pol Party of Pres	Correlation Coefficient	-.011	1.000
		Sig. (2-tailed)	.958	.
		N	25	25

Multiple Regression

The multiple regression determines the proportion of variation in the violent crime level in San Diego, explained by the ten independent variables. It also allows for determining the predictability of the violent crime rate in San Diego based on new values of the independent variables and how much the violent crime rate in San Diego will change for a one-unit change in the independent variables.

Fit and Predictability. The objective is to determine whether the regression model fits the data well, thus being predictive.

The first test used Figure Six to determine the fit and predictability of the model by looking at the *R*-squared or the coefficient of determination. The test measures the proportion of variance in violent crime in San Diego that is explained by the independent variables over and above the mean. The adjusted *R*-squared is also reported. This test looks at the population rather than a sample from the data correcting for positive bias and estimating the effect size. R^2 for the overall model was 97.4%, with an adjusted R^2 of 95.6%, signifying a large effect.

Figure 6

Violent Crime Model Summary

					Change Statistics					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.987[a]	.974	.956	.22799	.974	53.311	10	14	<.001	1.745

a. Predictors: (Constant), SD Infra and Tech deploy, Pol Party of Pres, Unemployment rate yearly avg in SD, BP Arrests SDC, BP LEO Staff, BP Sup Staff, BP Arrests SWB, Property Value mean in SD in Dec, Population in millions, GDP thous of current $

b. Dependent Variable: Violent Crime in SD per 1000 people

The second test uses Figure Seven, the ANOVA table. The test measures the *p* score to determine if the results are statistically significant, with a score of $p < .05$, meaning that there is a significant result. The *F* value is the ratio of the between-group variation and within-group variation. The large *F* value can mean a statistically significant difference in group means. Population, GDP, unemployment rate, BP arrests in San Diego, BP arrests on the southwest border, BP law enforcement staffing in San Diego, BP support staffing, the political party of the president, mean property values in San Diego, and infrastructure and surveillance technology deployed on the border in San Diego statistically significantly predicted the violent crime rate in San Diego, $F(10,14) = 53.311$, $p < .001$.

Figure 7

Violent Crime ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	27.710	10	2.771	53.311	<.001[b]
	Residual	.728	14	.052		
	Total	28.437	24			

a. Dependent Variable: Violent Crime in SD per 1000 people

b. Predictors: (Constant), SD Infra and Tech deploy, Pol Party of Pres, Unemployment rate yearly avg in SD, BP Arrests SDC, BP LEO Staff, BP Sup Staff, BP Arrests SWB, Property Value mean in SD in Dec, Population in millions, GDP thous of current $

Looking at the violent crime model for San Diego, Figure Eight indicates the existence of linearity and homoscedasticity, as seen by the plotted variables hugging the regression line. Homoscedasticity assumes equal or similar variances in the different groups or variables being compared.

Figure 8

Violent Crime P-Plot

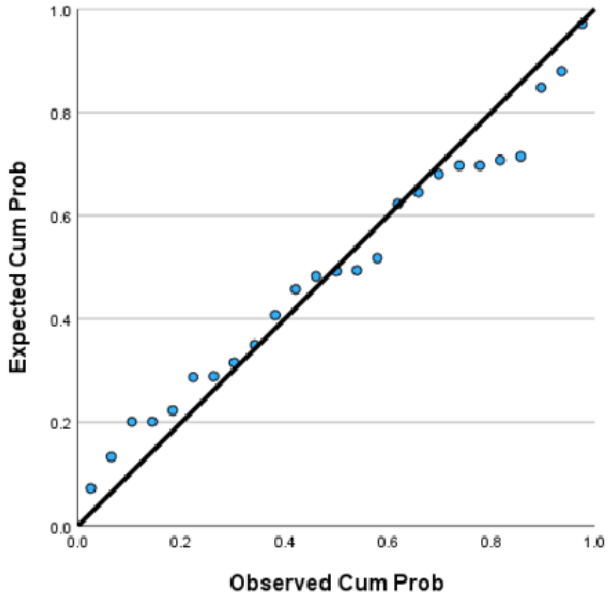
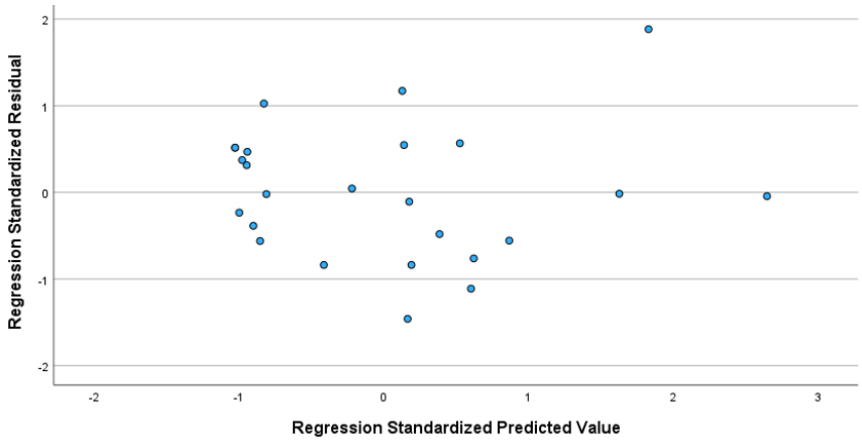


Figure Nine, the scatterplot concerning violent crime in San Diego, indicates that the assumptions for linearity and homoscedasticity have been met. The null hypothesis concerning

violent crime has been rejected based on test results and a p score of $p < .001$. It is indicated by the fact that the plotted variables appear randomly around a center line and do not form a curved line.

Figure 9

Violent Crime Scatterplot



Regression Line. The regression line is the means of prediction. An equation is created using the significant variables (<.05), with Unstandardized B being the factor found in Figure 10. This regression's equation for predicting violent crime is Violent Crime = -.144 x Unemployment Rate + .006 x BP Support Staffing.

Figure 10

Violent Crime Coefficients

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	4.424	5.746		.770	.453
	Population in millions	-.977	2.042	-.194	-.479	.639
	GDP thous of current $	-1.843E-8	.000	-.776	-1.572	.137
	Unemployment rate yearly avg in SD	-.144	.052	-.313	-2.746	.015
	BP Arrests SDC	8.929E-6	.000	.852	5.031	<.001
	BP Arrests SWB	-4.560E-7	.000	-.190	-1.298	.214
	BP LEO Staff	.001	.001	.309	1.946	.071
	BP Sup Staff	.006	.003	.297	2.240	.041
	Property Value mean in SD in Dec	3.117E-6	.000	.447	1.976	.067
	SD Infra and Tech deploy	.221	.153	.407	1.442	.170

a. Dependent Variable: Violent Crime in SD per 1000 people

Hypothesis – Property Crime

The second hypothesis states that no correlation exists between CBP's application of CPTED principles on the border in San Diego and the property crime rate in San Diego. It is a null hypothesis. Property crime is the dependent variable for the analysis. The independent variables in the analysis include population, GDP, unemployment rate, BP arrests in San Diego, BP arrests on the southwest border, BP law enforcement staffing in San Diego, BP support staffing, the political party of the president, mean property values in San Diego, and infrastructure and surveillance technology deployed on the border in San Diego. Data analysis was conducted through a multiple linear regression utilizing IBM's SPSS for 25 years between 1996 and 2020.

Correlations

A Correlation describes the relationship between two variables. Correlations are measured through the p-value, expressed as *p*, and the Pearson correlation, expressed as *r*. A p-value measures the significance of the relationship between variables. A value less than .05 is said to be significant, meaning the null hypothesis can be rejected. A Pearson correlation measures the strength and direction of the linear relationship between the variables. Pearson correlation scores are -1 to 1. A score of -1 is a perfect negative correlation, meaning that as one variable increases, the other decreases. A score of 0 indicates no correlation. A score of 1 is a perfect positive correlation, meaning that as one variable increases, so does the other. The following correlations examine the relationship between the dependent variable of property crime and each independent variable and are found in Figure 11.

Population. There was a statistically significant, strong negative correlation between the property crime rate and population in San Diego between 1996 and 2020, r (23) = -.959, p <

.001. A strong negative correlation indicates that as the population increased, the property crime rate in San Diego declined.

GDP. There was a statistically significant, strong negative correlation between the property crime rate and GDP in San Diego between 1996 and 2020, r (23) = -.919, p < .001. A strong negative correlation indicates that as the GDP increased, the property crime rate in San Diego declined.

Unemployment. There was a statistically significant, low negative correlation between the property crime rate and unemployment in San Diego between 1996 and 2020, r (23) = -.373, p =.033. A low negative correlation indicates that as the unemployment rate increased, there was a small decline in property crime in San Diego.

Border Patrol Arrests, San Diego. There was a statistically significant, strong positive correlation between the property crime rate and local Border Patrol arrests in San Diego between 1996 and 2020, r (23) = .827, p <.001. A strong positive correlation indicates that as the number of border patrol arrests increased, there was an increase in property crime in San Diego.

Border Patrol Arrests, Southwest Border. There was a statistically significant, strong positive correlation between the property crime rate and Border Patrol southwest border arrests in San Diego between 1996 and 2020, r (23) = .833, p < .001. A strong positive correlation indicates that as the number of border patrol arrests on the Southwest Border increased, there was an increase in property crime in San Diego.

Border Patrol Law Enforcement Staffing. The was a statistically significant, moderate negative correlation between the property crime rate and border patrol law enforcement staffing in San Diego between 1996 and 2020, r (23) = -.585, p = .001. A moderate negative correlation

indicates that as the number of border patrol law enforcement positions increased, there was a moderate decrease in property crime in San Diego.

Border Patrol Support Staffing. A statistically significant, moderate positive correlation existed between the property crime rate and border patrol support staffing in San Diego between 1996 and 2020, r (23) = .662, $p < .001$. A moderate positive correlation indicates that property crime in San Diego increased moderately as the number of border patrol support staff positions increased.

Mean Property Value. There was a statistically significant, moderate negative correlation between the property crime rate and the mean property value in San Diego between 1996 and 2020, r (23) = -.648, $p < .001$. A moderate negative correlation indicates that as the mean property value increased, there was a moderate decrease in property crime in San Diego.

San Diego Infrastructure and Technology Deployment. There was a statistically significant, strong negative correlation between the property crime rate and infrastructure and technology deployment in San Diego between 1996 and 2020, r (23) = -.914, $p < .001$. A strong negative correlation indicates that as infrastructure and technology deployment increased, there was a significant decrease in property crime in San Diego**.**

Political Party of the President. This is a dichotomous variable; the analysis was completed using Kendall Tau and Spearman's rho. There was no statistically significant correlation between the property crime rate in San Diego and the president's political party in San Diego between 1996 and 2020. Kendall Tau, $p = .957$ and Spearman's rho, $p = .958$.

Figure 11

Property Crime Correlations

	Property crime in SD per 1000 people	Population in millions	GDP thous of current $	Unemployment rate yearly avg in SD	BP Arrests SDC	BP Arrests SWB	BP LEO Staff	BP Sup Staff	Pol Party of Pres	SD Infra and Tech deploy	Property Value mean in SD in Dec
Pearson Correlation	1.000	-.959	-.919	-.373	.827	.833	-.585	.662	.008	-.914	-.648
P-Score	.	<.001	<.001	.033	<.001	<.001	.001	<.001	.484	<.001	<.001

			Pol Party of Pres	Property crime in SD per 1000 people
Kendall's tau_b	Pol Party of Pres	Correlation Coefficient	1.000	-.009
		Sig. (2-tailed)	.	.957
		N	25	25
	Property crime in SD per 1000 people	Correlation Coefficient	-.009	1.000
		Sig. (2-tailed)	.957	.
		N	25	25
Spearman's rho	Pol Party of Pres	Correlation Coefficient	1.000	-.011
		Sig. (2-tailed)	.	.958
		N	25	25
	Property crime in SD per 1000 people	Correlation Coefficient	-.011	1.000
		Sig. (2-tailed)	.958	.
		N	25	25

Multiple Regression

The multiple regression determines the proportion of variation in the property crime level in San Diego, explained by the ten independent variables. It also allows for determining the predictability of the property crime rate in San Diego based on new values of the independent variables and how much the violent crime rate in San Diego will change for a one-unit change in the independent variables.

Fit and Predictability. The objective is to determine whether the regression model fits the data well, thus being predictive.

The first test, Figure 12, used the model summary to determine the fit and predictability of the model by looking at the *R*-squared or the coefficient of determination. The test measures the proportion of variance in property crime in San Diego that is explained by the independent variables over and above the mean. The adjusted *R*-squared is also reported. This test looks at the population rather than a sample from the data correcting for positive bias and estimating the effect size. R^2 for the overall model was 98.2%, with an adjusted R^2 of 96.9%, signifying a large effect.

Figure 12

Property Crime Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.991[a]	.982	.969	1.27520	.982	75.903	10	14	<.001	2.501

a. Predictors: (Constant), Property Value mean in SD in Dec, Unemployment rate yearly avg in SD, Pol Party of Pres, BP Arrests SDC, BP Sup Staff, BP LEO Staff, BP Arrests SWB, SD Infra, and Tech deploy, Population in millions, GDP thous of current $

b. Dependent Variable: Property crime in SD per 1000 people

The second test used Figure 13, the ANOVA. The test measures the *p* score to determine if the results are statistically significant, with a score of $p < .05$, meaning that there is a significant result. The *F* value is the ratio of the between-group variation and within-group variation. The large *F* value can mean a statistically significant difference in group means. Population, GDP, unemployment rate, BP arrests in San Diego, BP arrests on the southwest border, BP law enforcement staffing in San Diego, BP support staffing, the political party of the president, mean property values in San Diego, and infrastructure and surveillance technology deployed on the border in San Diego statistically significantly predicted the property crime rate in San Diego, F (10,14) = 75.903, $p < .001$.

Figure 13

Property Crime ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1234.274	10	123.427	75.903	<.001[b]
	Residual	22.766	14	1.626		
	Total	1257.040	24			

a. Dependent Variable: Property crime in SD per 1000 people

b. Predictors: (Constant), Property Value mean in SD in Dec, Unemployment rate yearly avg in SD, Pol Party of Pres, BP Arrests SDC, BP Sup Staff, BP LEO Staff, BP Arrests SWB, SD Infra, and Tech deploy, Population in millions, GDP thous of current $

Looking at the property crime model for San Diego, Figure 14, the P-plot of the model, indicates the existence of linearity and homoscedasticity, as seen by the plotted variables hugging the regression line. Homoscedasticity assumes equal or similar variances in the different groups or variables being compared.

Figure 14

Property Crime P-Plot

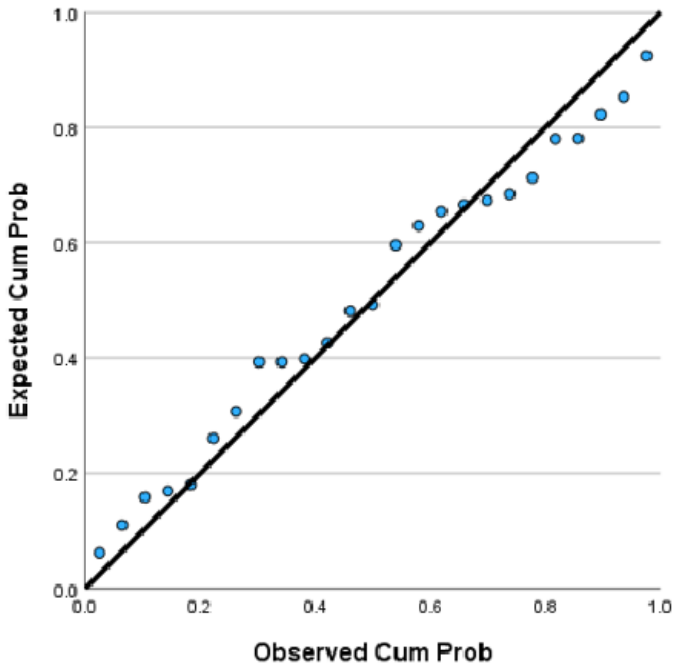
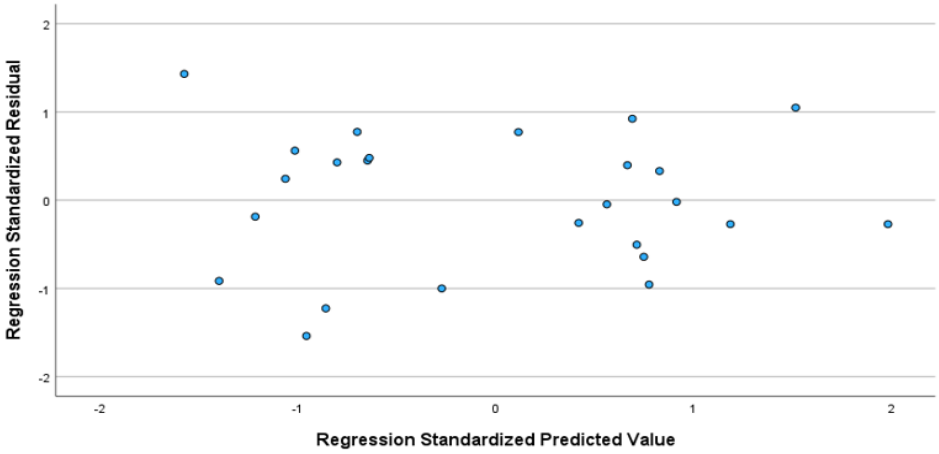


Figure 15, the scatterplot for this model concerning property crime in Sand Diego, indicates that the assumptions for linearity and homoscedasticity have been met. The null hypothesis concerning violent crime has been rejected based on test results and a p score of $p < .001$. It is indicated by the fact that the plotted variables appear randomly around a center line and do not form a curved line.

Figure 15

Property Crime Scatterplot



Regression Line. The regression line is the means of prediction. An equation is created using the significant variables (<.05), with Unstandardized B being the factor found in Figure 16. This regression's equation for predicting property crime is Property Crime = 136.30 + -30.68 x Population in millions.

Figure 16

Property Crime Coefficients

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	136.303	33.024		4.127	<.001
	Population in millions	-30.680	11.733	-.916	-2.615	.020
	GDP thous of current $	-8.186E-8	.000	-.518	-1.215	.243
	Unemployment rate yearly avg in SD	-.484	.301	-.159	-1.610	.128
	BP Arrests SDC	1.100E-5	.000	.158	1.078	.298
	BP Arrests SWB	-6.774E-6	.000	-.424	-3.355	.004
	BP LEO Staff	.002	.003	.078	.570	.577
	BP Sup Staff	-.022	.015	-.168	-1.462	.164
	Property Value mean in SD in Dec	1.967E-5	.000	.424	2.170	.046
	SD Infra and Tech deploy	-.868	.880	-.241	-.987	.339

a. Dependent Variable: Property crime in SD per 1000 people

Conclusion

The null hypothesis for violent crime is that there is no correlation between CBP's application of CPTED principles on the border in San Diego, CA, and the violent crime rate in San Diego, CA. As a result of the analysis, the null hypothesis for violent crime is rejected. The null hypothesis for property crime is that there is no correlation between CBP’s application of CPTED principles on the border in San Diego, CA, and the property crime rate in San Diego, CA. As a result of the analysis, the null hypothesis for property crime is rejected.

CHAPTER FIVE: CONCLUSIONS

Overview

Despite this nation's sovereign right to protect its borders, a duty delegated explicitly to Congress in the Constitution (U.S. Constitution, art. 1, sec. 8), border security in the United States is politically divisive and controversial. Studies on border security have been qualitative and humanitarian and describe the harm border security measures have caused different groups. This quantitative study examined border security efforts' impact on violent and property crime rates in San Diego, CA, between 1996 and 2020.

Discussion

The purpose of this study is to analyze CBP's efforts to shape the physical, social, and psychological environment through the application of CPTED on the border in the San Diego, CA, area over the last several decades and determine how those efforts correlate to violent and property crime rates in the San Diego area. The United States, like every other sovereign nation, has a fundamental mission to secure its border to ensure its citizens' safety and economic security (Chambers, 2015; Givens et al., 2018; Lyzhenkov, 2015). CPTED concerns shaping the physical, psychological, and social environments to prevent crime. "Crime prevention through environment design (CPTED) seeks to alter human behavior by changing the physical landscape; such efforts include the use of improved lighting, enhanced natural surveillance, and the reallocation of gather areas" (Bernard et al., 2016, p. 47). CBP's adoption of CPTED principles was illustrated by former acting CBP Commissioner David Aguilar when he described this strategy in testimony to the Senate Homeland Security and Governmental Affairs Committee on April 4, 2017. According to Aguilar, securing the border required the right combination of technology, personnel, and infrastructure projects (Garrett, 2018).

Cozens et al. (2019) posit that the basis of all crime and the prevention of crime is based on GJ. Crime cannot occur if the victim is prevented from meeting the perpetrator in time and space. By changing the environment, the meditation of the risk factors that lead to GJ is achieved, thus reducing the likelihood of crime. Positive change to the environment occurs when five CPTED principles occur. These principles are natural surveillance, access management, territoriality, physical maintenance, and order maintenance (Vagi et al., 2018).

Over the last 25 years, CBP embarked on an effort to alter the border environment in San Diego. The cumulative effort included installing, maintaining, and upgrading primary and secondary-level fencing, including bollards. Primary fencing was extended beyond the breakers into the Pacific Ocean, and river barriers were added to the Tijuana River. Hundreds of tons of earth were moved in Smuggler's Gulch to allow for secondary fencing and agent access. Roads were constructed for lateral and vertical access to the border. In addition to physical barriers and changing the physical land and construction of roads, CBP also provided for installing, maintaining, and upgrading remote video surveillance systems (RVSS), mobile surveillance systems (MSS), lighting, and ground sensing equipment to include fiber optics. Additionally, the number of border patrol agents assigned to San Diego increased by 15% between 1996 and 2020. The number of agents fluctuated during that time, with a low of 1,553 agents in 2005 and a high of 2,661 agents in 2012 (U.S. Border Patrol, 2022).

A significant change in the border environment occurred in the number of people detained by the Border Patrol for illegal entry in the San Diego Sector. The number of detentions in 1996 was 483,515. In 2020, the number of detentions in the San Diego Sector had dropped to 53,282. Detentions in 2020 were 11% of those in 1996, almost a 90% decrease (Customs and Border Protection, 2022).

Changes in the social environment started to occur near the border in San Diego almost immediately after applying CPTED principles. Residential housing construction in the border area increased with developments such as the Coral Gate. Home prices for the Coral Gate area ranged between $130,000 and $170,000 in 1997. By 2022, the prices of homes in the Coral Gate area had risen and ranged between $626,000 and $875,000. Commercial activity increased with the construction of Las Americas Premium Outlets, covering 560,000 square feet, and the Plaza Palmera Outlets, covering 140,000 square feet. The community's belief in a safe environment, free from the threat of crime, was demonstrated by constructing schools in the immediate border area. In 2002, San Ysidro High School was established with over 2300 students. In 2006, Ocean View Hills Middle School was established with 674 students; in 2012, Vista Del Mar Elementary School was built to accommodate 567 students (U.S. Border Patrol, 2022). By applying CPTED principles, CBP influenced not only the physical environment but also the psychological and social environments, as demonstrated by the positive community growth.

Violent Crime in San Diego

The FBI UCR classifies the following crimes as violent crimes: murder and nonnegligent manslaughter, rape, robbery, and aggravated assault. Between 1996 and 2020, as CBP was altering the environment by increasing infrastructure, technology, and personnel in the San Diego area, the violent crime rate in San Diego decreased to 47% of what it was in 1996. In 1996, the violent crime rate in San Diego was 7.23 per 1,000 people; in 2020, the violent crime rate had decreased to 3.45 per 1,000 people, a reduction of 53% over 25 years (Federal Bureau of Investigation, 2020). Interestingly, as the violent crime rate in San Diego decreased, the population of San Diego increased. The population of San Diego increased from 2.65 million people in 1996 to 3.29 million people in 2020 (Census Bureau, 2021). The unemployment rate

also increased as violent crime decreased. In 1996, the unemployment rate in San Diego was 5.4 percent, which increased to 9.5 percent in 2020 (Bureau of Labor Statistics, 2023). Recent research has shown that as population and unemployment increase, so does violent crime (Henke & Hsu, 2022; Smith et al., 2021)). Despite the research on population and unemployment, violent crime dropped in San Diego in the twenty-five years CBP applied CPTED.

Correlations

Correlations are essential to understand the relationship between variables, especially in non-experimental, observational studies. While correlation does not mean causation, it provides a powerful tool for investigating variables' interrelations (Rohrer, 2018). Two of the independent variables attributed to the actions taken by CBP are infrastructure and technology improvement and border patrol agent staffing. The independent variables undertaken by CBP are essential because they address the principles of CPTED. The principles are the means of preventing GJ.

Natural surveillance is designed to increase visibility and the ability for observation. The idea is to eliminate locations where perpetrators can hide and allow guardians to monitor and respond, thus deterring aggressive behavior. Access management uses barriers or other features to increase safety and decrease prohibited actions by providing safe passages and preventing unauthorized access. Territoriality seeks to show a sense of ownership and pride, projecting that prohibited behaviors will not be permitted. Physical maintenance ensures the repair and upkeep of barriers, facilities, and areas that further the sense of pride and ownership. Finally, order maintenance means responding to minor illicit or prohibited behaviors to prevent escalating conflict and tension (Vagi et al., 2018).

CBP’s infrastructure and technology improvement had a statistically significant, strong negative correlation to the violent crime rate in San Diego, r (23) = -.877, p < .001. This

correlation revealed that the violent crime rate decreased as infrastructure and technology increased. CBP also increased border patrol staffing, which had a statistically significant, moderate negative correlation to the violent crime rate in San Diego, r (23) = -.438, p = .014. The negative correlation between the application of CPTED principles and violent crime is illustrated in several studies. Vagi et al. (2018) reported that higher scores in applying CPTED were associated with higher perceptions of safety and lower levels of the perception of violence and that CPTED school assessments may help schools reduce violence. Cozens and Sun (2019) conducted a study at an Australian university. They found that higher levels of surveillance with fewer places for perpetrators to hide are associated with higher levels of personal safety. In a review of the application of CPTED in schools, Lamoreaux and Sulkowski (2020) believe that applying CPTED principles can address physical safety and students' psychological well-being and thus improve academic outcomes.

The social and psychological environment in San Diego is positive. As violent crime decreased, between 1996 and 2020, the GDP for San Diego increased by two and one-half times from $95,738,942 to $241,790,051 (Bureau of Economic Analysis, 2022). The correlation between violent crime levels and the GDP shows a statistically significant, strong negative correlation, r (23) = -.874, p < .001. Another indicator of the social and psychological environment in San Diego is the value of residential homes. Between 1996 and 2020, residential home value increased four and one-third times from $171,074 to $730,000 (Los Angeles Almanac, 2023). The correlation between violent crime levels and the value of residential homes shows a statistically significant, strong negative correlation, r (23) = -.732, p < .001. Crime harms economic conditions and culture. "Crime may also create a risk to investment, negatively affect economic development, contribute to higher poverty and unemployment rates, and to

racial injustice" (Guzman & Clark, 2022, p. 993). The impact of crime on housing prices is not limited to the United States but is seen worldwide. While studying crime and housing prices in Malaysia, Wong et al. (2022) found that crime harms housing prices.

CPTED is about shaping the physical, psychological, and social environment to prevent crime. CBP's application of the CPTED principles in San Diego was cumulative and occurred over a quarter century. Analysis has shown that CBP's application of the principles had a statistically significant strong negative correlation with the violent crime rate in San Diego. Though the application of CPTED in San Diego is on a larger scale, its strong negative correlation with violent crime is similar to a case study at Al al-Bayt University in Jordan. AlHusban and AlHusban (2020) found that "there is a significant relationship and strong/very strong negative linear association between the number of the student's fights and the applying of CPTED principles" (p. 481).

Property Crime in San Diego

The FBI UCR classifies the following crimes as property crimes: burglary, larceny, theft, motor vehicle theft, and arson. As stated above, between 1996 and 2020, the population and the unemployment rate in San Diego increased. The increase in population and unemployment occurred as CBP applied the principles of CPTED to the border in San Diego. Despite the increase in population and unemployment, the property crime rate in San Diego went from 39.86 per 1,000 people in 1996 to 14.8 per 1,000 people in 2020. Property crime in 2020 was just 37% of what it was in 1996, a reduction of 63% (Federal Bureau of Investigation, 2020).

Correlations

Correlations provide a means to help understand the relationship between variables. The dependent variable is the property crime rate. The independent variables are CBP actions on

infrastructure and technology improvements and the addition of law enforcement personnel. The CPTED principles of natural surveillance, access management, territoriality, physical maintenance, and order maintenance continue to be what the independent variable influences strive to increase. Between 1996 and 2020, the property crime rate in San Diego decreased more than the violent crime rate. CBP's infrastructure and technology improvement had a statistically significant, strong negative correlation with property crime, r (23) = -.914, p < .001. The correlation between property crime and infrastructure and technology was more robust than the correlation between violent crime and infrastructure and technology, which correlat*ed* r (23) = -.877, p < .001.

Law enforcement staffing is also used to achieve CPTED principles. The increase in border patrol staffing between 1996 and 2020 had a statistically significant, moderate negative correlation, r (23) = -.585, p = .001. The correlation between property crime and law enforcement staffing was also more robust than the correlation between violent crime and law enforcement staffing, which correlated r (23) = -.438, p = .014. The correlation between the number of people detained crossing illegally is also essential to review. There was a statistically significant, strong positive correlation between the property crime rate and Border Patrol detentions in San Diego between 1996 and 2020, r (23) = .827, p <.001. The correlation between property crime and those detained for crossing illegally was less robust than the correlation between violent crime and those detained for crossing illegally, r (23) = .934, p <.001. Higher detentions correlated to higher crime rates in violent and property crimes, suggesting that more people illegally crossing the border provided an environment that facilitated crime.

The correlation between property crime and unemployment was statistically significant and mildly negative. This correlation was like the correlation between violent crime and the

unemployment rate. These correlations showed that even as the unemployment rate increased, violent crime and property crime decreased in San Diego between 1996 and 2020. Finally, the correlation between violent crime and property crime and the president's political party was not statistically significant.

CPTED concerns influencing the physical, psychological, and social environment to prevent crime. The property crime rate in San Diego decreased significantly between 1996 and 2020 as CBP applied the CPTED principles to the San Diego international border. Altering the environment produced a statistically significant strong negative correlation with property crime. CBP applying the principles of CPTED was an effort to promote an environment that discouraged crime. The relationship between CPTED and a positive environment promoting lower crime was explored by Rupp et al. (2020), and they found that "community engagement in neighborhood improvement enhanced community empowerment. CE-CPTED combines physical revitalization with resident engagement and control, [and] creates a potent synergy for promoting safe and healthy neighborhoods" (Rupp et al., 2020, p.90). An essential part of preventing crime is to prevent the meeting of the criminal and victim. Making it difficult for criminals to access a location is essential, but so is creating a physical environment where criminals cannot hide or conceal themselves. Surveillance is critical, not only by the police but also by the public, who can summon the police or warn of danger. The public's engagement is essential to the social and psychological aspects of CPTED. Cozens et al. state that two objectives of surveillance impact the environment. One is the ability to increase visibility to expose criminal activity, and the second is to deny the criminal the ability to surveil (2019). Public participation fueled by belief in CPTED is essential to achieving proper surveillance.

Applying CPTED principles has the objective of deterring crime. The deterrence of crime is accomplished by manipulating the environment. The environment is physical, psychological, and social. In discussing the application of CPTED, Gooren (2023) posits that the logic of CPTED in altering the physical environment is not just about preventing or discouraging negative behaviors but also about encouraging good behaviors. “It is only through the act of reinforcing territory that social cohesion and social control can emerge, which can then enable deterrence and detection in the interest of crime prevention” (Gooren, 2023, p.434).

Impact of Border Security

Prior studies on the impact of border security tend to illustrate the adverse effects of strong border security measures on those living in the border area or those attempting to cross illegally. Urbina and Pena (2019) claim that increased security at the border is a type of social control that has made it more difficult for the indigenous populations, leading to an assumption that border security has made it more challenging to move back and forth across the border thus negatively impacting indigenous culture. Carter and Post (2017) studied man-made barriers between 1800 and 2014, stating that their purpose concerned economic security and, thus, theorized that secure national borders create a disparity between rich and poor nations. The disparity leads to an incentive for illicit cross-border traffic, moving products available in less developed nations to more prosperous, more regulated nations. Korte (2021) believes borders are a means to filter and block entry into a country. Filtering fortifications are meant to inhibit immigrants' mobility, reinforcing a power and wealth gap, while blocking borders is about internal power issues.

Palacios (2019) suggests that corruption has increased, and smuggling has become more profitable because border security has made it more challenging to cross the border illegally.

Bohn and Pugatch (2015) and Paredes-Orozco (2019) suggest that strong border security leads to an increase in the illegal alien population in the United States, with people not returning to their home country because of the difficulty of re-entering. Linebarger and Braithwaite (2022) suggest that weak leaders construct walls to gain domestic support. Border walls are a rallying point in politics.

Giordano and Spradley (2017) and Martinez et al. (2017) argue that increased border security caused illegal entrants to try entering less fortified, more remote, and rugged locations. The new entry locations were dangerous and increased harm to the entrants. Additionally, the increased security was determined to be responsible for increased smuggling fees. Newell et al. (2016) claim that the use of improved technology associated with border security has caused an increase in the level of fear among illegal entrants who believe their cell phones can give away their locations. They also fear being the victims of crime from the organizations that are smuggling them. An abundance of these humanitarian hardship studies had limitations as they addressed the negative impact of border security and barriers on various groups and populations, suggesting that border security negatively influences the social environment. This study addresses the limitations by reviewing statistical information to determine if border security and barriers can positively impact a population by influencing crime.

While most studies had a negative view of border security efforts, several studies looking at borders outside the United States did illustrate positive impacts, especially in reducing terrorist activities. In a study looking at the border between Israel and Palestine, Gelbman (2016) admits that it has significantly reduced terror attacks while also saying it has had negative consequences in humanitarian and geopolitical terms. He claims the barrier impedes tourism, causing harm to tourism development, and impacts the image by bringing critical and negative attention to Israel

because of their border policy. Perry et al. (2017) studied the Israeli-West Bank barrier and determined it effectively prevented terror by lowering suicide bombings and attacks. In a study on the Pakistani-Afghan Border, Ali et al. (2021) state that the fences were responsible for reducing terrorism deaths, smuggling, and illegal immigration in that order. Unlike prior studies, the result of this study, positive or negative relating to the impact of border security measures, showed that by applying CPTED principles, there was a strong negative correlation between the increase of security and the lowering of both violent and property crime in a major border city.

Implications

CPTED has generally been applied in small geographic areas or specific buildings. Literature has shown that the application of CPTED principles can mitigate criminal activity. CBP applied CPTED principles to the international border in San Diego, a large geographical area, for over a quarter century. This study has shown a statistically significant, strong negative correlation between applying CPTED principles on the border and the violent and property crime rate in San Diego. The results suggest that CPTED has applications in small and large geographical areas. The study showed that the negative correlations for property crime were slightly more robust than those for violent crime. The study also indicated that increasing infrastructure and technology applications had a stronger negative correlation to violent and property crime than the increase in law enforcement staffing.

The study also indicates that a nation's right to secure its sovereign border can be beneficial to communities by helping to mitigate violent and property crime and should not be judged solely on humanitarian grounds. The study indicates that border security is more than just a wall but a system of actions designed to apply CPTED principles to change the physical,

psychological, and social environment to provide a safer and more productive environment. A safe and productive environment is the means of asserting national sovereignty.

Limitations

Several internal limitations need to be considered for this study. First and foremost, it is crucial to understand that correlation does not mean causation. The study is observational and non-experimental and, as such, looks at correlations and does not attribute causation. Indeed, Bleske-Rechek et al. (2015) found that humans are likely to make causal inferences based on cognitive biases that are found in emotionally charged issues rather than relying on logic and statistics. Border security in the United States is a very emotional and divisive topic.

Nevertheless, Zhao (2023) states, “Despite the saying correlation does not imply causation, researchers found that it is possible to infer causation from a functional relationship through statistical analyses, or correlation” (p.1). Zhao emphasizes that temporal precedence is essential to the process and discusses correlation and causation in engineering. There is also an agreement with Zhao in the field of psychology. “Drawing valid causal inferences on the basis of observational data is not a mechanistic procedure but rather always depends on assumptions that require domain knowledge and that can be more or less plausible” (Rohrer, 2018, p.27).

According to Bernard et al. (2016), causation requires four things: correlation, a theoretical rationale, a time sequence, as emphasized by Zhao, and a lack of spuriousness. Spuriousness, in this case, means the relationship appears causal, but another variable may be responsible for causation. This study measures ten independent variables against the dependent variables of violent crime and property crime rates in San Diego. In an observational non-experimental study that looks at data for a quarter century over a large geographic area, it is only possible to know some independent variables that might impact a dependent variable. An

example of an independent variable not listed that might impact violent and property crime rates in San Diego is the California Three Strikes Law.

Datta (2017) stated that the California Three Strikes was adopted in 1994 and was the most severe sentencing law in the United States. Penalties automatically increased for conviction of a second felony, and a third felony was punishable from 25 years to life. Datta (2017) found that the law was a significant deterrent to crime in California. The impact appeared greater on the second offense, and the severity of the punishment for both violent and property crimes had less effect on the third strike. These findings support Beccaria's principles that the purpose of punishment is to deter crime and that when punishment is too severe, it will not deter crime and may increase the likelihood of crime (Bernard et al., 2016). California may have taken Beccaria to heart as the California Three Strike Law did not remain consistent over the length of this study. On November 6, 2012, the law was amended to say that a new felony had to be a serious or violent felony and that those currently serving time for a third strike could petition the court for a sentence reduction (Couzens & Bigelow, 2017).

According to the California Department of Justice (2023), California had 274,675 reported violent crimes in 1996 and 173,864 in 2020. Reported violent crime in 2020 was 63% of reported violent crime in 1996, or a 37% drop. California had 1,382,812 reported property crimes in 1996 and 841,171 in 2020. Reported property crime in 2020 was 60% of reported property crime in 1996, or a 40% drop. During the same period in San Diego, the violent crime rate dropped 53%, and the property crime rate dropped 63%. The Three Strike Law has had an impact on the crime rate in California. Nevertheless, data suggests that applying the CPTED principles at the border allowed for a more significant decline in the crime rate in San Diego.

Interestingly, while the Three Strike Law may be correlated to a lower crime rate in California, its impact may have been limited. The Three Strike Law led to an increase in the California prison population. In 2011, the Supreme Court in Brown et al. v. Plata et al. (2011) stated that prison overcrowding in California violated the Constitution and ordered California to reduce its prison population. As a result of that order, the prison population has been reduced. In 2010, the prison population was 165,817; in 2020, the prison population was 123,133, or 74% of 2010, and is projected to decrease by another 5,000 in 2023 (California Department of Corrections, 2023). Additionally, a study in Oregon concerning that State's strike law, which was passed in 1994, stated, "Our study finds no evidence that M11 achieved its intended goals to deter violent and property crime or that it is necessary to maintain current levels of public safety" (Sundt & Boppre, 2021, p.1380), lending credence to Beccaria's principles, particularly concerning the severity of punishment.

> For punishment to attain its end, the evil which it inflicts has only to exceed the advantage derivable from the crime; in this excess of evil, one should include the certainty of punishment and the loss of the good which the crime might have produced. All beyond this is superfluous and, for that reseason, tyrannical. (Beccaria 1963, p.62)

External limitations are less of a concern as this study is an observational, non-experimental study that uses publicly available data, and as such, corruption of the data is unlikely. A non-experimental design allows results to be replicated in other studies (Ferraro & Miranda, 2014). Though there are limitations to the study, it is essential to remember that it produced a strong negative correlation between both violent and property crime rates when CPTED principles were applied. The regression models for violent crime and property crime

exhibited a good fit with F scores above 50, adjusted r^2 scores above 95%, and P scores of $p <$ .001.

Recommendations for Future Research

This study provides the basis for future research concerning the application of the CPTED principle in border security. Are the results similar at other locations along the United States-Mexico Border where CPTED principles have been applied? Will the result be similar in San Diego after several more years, considering the open border policy of the current administration? How will variables such as three-strike laws, prison depopulation, defunding the police, and no cash bail policies impact the results? How have the demographics of those committing crimes changed in San Diego since implementing CPTED principles on the border? Has there been displacement of criminal activity to other locations along the border as it became more difficult to cross in San Diego? Is it possible to have a secure border environment that provides safety and low crime rates and, at the same time, minimizes hazards to those who choose to cross the international border illegally?

This study provides the basis for future research, and at the same time, this study filled a void in research on the impacts of border security. It demonstrated that CPTED principles can be applied over a large area. It further demonstrated that the application of CPTED, when applied to border security, had a statistically significant, strong negative correlation to both the violent and property crime rates in San Diego, indicating that border security measures have positive impacts on the United States and its citizens.

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Appendix

IRB Approval

LIBERTY UNIVERSITY.
INSTITUTIONAL REVIEW BOARD

February 8, 2023

John Smietana
Angela Swan, Douglas Orr

Re: IRB Application - IRB-FY22-23-944 HOW THE PHYSICAL, SOCIAL, AND PSYCHOLOGICAL ENVIRONMENT IMPACTS BORDER SECURITY

Dear John Smietana and Angela Swan, Douglas Orr,

The Liberty University Institutional Review Board (IRB) has reviewed your application in accordance with the Office for Human Research Protections (OHRP) and Food and Drug Administration (FDA) regulations and finds that your study does not meet the definition of human subjects research. This means you may begin your project with the data safeguarding methods mentioned in your IRB application.

Decision: No Human Subjects Research

Explanation: Your study is not considered human subjects research because it will not involve the collection of identifiable, private information from or about living individuals (45 CFR 46.102).

Please note that this decision only applies to your current application. Any modifications to your protocol must be reported to the Liberty University IRB for verification of continued non-human subjects research status. You may report these changes by completing a modification submission through your Cayuse IRB account.

If you have any questions about this determination or need assistance in determining whether possible modifications to your protocol would change your application's status, please email us at irb@liberty.edu.

Sincerely,

G. Michele Baker, MA, CIP

Administrative Chair of Institutional Research
Research Ethics Office