AN EXPLORATIVE STUDY OF ENVIRONMENTAL DESIGN AND CRIME: A CASE STUDY OF MEREBANK, DURBAN

by

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ABSTRACT

Despite the lapse of twenty-seven years since the abolishment of apartheid in South Africa, the effects of segregationist policies on the demarcation of residential areas based on race and the design of built environments have endured. History-induced conversations regarding inadequately designed built environments have generated the debate whether these environments have the potential to contribute to crime causation. Therefore, this research aimed to investigate the impact of apartheid-generated environmental designs on crime causation in the residential area of Merebank near Durban, South Africa. As Merebank is regarded as a previously disadvantaged area that was developed under the apartheid regime, this community was deemed appropriate for an investigation to achieve the aim of this study. A review of related literature indicated that property crimes correlate with disorderly built environments where crime prevention strategies are seldom considered or employed. The study was thus motivated by frequently reported incidences of property crime that affected the residents of Merebank. In alignment with this goal, this study explored the Crime Prevention through Environmental Design (CPTED) model to reduce and prevent crime, whilst perceptions of fear of crime were also investigated among community members. To ensure that the goals of this study would be achieved, a qualitative interpretive methodological approach was adopted. The main data collection instrument was semi-structured interviews that were conducted with 15 lifelong residents of Merebank. The majority of these people had resided in the community throughout the apartheid era and beyond. The participants were selected by means of purposive sampling and thematic data analysis was performed. It was found that crime causation in Merebank was perpetuated by apartheid zoning and the existence of an inadequately designed built environment. The main finding of this study surprisingly indicated that residents of Merebank had felt safer in this area during the apartheid era. This was attributed to the control that was imposed upon the movement of citizens as a result of the implementation of the Group Areas Act[1] No. 41 of 1950 (Union of South Africa, 1950). Moreover, current-day crime prevention was largely attributed to private security companies and not to the South African Police Service, whereas social cohesion varied amongst Merebank neighbourhoods. CPTED was barely understood and thus rarely utilised by members of the community, while their prevalent fear of crime and perceptions of criminal activities were

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[1] This Act will hereafter be referred to as the Group Areas Act without further citations.

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DECLARATION

I declare that this dissertation is my original work and that it has not previously been submitted to any other university for any purpose. References to other authors and their work are duly cited and acknowledged in-text and in the reference list.

Signature of candidate: T. Naicker

On the 2nd day of December 2021

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But seek first the kingdom of God and His righteousness, and all these things will be added
unto you.

-Matthew 6: 33-

If you remain in Me and My words remain in you, you may ask anything you wish, and it
will be done for you.

-John 15:7-

Praise be to Jesus, my Lord and Saviour! I cannot thank the Lord enough for His grace, mercy and blessings over my life. I owe all my success to He who gave His life for me.

I would also like to thank the following people:

My parents, Wallis and Samantha Naicker, for their unfailing love and support throughout the pursuit of my tertiary studies. Thank you for instilling the values of discipline and perseverance within me. Your understanding and your constant encouragement are highly valued.

My little brother, Joshua, for always being there for me. I hope that I have set a good example for you.

Cameron, my best friend, who became family. Thank you for being my greatest supporter and my 'partner in crime'. I didn't know what it would be like to have a true friend before I met you. Thank you for being my honourary 'gatekeeper', for quelling my anxiety, and for helping me pull through the toughest years of my life in one piece.

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> And the Lord will guide you continually and satisfy your desire in scorched places and make your bones strong; and you shall be like a watered garden, like a spring of water; whose waters do not fail.
>
> -Isaiah 58:11-

DEDICATION

This dissertation is dedicated to the community of Merebank, a place that I shall always call home.

ABSTRACT

Despite the lapse of twenty-seven years since the abolishment of apartheid in South Africa, the effects of segregationist policies on the demarcation of residential areas based on race and the associated design of built environments have endured. History-based conversations regarding inadequately designed built environments have generated the debate as to whether these environments have the potential to contribute to crime causation. Therefore, this research aimed to investigate the impact of apartheid-generated environmental design on crime causation in the residential area of Merebank in Durban, South Africa. As Merebank is regarded as a previously disadvantaged area that was developed under the apartheid regime, this community was deemed appropriate for an investigation to achieve the aim of this study. A review of related literature indicated that property crimes correlate with disorderly built environments where crime prevention strategies are seldom considered or employed. The study was thus motivated by frequently reported incidences of property crime that affected the residents of Merebank. In alignment with this goal, this study explored the Crime Prevention through Environmental Design (CPTED) model to reduce and prevent crime, whilst perceptions of fear of crime were also investigated among community members. To ensure that the goals of this study would be achieved, a qualitative interpretive methodological approach was adopted. The main data collection instrument was semi-structured interviews that were conducted with 15 lifelong residents of Merebank. The majority of these people had resided in the community throughout the apartheid era and beyond. The participants were selected by means of purposive sampling and thematic data analysis was performed. It was found that crime causation in Merebank was perpetuated by apartheid zoning and the existence of an inadequately designed built environment. The main finding of this study surprisingly indicated that residents of Merebank had felt safer in this area during the apartheid era. This was attributed to the control that was imposed upon the movement of citizens as a result of the implementation of the Group Areas Act[1] No. 41 of 1950 (Parliament of South Africa, 1950). Moreover, current-day crime prevention was largely attributed to private security companies and not to the South African Police Service, whereas social cohesion varied amongst Merebank neighbourhoods. CPTED was barely understood and thus rarely utilised by members of the community, while their prevalent fear of crime and perceptions of criminal activities were perpetuated as a result of the

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[1] This Act will hereafter be referred to as the Group Areas Act without further citation.

inadequately designed built environment and, more particularly, the zoning of this residential area based on race in the apartheid era.

Key words: Apartheid, crime prevention, Crime Prevention through Environmental Design, social cohesion, perceptions of fear of crime

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INTRODUCTION

1.1 Introduction

Because criminality is intrinsically related to location, the environmental design of a neighbourhood will influence the magnitude and the longevity of crime issues in that area (Venter, 2020). Prior to delving into this phenomenon, an explanation of environmental design is significant to support understanding of the direction this dissertation will take. Weisburd and Telp (2012) define environmental design as the physical and constructed environment within which individuals live, work, and engage in recreational activities. For the purpose of this study, 'environment' will be referred to as the physical infrastructure that completely surrounds individuals within their neighbourhoods, whereas the terms 'environmental design' and 'built environment' will be used interchangeably.

In the South African context, research on crime causation has been predominantly 'person-centric' as opposed to 'place-centric' (Bezuidenhout, 2020). This means that researchers in this field have focused on how individual behaviours caused crime whilst they marginalised the reality that the inadequate design of built environments could influence and encourage criminality. Ween (2016) argues that there is a paucity of literature on the association between environmental design and crime in the South African context. Therefore, the purpose of this study was to investigate whether inadequate environmental design as a result of apartheid planning and policies has contributed to crime causation from 1994[2] to the present. For the purpose of this study, inadequate environmental design refers to the design and planning of the physical environment and the impact of this phenomenon on criminality.

Ideally, any built environment, whether residential or for business/industrial purposes, should be designed and maintained in a manner that will curb and prevent crime, in addition to the fear of crime. Unfortunately, South Africa's legacy of apartheid has denied this focus (Nunlall, Maluleke and Breetzke, 2020). Since the abolishment of apartheid in 1994, crime prevention associated with environmental design has become a significant area of interest for several South African researchers (Landman and Liebermann, 2000; Kruger, 2009, Venter,

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[2] 1994 is a watershed year in South African history as the first democratic election that occurred marked the abolishment of apartheid and its divisionary laws.

2020) who collectively argue that a lack of implementation of crime prevention strategies is a persistent issue in this country despite the government's efforts and the endeavours of community members to curb this social scourge. Crime prevention is defined as any proactive collaborative actions that are aimed at the management or reduction of actual levels of crime and to alleviate perceived fear of crime (Department of Safety and Security, 1996). For the purpose of this study, the discourse on crime prevention is underpinned by policy directives and framed by the Crime Prevention through Environmental Design (CPTED) model.

This study additionally sought to establish whether implementing measures of CPTED would decrease opportunities for criminality whilst community perceptions of fear of crime were also examined. The CPTED model addresses the intersection between environmental design, fear of crime, and social factors that influence crime. However, despite the development of policies that include the National Crime Prevention Strategy (Department of Safety and Security, 1996) and the White Paper on Safety and Security (Department of Safety and Security, 1998; 2016), South Africa continues to trail behind global enforcement of CPTED strategies. It is also argued that crime prevention policies are inadequately implemented and managed by law enforcement agencies and residents alike (SaferSpaces, 2020). In the South African context, it should be acknowledged that socio-economic issues and the design of built environments inherited from the apartheid era influence crime prevention strategies. It is therefore contended that implementing CPTED will be an affordable alternative for communities and will often not require the assistance of law enforcement agencies. But a gnawing question is whether South African communities will be able to initiate the implementation and management of these strategies with increasingly limited resources?

There is wide scholarly agreement that the implementation of crime prevention methods requires a joint approach by law enforcement agencies, both private and public, and the communities they serve. Dlamini (2017) defines a community as a group of individuals who reside in the same area and who tend to share common social interests. Strategies that encourage sharing responsibility between law enforcement and communities serve to pro-actively reduce and prevent crime. According to Kruger (2009; 2018), communities that work in tandem with law enforcement to combat crime by implementing crime prevention methods and strategies have experienced reduced levels of crime in their neighbourhoods. Additionally, community maintenance of buildings, parks, street lights, lanes, and streets has

resulted in decreased criminality (Cozens and Love, 2015). However, widely published media reports have focused on the lack of intervention by law enforcement to quell crime and maintain measures of crime prevention (Pillay, 2010; Nsibande, 2018; Mass meeting addresses high crime rates in Merebank, 2020). This has resulted in community disillusionment in the ability and willingness of law enforcement to assist with crime prevention at neighbourhood level. Moreover, ineffective crime prevention has presented several challenges for community members who are restricted in terms of their contributions toward enforcing crime prevention efforts. For instance, community members are deemed 'common citizens' and cannot by law be allowed to patrol their areas to aid crime prevention efforts without the protection of law enforcement.

It has also been argued that the design of built environments and their surroundings may influence community perceptions of fear of crime. However, perceptions and actual of fear of crime are subjective in nature (Vlaskamp, 2011). For instance, this study argues that a disordered and unkempt environment portrays an image of danger to community members. However, this does not mean that an environment is dangerous in reality – simply that residents may perceive it as such. A neighbourhood with high levels of incivility may also serve to increase anxiety and fear amongst community members (Landman, 2017). However, the *extent* and *effects* of this disorder and incivility on law-abiding community members have been largely unexplored. This gap in the literature concerning community perceptions of fear of crime in relation to the design of the built environment thus needed to be explored in depth.

The understanding of the effects of inadequate environmental design on criminality at neighbourhood level in the South African context was foundational to this study. An expansion of the scope of this research to accommodate community perceptions of fear of crime and crime prevention strategies aimed to highlight the need for community cohesion in tandem with the assistance of law enforcement. The objectives were achieved through the lens of three theoretical perspectives and a model, an examination of related policies, an extensive literature review, and an examination of Merebank community members' perceptions from the standpoint of their lifelong residency in the area. Purposive sampling was employed as a result of the researcher's roots within the community of Merebank and to best illuminate the topic under investigation by means of a qualitative study.

1.2   Background to the Study

Apartheid, or 'apartness', was an official policy that heralded an era of exclusion of racial groups that was expressed uniquely in South Africa. Apartheid and its policies of segregation served as a backdrop for this study and a focal point for several of the arguments. According to Shackleton and Gwedla (2021), it is undeniable that inadequate environmental design originated from the provisions of the segregationist Group Areas Act, which was a cornerstone of the policy of apartheid. During the era of apartheid; Black, Coloured and Indian citizens were forced to reside in areas that were demarcated by the government for their settlement to enforce a policy of racial 'separate development'. The environmental location and design of these areas did not prioritise safety and security and resulted in the refurbishment of urban landscapes to accommodate large numbers of citizens on small areas of land (Kruger, 2018). Imposing control over citizens was achieved by the implementation of the Group Areas Act, which compelled the relocation of non-White citizens to land where there was inadequate infrastructural development. Scholars propose that South Africa's legacy of apartheid created socio-spatial disparities that ultimately contributed to crime causation (Breetzke, 2008; Aboo, 2013; Ween, 2016; Venter, Shackleton, van Staden, Selomane and Masterson, 2020). These socio-spatial disparities highlighted the disconnection between the social needs and urban settlement requirements of individuals and the communities they associated with. The separation of the different race groups thus resulted in the destruction of inter-community networks, the loss of land, mushrooming informal settlements, and the economic deprivation of non-White South African citizens. It was against this background that inadequate environmental design and its impact on crime was evaluated in relation to its historical underpinnings.

Despite the twenty-seven years that have passed since the abolishment of apartheid, South Africa continues to labour to rectify these socio-spatial disparities (Fogel, 2019). The inability to adequately design environments to prevent and reduce crime may be explained through a lens provided by Landman (2017), who argues that, after the 1994 democratic elections, government failed to completely commit to the development of sustainable and responsive urban environments. Meth (2017:18) states that, generally speaking, "...the form and structure of the apartheid city has [*sic*] not changed significantly during the past decade

despite efforts from government". It may therefore be reasoned that the problem of inadequate environmental design that perpetuates crime is an enduring issue in South Africa. It was this lack of transformation that informed the rationale for this study.

As an attempt to negate the undesirable effects of the Group Areas Act on the design of the built environment in South Africa, policy developers implemented new guidelines to address issues of environmental transformation to prevent and reduce crime. Accordingly, the National Crime Prevention Strategy (NCPS) (Department of Safety and Security, 1996) was introduced to articulate a new direction regarding the manner in which crime was to be understood and managed. The NCPS proposes the objective to reduce crime levels to contribute to greater safety and security within South Africa. However, Aboo (2013) argues that this objective has not been reached due to a lack in the implementation of appropriate strategies in neighbourhoods. Instead, according to Kruger (2018), there has been a disjuncture between the creation of the policy and its actual implementation. This means that law enforcement and communities still grapple to see its implementation at neighbourhood level, but this seems unlikely as its parameters are deemed 'too broad' (Vyas-Doorgapersad, 2015). Furthermore, media reports (More Units, Police for Wentworth, 2016; George, 2017) and statistics (South African Police Services, 2020; Institute of Security Studies, 2020) suggest that South Africa is far from achieving its goal to curb crime, particularly as the legacy of apartheid that still impacts building and design policies continues to prevail. One may argue that this issue could be resolved by considering the objectives of the NCPS whilst prioritising the needs of individual communities, but this approach has not been given any priority to date.

The environmental design of areas where historically disadvantaged communities reside and where many also work continues to promote social inequalities and exacerbates the effects of poverty and unemployment. Ween (2016) asserts that South Africa continues to experience high incidences of poverty and inequality that have emerged in new dimensions during the post-apartheid era. For instance, the built environments of previously non-White areas were not designed to promote safety and security. However, certain aspects of these built environments, such as buildings and roads, cannot be altered in the post-apartheid era due to a lack of space as well as budget constraints (Kruger, 2018). Thus, deteriorated and deteriorating physical environments, coupled with built environments where safety is disregarded, are resulting in enduring social inequality. Landman (2017) highlights the point

that economically disadvantaged communities are generally located further away from their places of employment and amenities, and these locations often lack adequate infrastructure such as sufficient roads, parks, and sport facilities. However, Mavuso (2016) emphasises that local municipalities and community members should contribute to maintaining their public spaces such as parks and other amenities, which could then serve to prevent crime. That has as yet not happened on a large scale, and thus the significant differences between the social and spatial contexts of South African neighbourhoods place a unique set of demands on crime prevention methods in the present day. However, crime prevention models such as CPTED could be effectively implemented to address the safety needs of neighbourhoods, but this will only happen if community members work together (SaferSpaces, 2016).

The prevalence of unique spatial and socio-economic characteristics in South Africa and its history of apartheid have resulted in a distinct relationship between crime and the physical environment. Therefore, to positively advance the prevention of criminality and find ways to alleviate the impact of apartheid planning and design, Merebank was selected as the study site to provide scholarly insight into the crimes that are provoked by inadequate environmental design.

1.3 Scope of the Study

South Africa is widely deemed a nation that is plagued by high levels of petty crimes, violent crimes, and vulnerability amongst the populace (Snyder and Landman, 2018). The scope of a study delineates the parameters of the research area that will be explored (Neuman, 2014). The general purpose of this study was to investigate the impact of environmental design in the apartheid era on crime causation within the community of Merebank. To ensure that the extent of the research was precisely devised, the researcher selected specific crimes (Venter, 2020) that have been correlated with built environments. Media reports (George, 2017, Nsibande, 2018; Illegal dumping catastrophe in Merebank; 2021) and statistics (SAPS, 2020; ISS, 2020) were consulted to determine which crimes had occurred frequently within the study area. This provided the researcher with pertinent information to define the boundaries of this study. Specific crimes that were found to be linked with inadequate environmental design within the community of Merebank were malicious damage to property, residential burglary, and theft of motor vehicles and motorcycles. To ease understanding of the focus of this study, the researcher classifies these crimes as 'property crimes'. Whilst 'malicious

damage to property' is regarded as a contact related crime by the SAPS (2020), it is defined as intentionally or unlawfully damaging the property of another and does not involve actual contact with citizens or direct victimisation. Therefore, the researcher incorporates malicious damage to property within the scope of this study.

1.4   Problem Statement

Property crime is a crime category that reflects the relationship between criminality and place and is one of the most common crime categories that impact South Africans of all races. This statement is supported by research conducted by Statistics South Africa (2020) and Faull (2021), whose research established that the KwaZulu-Natal province has seen the highest proportion of households that experienced housebreaking/burglary at 7,1%. The Victims of Crime Surveys (VOCS) (Statistics South Africa, 2020) revealed that there were an estimated 1,2 million incidences of burglary that affected 891 000 South African households in 2019/2020. This represented 5,3% of all households in the country (Statistics South Africa, 2020). These dire statistics highlight the extensive issue of housebreaking that plagues South Africa as a whole, and are an indication of an epidemic of sorts.

The core of the current study was informed by the concepts of environmental design of the built environment, official crime prevention strategies, and community measures aimed at reducing crime in Merebank, Durban. The researcher identified significant problems caused by inadequate apartheid environmental design as a result of the implementation of the Group Areas Act, and these are summarised below:

- In the South African context, literature predominantly focuses on the individual behaviours of criminals who commit crimes (Ween, 2016). Thus, the impact of inadequate environmental design on criminality is minimised and often disregarded (Kruger, 2018). Furthermore, the literature predominantly highlights the injustices of the past in relation to inadequate environmental design, but discounts the *impacts* of the built environment on crime in the present.
- Physically dilapidated neighbourhoods serve to promote criminality (Cozens and Love, 2015).
- Delinquency and gang violence are proliferated and perpetuated by deteriorated (and deteriorating) built environments (Cozens and Love, 2015).

- Residents scarcely contribute to crime prevention efforts implemented in Merebank (Govender, 2018a; Nsibande, 2018).

- Inadequate environmental design and incivility have exacerbated the fear of crime among the community of Merebank (George, 2017; Nsibande, 2018). However, the extent and effects of these perceptions of fear are unknown.

The atrocities of the apartheid government continue to plague South Africa. The segregationist Group Areas Act ensured that land usage within non-White neighbourhoods did not prioritise security. This statement is supported by Kruger and Landman (2008:82) who state:

> "South Africa's particular spatial and socio-economic characteristics, as well as the country's history of forced segregation, have resulted in a distinct relationship between crime and the physical environment. This places a complex set of demands on crime prevention initiatives that involve the planning and design of the environment."

Therefore, to explicate the problems that were identified for the purpose of this research, statistics that stretched over a twenty-six-year period were consulted to establish crime trends. A combination of SAPS statistics, victim surveys, and media reports exposed the extent of the property crime problem that was faced, and is still being faced, by South Africans. According to Kriegler and Shaw (2016: 7), "crime statistics exist because they are thought to be useful". Crime statistics thus direct attention to those areas that should be allocated additional law enforcement, which areas should be targeted for crime prevention, and the degree of community cohesion within neighbourhoods (Faull, 2021).

It was essential to examine crime trends from 1994 as it marks the abolishment of apartheid. The researcher analysed property crime statistics (Kriegler and Shaw, 2016; SAPS, 2020) from the period 1994 to 2020 and discovered the following:

- Malicious damage to property remained relatively consistent from 1994−2005, at an average of 322 incidents per 100 000 citizens. From the period 2006−2020, malicious damage to property decreased to an average of 258 incidents per 100 000 citizens.

- Burglary at residential premises remained relatively consistent from 1994−2004 at an average of 648 incidents per 100 000 citizens. From 2005−2020, residential burglary decreased to an average of 474 incidents per 100 000 citizens.

- Theft of motor vehicles and motorcycles remained relatively consistent from 1994−2003 at an average of 239 incidents per 100 000 citizens. From 2004−2020, theft of motor vehicles and motorcycles decreased to an average of 142 incidents per 100 000 citizens.

These data indicate a steady decrease in property crimes in South Africa. However, media reports (George, 2017; Nsibande, 2018) and scholarly arguments (Kruger, 2009; de Kock, 2015; Ween, 2016; Nunlall et al., 2020; Venter, 2020) directly contradict these statistics. These contradictions informed and guided this study as they revealed a gap in statistics that needed to be filled. Furthermore, based on the fact that SAPS statistics solely account for *reported* crimes, it is logical to assume that these crime statistics obscure the actual scope and extent of crime in this country (Faull, 2021). The Victims of Crime Surveys report (Statistics South Africa, 2020) provides statistics that are population estimates of the crime level in South Africa and thus account for crime perceptions of residents. It also provides estimates of the total number of crime incidences, and the reported figures tend to surpass total reported crimes that are recorded in SAPS statistics. Therefore Shaw and Kriegler (2016) contend that VOCS estimates complement SAPS crime statistics and are fundamental for overall statistical analyses of crime.

Table 1.1 below focuses on property crime trends. It compares SAPS and VOCS statistics from 2018/2019 to 2019/2020. The differences between SAPS statistics and VOCS statistics are explicated by Faull (2021), who remarks that property crimes had decreased overall, with the exception of VOCS data on the theft of motor vehicles which increased by 21%. Furthermore, it was observed that the SAPS recorded a decrease of theft of motor vehicles whilst the VOCS recorded an increase in these thefts at 21%. These distinct differences indicate that there are serious shortcomings regarding recorded crime statistics in South Africa.

Table 1.1: Change in crime reported to SAPS and detected by Victims of Crime Survey (VOCS) from 2018/2019 to 2019/2020

	One Year Change in SAPS Statistics of Recorded Crime 2018/19–2019/20	One Year Change in VOCS of Detected Crime 2018/19–2019/20

Housebreaking/Burglary		-7%	-8%
Theft of motor vehicles		-3%	21%
Malicious damage to property		-4%	-4%

Source: Adapted from Faull (2021)

The discrepancy between official SAPS crime statistics, victim surveys, media reports, and scholarly debates highlights the need for the development of a consistent system of gathering data to report official statistical findings. This argument is supported by Venter (2020), who asserts that it is necessary for statisticians and policy makers to engage collaboratively in order to develop solutions geared towards providing accurate crime statistics to citizens. Table 1.2 below illustrates property crimes that were recorded at Wentworth Police Station over a ten-year period (2010 − 2020) to indicate crime trends. Wentworth police station records crime statistics for the Merebank area in addition to those for neighbouring Wentworth. The statistics do not indicate significant increases or decreases of property crime, with varied results over the ten-year period. Furthermore, statistics pertaining to Wentworth are combined with statistics pertaining to Merebank. This is relevant as Wentworth has been considered a high crime area for decades (Sibisi, 2016). The researcher is thus unaware of the actual proportion of crimes that may be related to Merebank only.

Table 1.2: Property crimes recorded at Wentworth Police Station (2010−2020)

Year	Malicious Damage to Property	Burglary at Residential Premises	Theft of Motor Vehicles and Motorcycles
2010	106	142	105
2011	159	180	137
2012	161	211	96
2013	125	256	92
2014	111	194	67
2015	91	235	52
2016	98	237	90
2017	84	159	60
2018	117	234	58
2019	123	211	82

| 2020 | 107 | 211 | 89 |

Source: Adapted from Institute of Security Studies (2020)

However, media reports (George, 2017; Pillay, 2010; Nsibande, 2018; Local shopping centre becomed haven for aciminal activity and drugs, 2021) shed light on property crime in Merebank. George (2017:2) for instance stated:

> "The quiet area has become a dangerous and unsafe neighbourhood for residents. Numerous reports of house break-ins in the area has [*sic*] left residents unhappy and concerned about their safety. Members of the community are calling for local police to engage in more visible policing at night."

The identified issues associated with statistical (quantitative) data have prompted the researcher to conduct a qualitative investigation into crime perceptions regarding Merebank from the viewpoint of residents to gain rich understanding of the crime problem in this area as authentically perceived by residents. The issues catalogued above raised questions regarding the inherent inconsistencies that were exposed upon the examination of crime statistics. Insufficient information to address contradictory media reports and statistics has limited scholars' ability to investigate the impact of an inadequately built environment on crime causation. This study was an attempt to address these contradictions and to contribute to the broader discussion of the implementation of crime prevention strategies by addressing crime-related issues that seemed to persist in Merebank due to inadequate infrastructure and the zoning of this residential area in close proximity to large industries in the apartheid era.

1.5   Rationale for the Study

The historical design of built environments that promotes criminality as a result of enforcement of the Group Areas Act is a major challenge that impacts both individuals and communities as a whole. According to Shah (2020:3), "the Group Areas Act displaced hundreds of thousands of people, breaking up families, destroying friendships and splintering communities". Thus a pertinent question emerged: "What was the impact of this policy on the design of built environments?". Democratic South Africa is a shadow of its chequered past as citizens now seem free to live where they please. However, Fry (2017) contends that it is difficult to find Black and White citizens living in harmony. Whilst one can change the law overnight, social positions may require generations to transform. This has prompted lively

dialogue amongst scholars regarding what could act as a catalyst for this transformation (de Kock, 2015; Geldenhuys, 2015; Ween, 2016; Kruger, 2018; Nunlall et al., 2020; Venter, 2020). The shortcomings in policy that informed the rationale for this study were correlated with the problems identified by the researcher in the aforementioned section of this chapter. These are discussed in the sections below.

1.5.1 A lack of scholarly literature that addresses the *impact* of inadequate environmental design on crime causation within the South African context

Insufficient literature exists to assess the impacts of inadequately designed built environments on crime. According to Jansen (2017), apartheid environmental design was aimed at controlling residents as opposed to emphasising security. The researcher discovered that literature pertaining to this notion predominantly focused on the injustices of the past whilst discounting the actual marked effects or influences of inadequately designed environments on crime causation in the present. Meth (2017) claims that, since the election of the democratic government in 1994, the inequalities of the 'apartheid space' have become more than apparent at present. This claim is substantiated by Venter (2020), who argues that further research should focus on the influence of inadequate environmental design on crime as this will serve to inform the decisions of city planners and law enforcement agencies. These recommendations involve improving the current design of apartheid cities to prevent and reduce crime (Venter, 2020). When this study was conceptualised, it was therefore contended that the challenges faced by communities as a result of inadequate environmental design would be best assessed qualitatively in order to gauge the impacts of this phenomenon on residents' perceptions of crime and safety within the Merebank community.

1.5.2 Conflicting media reports and crime statistics

Both SAPS crime statistics and VOCS indicate a steady decrease in property crimes from 1994 to the present in South Africa as a whole (Faull, 2021). Furthermore, SAPS station statistics indicate that property crimes have decreased in the Merebank/Wentworth area. However, media reports (George, 2017, Nsibande, 2018; Mass meeting addresses high crime levels in Merebank, 2020; Illegal dumping catastrophe in Merebank, 2021; Local shopping centre becomes haven for criminal activity and drugs, 2021) contradict this. As it was impossible to determine the actual crime problem within Merebank with regard to statistics, it

was argued that qualitative inquiry would serve to investigate the perceptions of residents. This ensured that the researcher shed light on aspects of crime as related to inadequate environmental design within Merebank to supplement SAPS statistics and VOCS data.

1.5.3 The conflict between contributions of residents and law enforcement agencies regarding crime prevention in the Merebank area

There are inconsistencies regarding community cohesion and the participation of law enforcement agencies in Merebank. This statement is supported by Nsibande (2018), who highlights that community members in this area have ceased to have faith in the SAPS to prevent or reduce crime in this community. Furthermore, the latter author argues that there has been a breakdown of cohesion amongst community members due to a lack of communication, consensus, and escalating social issues. However, Landman (2017) claims that community participation in crime prevention efforts can be highly effective with the assistance of law enforcement. In support of this assertion, Manaliyo (2016:8) contends that "...community participation in crime prevention has been embraced by law enforcement as a panacea for crime problems". This initiative is generally referred to as 'community policing'. However, the current researcher argues that this does not occur within the community of Merebank, a contention that is supported by media reports (Mass meeting addresses high crime rates in Merebank, 2020) that illuminate a lack of police presence within the area. Conversely, a media report in the Daily News (Daily News Reporter, 2016) indicated that the government had deployed several specialised units to the Merewent (the overarching area of Merebank and Wentworth) area in order to reduce and prevent criminal activity. This study was thus deemed imperative to determine, amongst others, if community members and law enforcement collaborate in the study area to prevent crime.

1.6 Aims and Objectives of the Study

The empirical constituent of this study focused on the experiences and perceptions of Merebank residents regarding crime in the area. Furthermore, the core aim of this study was to investigate the impact of the apartheid-era built environment on criminality in Merebank. To achieve this aim, the researcher streamlined the subject matter and formulated the following objectives:

1. To investigate the impact of inadequate environmental design on crime causation in Merebank.

2. To investigate the impact of the Crime Prevention Through Environmental Design model on crime prevention in Merebank.

3. To examine Merebank residents' contribution to the implementation and enforcement of the Crime Prevention Through Environmental Design model.

4. To investigate community perceptions of fear of crime due to inadequate environmental design in Merebank.

1.7   Research Questions

White (2017) explicates that research questions steer the research in a specific direction. This scholar favours an initial review of literature so as to gauge gaps within previous scholarly arguments that overarch the researcher's topic of choice. This task was performed prior to designing the research questions for this study. Essentially, four significant questions that were derived from the research objectives to address the primary issues that underpinned this research needed to be answered. These were:

1. What is the impact of inadequate environmental design on crime causation in Merebank?

2. How does the Crime Prevention Through Environmental Design model impact crime prevention in Merebank?

3. What is the contribution of Merebank residents to the implementation and enforcement of the Crime Prevention Through Environmental Design model?

4. What are the Merebank community's perceptions of fear of crime due to inadequate environmental design in this area?

1.8 Significance of the Study

The primary significance of this study is related to the contribution that it will make to the Merebank community and law enforcement agencies operating in this area. Although the findings may not be extrapolated to a larger population, it is envisaged that communities that

experience similar issues as those that were highlighted in this study may be encouraged to address their adversities in the manner as recommended by this study. This is particularly applicable to communities across the country that have been adversely impacted by apartheid segregation policies that resulted in poorly planned and constructed built environments. This study will thus contribute significantly to the accumulation of scholarly information in the academic sphere, particularly with regard to the relationship between environmental design and crime. In North America, Europe, and Asia a considerable body of literature has been published in terms of the relationship between inadequate environmental design and crime. However, limited literature regarding this issue has been published in South Africa (Jansen, 2017). Furthermore, Merebank has been studied extensively in regard to the detrimental health issues caused by the refineries that have been present in the area for more than forty years (Aboo, 2013). However, close scrutiny revealed that this area has been under studied with regard to apartheid environmental design issues that have served to promote criminality. This study will therefore contribute to the stock of scholarly knowledge by illuminating the extent to which inadequate environmental design has impacted crime causation in Merebank, and these findings may be extrapolated to similar areas by similarly designed future studies so that the issue may eventually be addressed on a wide scale for the benefit of all South Africans.

The inadequate environmental design of neighbourhoods as a result of segregationist apartheid policies persists in society as a whole. This problem has become a social issue that has affected community cohesion and cooperation and has thus perpetuated criminality. The findings of this study may thus benefit communities, policy developers and law enforcement agencies in terms of implementing and managing crime prevention. Statistics reveal that large numbers of housebreakings are reported annually, with KwaZulu-Natal 'boasting' the highest percentage for 2019/2020 at 7.1%, which represents an estimated 1.2 million incidences of burglary (VOCS, 2019/2020). Many residents are unaware that the historical design of the built environment affects these rates, and the yield of this investigation may thus contribute to the dispersion of awareness of the causes of and the need to prevent crimes that occur in particular spaces.

Moreover, this study could serve to alert government to the inadequate implementation of its crime prevention policy. By identifying the root causes of crime within a particular area, strategies to practically implement crime prevention will be elucidated. Addressing these

issues could result in the creation of community cohesion and cooperation to alleviate and/or reduce crime within neighbourhoods. Should the challenges faced by communities go unaddressed by law enforcement and residents alike, crime will escalate and render societies vulnerable beyond restoration as crime is propagated by a vicious cycle caused by the interaction between crime and the built environment.

1.9 Research Methods

To resolve the research questions that gave impetus to this study, the researcher applied a qualitative research approach that was embedded within an interpretive research paradigm. This research approach permitted the researcher to note the subjective opinions of the residents of Merebank who illuminated their experiences regarding both apartheid and the impact of the current environmental design on their neighbourhoods. Semi-structured interviews were conducted with fifteen participants who were selected by means of purposive sampling. Purposive sampling was utilised as the participants that were interviewed were deemed to possess rich information that would uncover several issues relating to inadequate environmental design and crime. The data obtained from the semi-structured interviews were analysed thematically. This process yielded the development of several themes that formed core points of discussion to reveal the participants' views and experiences related to the design of the environment and crime. This study was conducted in Durban which is a city in the province of KwaZulu-Natal. A detailed discussion of the research methodology is provided in Chapter Four of this dissertation.

1.10   Structure of the Dissertation

Chapter 1 – Introduction
This chapter presents the context of this study and introduces the relationship between environmental design and crime. A comprehensive background of the study is provided with reference to relayed scholarly literature, recent media reports, and statistical data to affirm the significance of the study.

Chapter 2 – Literature Review
The literature review was conducted as a foundation for the conceptualisation of the study. The literature related to the topic under investigation that was reviewed indicate where this

research findings will fit into the existing body of knowledge. Furthermore, as a result of reviewing the literature, gaps in this field of criminological study are identified.

Chapter Three – Theoretical Framework

The theoretical framework that was utilised comprised theories and models that underpinned the objectives of this study. These theories were the situational crime prevention theory, the broken windows theory, Burgess' Concentric Zone Model, and the social disorganisation theory were. These theories and the model are discussed in detail in this chapter and the discourse illuminates how they supported the study.

Chapter 4 – Methodology

This chapter provides an in-depth description of the research approach, design, and the methods of sampling and data collection that were utilised for the purpose of this study. Furthermore, a paradigmatic perspective is provided to frame the study while the ethical considerations that were adhered to are also discussed.

Chapter 5 – Data Analysis

This chapter presents an analysis of the data that were obtained from the interviews. The literature review and theoretical framework assisted with the interpretation and meaning of the data.

Chapter 6 – Recommendations and Conclusion

The dissertation is concluded with a summary of the main findings and recommendations emanating from them are offered, with particular focus on crime prevention at neighbourhood level. The limitations and delimitations of the study are also acknowledged.

1.11   Chapter Summary

The correlations that exist among environmental design, crime, and perceptions of fear of crime form the basis of arguments that are proposed in this dissertation. The implementation of crime prevention methods in South Africa requires the holistic and collaborative engagement of government, law enforcement agencies and communities, and the implementation and enforcement of policies. Statistics and media reports that do not correlate highlighted the need for a study of this nature. The discourse elucidated that levels of crime

and criminality are related to space and/or place. Therefore, the acknowledgement and implementation of the roles of place-based crime prevention models such as CPTED have become vital. This study will further explore the application of CPTED by comparing and contrasting international and South African applications of the model in tandem with policy, law enforcement and community participation. The feasibility of CPTED to reduce crime in South Africa, with particular reference to the post-apartheid context of the community of Merebank, will be explicated.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This chapter evaluates related literature that was perused to inform the aims and objectives of this study. According to Neuman (2014), a literature review provides the researcher with rich insight into the research topic. Shi (2006: 2) defines a literature review as "...the systematic identification, location and analysis of documents which contain information that is related to the research problem". Scholarly articles and media reports highlight the correlation between inadequate environmental design and crime causation in certain neighbourhoods, and therefore, this review evaluates and interprets earlier related literature in support of the objectives of this study. The organizational structure of this review is underpinned by the research questions while key concepts that are contained within these questions are unpacked. This study sought to fill the current gap in literature related to the correlation between criminality and place from a South African perspective, and the literature review thus functions as a foundation for this dissertation as it illuminates significant information pertaining to environmental design, crime causation, and crime prevention under the auspices of environmental criminology.

The discourse will elucidate the historical development of environmental criminology, the applicable legislative framework, debates on the research topic from scholarly views, the merging of knowledge from different scholars, the nature and extent of CPTED within international, national and provincial contexts, relevant methodological orientations of studies, and the findings of several studies related to the implementation of the CPTED model to address crime in and ensure the safety of neighbourhoods. Property crimes are highly prevalent in neighbourhoods and this phenomenon is explored in view of the objectives and questions. The discourse will thus synthesise the knowledge from various sources on the subject of inadequate environmental design in relation to crime causation.

2.2 Definitions of terms

Table 2.1: Glossary of terms

Term	Explanation
Environmental criminology:	Nobles (2019) asserts that individuals have the capacity to transform the spaces within which they reside so as to decrease risk and curb opportunities for crime commission within their neighbourhoods. It refers to the association between individuals and the crimes that are concentrated within specified spaces (Bezuidenhout, 2020).
Built environment:	Refers to man-made surroundings that provide the setting for human activity. It includes roads, housing in residential areas, and shops and stores in commercial centres, all of which have an effect on the urban environment (Govender, 2008).
Environmental design:	The World Health Organisation (WHO) (2016) refers to the environment as all the physical, biological, and chemical factors that are external to an individual, in addition to all related behaviours. For the purpose of this study, the 'physical' component of this definition was central to the investigation. Reynald (2015) asserts that an environment is the complete and total surroundings of individuals.
Urban area:	It is a "...continuously built-up area with characteristics such as type of economic activity and land use" (Statistics South Africa, 2016:4).
Urban design:	The process of providing physical design and direction to urban growth. Urban design includes buildings, landscaping, new construction, and preservation. Urban design aims to establish environments that are responsive to safety and security (Kruger, 2018).
Spatial planning:	Spatial planning centres on the alignment and coordination of differing policies and strategies that affect geographical locations or spaces (Fourie, 2019).
Fear of crime:	Ratnayake (2014) asserts that fear of crime may be operationally defined as situational in nature. It may be understood as being afraid, anxious, or concerned about becoming the victim of a crime within the public arena. In the context of the study, fear was examined in relation to the environmental design of urban neighbourhoods (Vahed, 2013).
Crime prevention:	According to the Council for Scientific and Industrial Research (2016:6), crime prevention is defined as "strategies and measures that seek to reduce the risk of crimes occurring, and their potential harmful effects on individuals and society, including fear of crime, by intervening to influence their multiple causes."
CPTED:	Cozens et al. (2005) assert that the model of Crime Prevention Through Environmental Design (henceforth referred to as CPTED) aims to reduce

opportunities for the causation of events that are criminal in nature. According to Aboo (2013), CPTED is the act of deterring criminal acts in relation to the external physical surroundings of an individual.

Source: Summary by Author (2021)

2.2 History of Environmental Criminology, Environmental Design and Crime in South Africa

The early 1900s saw a dramatic increase in the recorded levels of crime in South Africa, which is a trend that has continued after the abolishment of apartheid to this day. Historically, the demarcation of separate areas for development and built environments according to race originated from the implementation of the Group Areas Act in South Africa (Shackleton and Gwedla, 2021). This Act was the forerunner of numerous formal apartheid policies after 1948 and dictated the manner in which infrastructural elements of the environment were planned and constructed during that era, and the impact of this Act continues to influence the environment even today (Geldenhuys, 2015). Prior to the advent of a democratic dispensation in South Africa after 1994, cities and towns were demarcated into various zones based on race. Designated areas for people of colour were generally subjected to inadequately designed homes, limited public amenities, and overall poor infrastructure that favoured criminality (Kruger, 2018; Shackleton and Gwedla, 2021). According to Kruger (2018), research has indicated that previously disadvantaged South Africans (Black, Coloured and Indian) are persistently exposed to high levels of crime which is exacerbated by inadequately planned infrastructure in the areas where people of colour traditionally lived and still live. It is therefore argued that inadequately built environments favour criminality due to increased physical deterioration and the migration of residents into and out of these areas which has caused the disintegration of social bonds. Several scholars (Landman, 2017; Kruger, 2018; Venter, 2020) concur with this assertion and contend that the aforementioned issues have continued to plague communities and contribute to crime causation.

A gnawing question that was posed was, "Why has transformation in the environmental design sphere been minimal since the abolishment of apartheid?" Eck and Clarke (2019) respond to this inquiry by asserting that the causes of crime are so numerous that it is relatively impossible to expound upon theories that explain all aspects of crime causation. This argument is supported by Andresen (2020), who declares that spatial patterns of crime

are present regardless of which theoretical construct a scholar chooses to utilise when investigating crime. The current researcher therefore contends that, to effectively investigate the effects of apartheid constructed environments on crime causation, an explanation of the development of the Environmental Criminology phenomenon is essential. In this regard, Bruinsma and Pauwels (2018) acknowledge that places or locations may have a detrimental effect on certain individuals and thus promote criminal behaviour. The current researcher concurs with the latter view as, in the South African context, crime causation literature has predominantly concentrated on the behaviours of criminals rather than on the impact of the physical (or built) environment on those behaviours. Venter (2020) supports this assertion by highlighting that a South Africa that was steeped in authoritarian apartheid policies did not focus on how spaces affected criminality, but targeted individuals and their behaviour instead. Furthermore, Shackleton and Gwedla (2021) state that scant research has been conducted in South Africa to examine the extent and effects of apartheid environmental designs on the quality of life of the residents who were compelled to reside in these spaces. Scholars such as Venter (2020) and Shackleton and Gwedla (2021) concur that the principal focus of South African researchers and law enforcement has been on individuals as actors of crime perpetration, and not their living and working spaces. The current study thus endeavoured to fill this gap by examining the impact of inadequately constructed environments on crime causation. This departure from the individual as a lone figure in crime perpetration was timeous and pertinent in light of the perpetuation of criminal activities in certain environments that were constructed and 'developed' during the apartheid era. If we now turn to the application of environmental criminology, environmental design and crime to the study site of Merebank.

2.3.1 Merebank's apartheid origins

This section will explore the historical development of Merebank from its earliest development to the present day. The rapid industrialisation of this area is discussed as this was relevant to this study. Moreover, the socio-economic conditions that were prevalent in Merebank during the era of apartheid cannot be discounted as these conditions underpinned the development of Merebank. The environmental design of Merebank is also examined in relation to industrialisation, apartheid, and a lack of social cohesion.

The environmental design of Merebank and its surrounding area was heavily influenced by the development of large industries and a changing political tapestry. Historically, in the 20th century South Africa was transformed from being a colonial possession, a self-governing Union of South Africa in 1910, to an independend Republic of South Africa in 1961. However, segragationist policies under the apartheid banner, particulary after 1948 when the Nationailst Party came into power, favoured the white minority over the vast majority of people of colour politically, socially, and economically. The increasingly oppressive laws that were promulgated by the Nationalist Party government continued until the final abolishment of this system due to the majority vote of South Africans of colour who had had enough. The year 1994 thus heralded the era of a democratic South Africa with a democratically elected government (Francis, 2008). However, the humble origins of Merbank cannot be negated because, when the apartheid government demarcated Merebank as an area for Indian residents, it was impacted by inadequate planning and spatial design. Apartheid zoning policies such as the Group Areas Act (Govender, 2008) considered the comfort and expansion of the white community while space and location of areas earmarked for people of colour were marginalised. For the purpose of this study, *zoning* is referred to as the manner in which the government controlled the development of the physical built environment where properties could be erected. These zones were classified as residential, industrial, or commercial and have also been referred to as 'demarcated areas' (Bezuidenhout, 2020).

As with the rest of the colonial world, Durban was industrialised during the 1920s and 1930s to address the country's industrial needs (Govender, 2008). The south Durban basin, of which Merebank forms the eastern edge, was zoned as a mixed-use industrial and residential area with white-owned industries in the centre, to the detriment of those compelled to reside in those areas (Naidu, 1983). Black South Africans were pushed to the periphery of the city whilst the South Durban basin was classified as a zone for industries in addition to Indian and Coloured residential demarcation (Ween, 2016). Additionally, zoning policies (e.g., the Natives Land Act and the Group Areas Act) transformed Merebank into a buffer zone between White communities and Black communities as well as the polluted industrial area in its proximity (Naidu, 1983; Sutherland and Scott, 2009). The researcher avers that this contributed to the formation of inter-community tensions between residents of Merebank and its industrial neighbours. This argument is supported by Ween (2016), who highlights that apartheid zoning did not only separate industries and residential areas, but resulted in the emergence of racial tension caused by this 'separateness'.

In accordance with the Group Areas Act, the South Durban Basin was demarcated into residential and industrial zones on the basis of race. During the late 1950s, many Indian residents were housed in formal housing in Merebank (Naidu, 1983). Dwellings in Merebank were primarily built by the apartheid state to house dispossessed Indians from areas such as Clairwood (Iyer, 1995). These homes accommodated multi-generational families while they had been built to serve as single-family dwellings (Govender, 2008; Iyer, 1995). The close proximity of industries to this residential area resulted in the inadequate development of the area as residential Merebank had to accommodate a large Indian population within a very small space (Naidu, 1983; Govender, 2008; Sutherland and Scott, 2009). This is an issue that has persisted in Merebank to this day (Sutherland and Scott, 2009; Bezuidenhout, 2020), and was a significant component of this investigation.

2.3.2 Merebank post-1994

With the onset of democracy, the residents of Merebank who had previously only been allowed to rent their homes from the Durban Corporation were now able to buy these homes, but more financially disadvantaged residents continued to rent theirs (Govender, 2008; Sutherland and Scott, 2009). It is argued that this divide between owners and tenants further widened the socio-economic gap and class division in the Indian community. The images in Chapter Five clearly illustrate this disparity as they show that some homes have been improved, some have been maintained in accordance with their original apartheid-era design, while others fell into disrepair.

The Merebank of the present day is comprised of three core residential areas: Merebank East, Merewent, and the Navy. Approximately 10% of the Indian community of Durban resides in Merebank which continues to be both an industrial and residential hub that houses residents of mixed socio-economic status (Govender, 2008).

2.4 Crime Prevention

Crime prevention entails any action that intends to reduce the actual levels of crime and/or perceptions of fear of crime. Crime prevention relies on accurate strategies to reduce the risk of crime and its potential detrimental effects, such as fear and anxiety, on communities and

individuals (Landman, 2017). The necessity to investigate crime prevention and strategies associated with this construct due to the high levels of property crime in South Africa is acknowledged and supported (Chapter One). Kruger (2018) contends that the burden of crime on the criminal justice system and 'common man' is monumental and highlights the significance of implementing crime prevention strategies in neighbourhoods, that are cost-effective and practical.

The current researcher discovered that crime prevention techniques have varied through the decades in tandem with shifts in governmental policies and the transformation of physical environments. In this vein, Welsh and Farrington (2012) argue that crime prevention in the United States was necessitated in the mid-1900s as a result of a loss of faith in the criminal justice system to address rising crime rates. Berg and Shearing (2011) contend that the necessity for crime prevention escalated due to emerging criminological research that demonstrated that traditional methods of crime control were ineffective. For instance, research that investigated the effectiveness of traditional policing revealed that strategies focused on police patrols, criminal investigations, and rapid response strategies, which were traditional strategies that alone did not effectively reduce crime (Welsh, 2015). Furthermore, a systematic review on policing that was conducted by Braga (2015) indicated that police innovation, such as collaboration with communities for the implementation of crime prevention strategies reduced crime by up to 33% in some areas. However, the aforementioned study explored the correlation between policing and crime prevention in cities in the USA and the results are not generalisable to South African neighbourhoods due to differing socio-economic conditions, although the policy of segregation in the USA had relatively similar outcomes. The infamous area known as the Bronx can be cited as an example (Braga, 2015). However, the value of the aforementioned studies is acknowledged and certain findings may support South African studies that conduct empirical research aimed at discovering how communities and law enforcement could work together to implement crime prevention strategies in dysfunctional neighbourhoods. The core strategy that underpinned the crime prevention objective of this study was CPTED, the application of which was explored in international, national and provincial realms to frame this study. The international development and applications of CPTED have been widespread (van Soomeren, 2002; Wortley and Mazzerole, 2008; Aboo, 2013; Cozens and Love, 2015). Due to the extensive nature of research that has been conducted on CPTED since the 1970s, this review

will be limited to recent studies that were conducted in Europe, Asia, Africa, and South Africa.

2.4.1 The application of CPTED in Europe

Van Soomeren (2002) primarily reviewed European standards for reducing crime. He argues that, while CPTED is acknowledged in these standards, it is not regulated by laws. This means that it is not obligatory for European countries to apply the principles of CPTED or to domesticate them in their legal frameworks. Van Soomeren (2002:186) further contends that "...it would help if politicians and authorities in Europe advocate and push for the use of this standard in urban planning and building/refurbishment schemes all over Europe".

In the United Kingdom (UK), Secured by Design (SBD) is a CPTED initiative whereby law enforcement inspects and provides certification for buildings whose design has incorporated the principles of CPTED (Cozens and Love, 2015; Aboo, 2013). The effectiveness of SBD was demonstrated in a review conducted by Armitage and Monchuk (2011) over a ten-year period from 1999−2009 in West Yorkshire, England. This research aimed to determine whether residents who were housed under SBD development strategies experienced less crime and fear of crime as opposed to those residing in non-SDB residences. SBD was clearly acknowledged as a crime prevention measure as it was found to reduce the number of burglaries occurring in SBD developments compared to non-SBD developments over the ten-year period (Armitage and Monchuk, 2011).

2.4.2 The application of CPTED in Asia

In Asian countries the application of CPTED focuses on adapting international guidelines for local settings (Cozens and Love, 2015). In this region policies geared towards crime prevention are modelled on the needs of each city so as to ensure the success of their implementation (Sakip et al., 2012). Shamsuddin and Hussin (2013) argue that the implementation of CPTED in Asian regions could assist to reduce public expenditure by ensuring safety in cities. Based on their systematic review of the application of CPTED principles in Malaysia, the latter scholars argue that its successful implementation could be achieved by increasing awareness and understanding of the concept (Shamsuddin and Hussin, 2013). Similarly, Park (2010) explored the success of CPTED in South Korea and argues that

a part of creating awareness and understanding of crime prevention lies in the development and implementation of appropriate policies. He argues that the implementation of CPTED and other crime prevention strategies in the latter country is modelled on European and UK policies, yet these policies do not account for the demographic and cultural differences between European countries and South Korea and among other Asian countries on the whole (Park, 2010).

2.4.3   The application of CPTED in Africa

African countries experience many of the same difficulties as their Asian counterparts due to high rates of amalgamation of culture, diverse demographics, and socio-economic constraints that plague many countries on these continents (Kruger and Landman, 2003). However, Lee, Park and Jung (2016) argue that comparative research on crime prevention in differing countries is difficult due to social and political differences.

Research on the application of CPTED in African countries has been limited in comparison to the rest of the world (Lemanski, 2004; Fester, 2015; Kruger, 2018). This is revealed in a study conducted by Owusu et al. (2015), who investigated CPTED implementation in Ghana. The latter study found that target hardening was utilised widely in residential neighbourhoods compared to other principles of CPTED. Owusu et al. (2015) argue that this focus weakens community bonds and often results in residents becoming 'shut-ins'. While CPTED is primarily linked to transforming the physical environment, community cohesion and social bonds are important to ensure its success (Saville and Kruger, 2012; Aboo, 2013).

Cozens and Melenhorst (2014) investigated CPTED implementation in Botswana and compared it with the 'western world'. The core goal of the Botswana research was to determine whether implementing CPTED in a developing country utilising US standards would yield successful results. They found that all the CPTED principles could not be implemented effectively when European standards were applied as the environmental design and socio-economic conditions experienced in residential and business areas in Botswana differed from those in European countries. While further research is required on this topic to validate the results emerging from Botswana, the initial results support the position of developing Asian countries due to the Botswanan experience.

2.4.4 The application of CPTED in South Africa

Implementing CPTED in South Africa cannot be achieved without considering apartheid planning and infrastructure development (Saville and Kruger, 2012). The South African implementation of CPTED acknowledges the inequalities that have resulted from apartheid and focuses on measures that transform society via changes to the built environment. To account for such a diverse population, holistic forms of CPTED aim to improve the sustainability of cities in South Africa (Palmary, 2001; Kruger, 2005). To ensure that CPTED is effective in under-resourced areas, the coordination of and collaboration among local residents, the municipality, councillors, and the police are required (SaferSpaces, 2016).

Several CPTED initiatives have been implemented in Durban. Initial initiatives involved a project dubbed the Safer Cities Project (eThekwini Municipality, 2003) which was established in collaboration with the United Nations Habitat organisation in 2000. This programme was additionally implemented in Johannesburg and Cape Town in the years that followed (eThekwini Municipality, 2011). The project aimed to ensure the safety of citizens and promote a collaborative understanding of issues concerned with community safety. For instance, 'design-specific' tools were developed to address the deficiencies of environmental design in South African cities. The development of these tools addressed economic, social, and political factors aligned with the diverse South African landscape and led to the empowerment of some communities to take control over their spaces (Liebermann and Landman, 2000; United Nations Habitat, 2015). For instance, the extensive renovation of Warwick Junction in Durban benefitted from a re-design that incorporated principles of CPTED to ensure safety and a reduction in crime. This area comprises a large portion of the Central Business District of Durban that was dilapidated and crime ridden. Aboo (2013) argues that this decrease in crime and insecurity could be attributed to increased lighting and the revamping of streets and lanes in alignment with the principles of CPTED. eThekwini Municipality (2011) furthers this argument by highlighting that the success of the Warwick Junction revamp essentially lies in the fact that the municipality did not simply initiate policy geared toward crime prevention, but actually proceeded with its implementation.

Due to the continually growing population in Johannesburg, the city uses parks and open spaces for housing developments. The high rates of crime in this city have caused residents to become 'shut-ins', which has led to community spaces such as recreational grounds and

parks falling into disrepair. In an effort to curb this decline, the Tshwane Municipality initiated park upgrades to increase the well-being and safety of residents. For instance, End Street North Park in Doornfontein was upgraded by improving landscaping, surveillance, and lighting. It is significant that this upgrade occurred with the participation of the community to whom its success has been attributed (Mavuso, 2016). Tshwane Metro Police additionally established a Crime Prevention Unit that prioritises environmental design principles based on CPTED (SaferSpaces, 2016).

The city of Cape Town has implemented crime prevention strategies that are unique and suited to the high rate of gang violence that plagues the region (Palmary, 2001). Khayelitsha is a township located in close proximity to the city of Cape Town but it is unfortunately plagued by crime. Spatial exclusion refers to inadequate urban design that contributes to criminality in an area, and Khayelitsha falls into this category. The Khayelitsha Commission implemented the Violence Prevention Urban Upgrading Project (VPUUP). This project aimed to decrease crime and improve the urban environment in and around Khayelitsha by implementing CPTED principles (Aboo, 2013). According to Crime Statistics South Africa (2020), 2019–2020 crime statistics indicated that Khayelitsha was ranked among the most dangerous cities in South Africa in that period. This indicates a lack of success with regard to the implementation of VPUUP. It is unclear whether this was due to a lack of maintenance and management of the project by the police and the community or the unsuccessful implementation of the project in general (Cozens, 2011; Saville and Kruger, 2012).

The review hitherto has indicated that, while South Africa is not on par with international policies and the implementation of CPTED, related strategies have been implemented as a point of departure for future progress. The reviewed studies revealed the successes and failures of efforts to implement CPTED and the manner in which South Africans could move forward to transform crime prevention in their cities. In light of this, policies such as the NCPS (Department of Safety and Security, 1996) and the White Paper for Safety and Security Department of Safety and Security, 1998; 2016) should be reviewed and improved on a regular basis to ensure that crime prevention efforts in South Africa are effectively implemented, managed, and maintained.

The foregoing synthesis aligns with the research objective to examine Merebank residents' contributions to the implementation and management of crime prevention strategies. In

essence, this research explored issues associated with crime and built environments in the study site.

Policies that impact built environments in terms of crime causation and prevention are discussed in the next section. Initially, these policies illustrate that the inadequate development of environments earmarked for residential settlement by people of colour was influenced by segregationist apartheid legislation. Post-1994 strategic policies now aim to negate the impact of erstwhile segregationist legislation.

2.5 Legislative Frameworks

A legislative framework encompasses the laws, policies, and regulations that are applicable to particular concepts and/or constructs (Bezuidenhout, 2020). In the same manner that bricks are stacked to form the structure of a house, a legislative framework provides a skeleton for the construction of ideas and policies that order and structure society.

2.5.1   Natives Land Act No. 27 of 1913

The segregationist apartheid policies that were implemented in South Africa were rooted in White colonial land appropriation and dispossession. Dispossession was given birth by the implementation of the Natives Land Act No. 27 of 1913 (Modise and Mtshiselwa, 2013). According to Newton and Schuermans (2013), the most significant provision of the Natives Land Act (1913) was the prohibition of Black citizens from renting or buying land in approximately 93% of South Africa. This means that the largest population group of South Africa was limited to a mere 7% of land for residential and farming use. Evidently, this Act seized the most valuable assets central to the livelihood of Black citizens and essentially rendered them destitute (Crouan-Veron, 2020).

Furthermore, Modise and Mtshiselwa (2013:361) state that "the legacy of socio-economic injustice which was inherited from the Natives Land Act of 1913 continues to haunt the majority of Black South Africans". The researcher concurs with this argument and avers that this continued legacy of apartheid that plagues urban neighbourhoods was foundational to this study as it correlates with the core aim of determining the effects of an apartheid built

environment on crime in the present day. This stance necessitates an exploration of the infamous Group Areas Act.

2.5.2   Group Areas Act No. 41 of 1950

Despite the repeal of the Group Areas Act in 1991, its detrimental effects on built environments throughout South Africa endure. According to Bezuidenhout (2020:205), "...poor neighbourhoods suffer from deficient infrastructure. Over the past 25 years little has been done to properly maintain infrastructure [in such areas]". A question that may be posed is, "What is the reason for the lack of transformation in built environments that have evidently been the root of so much anger and pain?" Newton and Schuermans (2013) argue that legislation such as the Group Areas Act prohibited the urbanisation of non-White residential areas and this prevented properly constructed and safe and secure environments for people of colour. Furthermore, Kruger (2018) avers that built environments encompass physical structures that need to be stable and secure. This means that poorly constructed structures cannot simply be transformed in an effort to improve the safety and security of residents. Bezuidenhout (2020) is of the view that the abolishment of the Group Areas Act resulted in increased pressure on inadequate infrastructure due to the migration of citizens into and out of areas that they were previously prohibited from inhabiting. This means that community ties are often severed. Higgins and Hunt (2016) support this assertion by arguing that, whilst residents have been attempting to improve inadequately constructed environments by increasing security measures and maintaining their residency, transformation is often futile.

The primary aim of this research was aligned with the views of Bezuidenhout (2020) and Higgins and Hunt (2016). With regard to investigating the impact of the apartheid built environment on crime, the researcher is of the opinion that the establishment and implementation of the Group Areas Act was the catalyst for the development of built environments that have provoked criminality to this day. This means that the enduring effects of this Act could be negated if residents were to acknowledge its detrimental effects and develop practical solutions geared toward transforming apartheid built environments to prevent crime, rather than promote it. Therefore, this research explored the implementation

and management of CPTED as a solution to transform the manner in which built environments influence criminality.

2.5.3   National Crime Prevention Strategy

The National Crime Prevention Strategy (Department of Safety and Security, 1996) was implemented to reduce and prevent crime in a holistic manner. This means that this policy aims to integrate the functions of both law enforcement and community members. The researcher avers that the necessity for the development of a National Crime Prevention Strategy originated as a result of the abolishment of apartheid. This argument is supported by Vyas-Doorgapersad (2015), who claims that the post-apartheid ANC government intends to ensure that South Africa becomes a safer place for all its citizens and that citizens will no longer live in fear but rather enjoy the 'fruits of a democracy'. To deliver upon this promise, the National Crime Prevention Strategy was developed and is promoted as a policy that reaches beyond merely deploying law enforcement (such as the SAPS) to neighbourhoods, and that it will provide for the participation of the man in the street to address crime. The objectives of this policy are as follows:

- The establishment of an inclusive framework that will permit government to address crime by co-ordinating the efforts of law enforcement and civil society.
- The development of a common vision that should inform the nation as to how crime may be tackled at national and provincial levels.
- The establishment of national programmes that will initiate and focus efforts of government to ensure that solutions to counteract the high crime rates in South Africa are developed.
- Increasing citizens' participation in mobilising and sustaining crime prevention strategies.
- The creation of an integrated crime prevention capacity that will, for instance, facilitate research into the development and facilitation of crime prevention programmes in South Africa.

As illustrated in Table 2.2 below, four pillars are incorporated in the framework of the NCPS. Of these four pillars, the CPTED pillar was deemed significant for the purpose of this study. This pillar indicates that South African policy must ensure crime prevention and legitimise the effectiveness of CPTED to curb crime (Omar, 2010). A critique of this argument, however, is that by the year 2000 government shifted resources back into the criminal justice system and thus crime prevention became synonymous with traditional policing again (Berg and Shearing, 2011). This means that while there is much knowledge of and agreement with the principles of the NCPS, many citizens are unwilling to contribute to crime prevention efforts as trust in the police has waned (Newham, 2005). However, it is significant to document the pillars of the NCPS (1996) to illustrate what could be achieved should the objectives of this policy be implemented adequately by residents and law enforcement agencies.

Table 2.2: The four pillars of the 1996 National Crime Prevention Strategy

Pillars	Description
1.	The Criminal Justice Process aims to make the Criminal Justice System increasingly efficient. The Criminal Justice System should provide a clear deterrent to reduce the risk of recidivism of incarcerated criminals.
2.	Crime Prevention through Environmental Design (CPTED) aims to design systems that will assist in reducing opportunities for offending. This implies that the process of identifying criminals needs to be simplified.
3.	Public and educational initiatives aimed at transforming the manner in which communities react to crime need to be valued. This should involve programmes geared towards facilitating the participation of citizens in crime prevention.
4.	Trans-national crime programmes must improve control over cross-border traffic and reduce opportunities for the escape of international criminal syndicates.

Source: Adapted from NCPS (Department of Safety and Security, 1996)

According to Vyas-Doorgapersad (2015:174), the NCPS introduced a shift from reactive crime control, which deploys resources to respond only after crimes have already been

committed, towards proactive crime prevention, which aims to prevent crime from occurring at all. However, empirical qualitative evidence (Buthelezi, 2017) indicated that neither law enforcement nor residents were keen to participate in crime prevention strategies in a Western Cape neighbourhood. Furthermore, several residents were unwilling to perform their role as 'proactive agents' for implementing crime prevention strategies as required by the NCPS. The researcher avers that this issue could have been resolved if residents had been provided with additional support in the form of increased knowledge and resources pertaining to the implementation of the pillars of the NCPS. This in future could be achieved by means of increased involvement of municipalities who should liaise with provincial government officials to ensure that communities effectively reduce and prevent crime in their neighbourhoods (Newham, 2015).

The amended White Paper on Safety and Security (Department of Safety and Security, 2016) shares the aforementioned aims of the National Crime Prevention Strategy. However, a gnawing question that is posed is, "Why has proactive policing as provided for in both these policies been largely ineffective in South Africa?" An exploration of the White Paper on Safety and Security (Department of Safety and Security, 1998; 2016) is necessary to address this question.

2.5.4   South African White Paper on Safety and Security

The development of the White Paper on Safety and Security (Department of Safety and Security, 1998) intended to address the aforementioned practical solutions to prevent crime in urban neighbourhoods. Safety and security is essential for quality human life and human productivity in built environments (Kruger, 2018). The aim of the White Paper on Safety and Security was to facilitate the creation of an adequately resourced, sustainable mechanism to monitor, evaluate, and implement crime prevention strategies in South African neighbourhoods. The perusal of this policy was significant as it directly aligned with the objective of investigating the impact of crime prevention strategies as proposed by the CPTED on communities. Additionally, the primary focus of the White Paper on Safety and Security (Department of Safety and Security, 1998) and the Amended White Paper (2016) is geared toward crime prevention to increase perceptions of safety. This means that the aforementioned policy vindicates the current study that explored crime prevention in-depth in an attempt to improve the lives of citizens who are constantly under threat of criminality in

their neighbourhoods. Furthermore, the researcher argues that South Africa should be on a par with global law enforcement policies to promote the safety and security of its citizens. This assertion is supported by SaferSpaces (2016) that affirms that South Africa has failed to adequately implement and manage strategies aimed at ensuring the safety of residents. This further highlights the promotion of collaboration between communities and safety and security agencies. A pertinent question in this regard is: "How are policies that promote safety and security implemented effectively?"

The researcher is of the view that South African policy makers have initiated the process of successfully managing and implementing policies that promote safety and security by amending the 1998 White Paper on Safety and Security in 2016. The 2016 amended policy aims to ease the implementation of the strategy in a holistic manner (SAPS, 2016). This means that the collaboration of communities and law enforcement will ensure that crime prevention strategies such as CPTED are implemented and monitored seamlessly. To explicate this assertion, two distinct policy interventions resulting from the amended 2016 White Paper on Safety and Security are as follows (Department of Safety and Security, 2016):

- The focus is shifted from reactive policing to participative policing. Reactive policing means that law enforcement responds only in the event of the perpetration of a criminal activity, but this approach has been largely ineffective in curbing crime. The White Paper (2016) thus supports participative policing whereby law enforcement agents continuously consult with residents to ensure a proactive rather than reactive response to crime, thus resulting in long-term crime prevention.

- The amended White Paper introduces a developmental and integrated approach to crime prevention by recognising that safety extends beyond the purview of law enforcement. This introduces a holistic approach to crime prevention as the amended policy provides for ease of communication and collaboration between communities and law enforcement agents. This amendment thus aims to increase safety and security by means of cooperation between residents and law enforcement agencies at neighbourhood level, which is aptly referred to as community policing.

The vision of the amended White Paper on Safety and Security (Department of Safety and Security, 2016) is fourfold and aims to achieve the following objectives by 2030:

1. Citizens will reside in secure environments.

2. Citizens will contribute to creating and maintaining secure built environments.

3. Citizens will experience decreased perceptions of fear of crime and the inadequate conditions that propagate this fear.

4. Citizens will have equal access to services of a high quality when affected by criminality.

However, Beukman (2017) notes that there are several criticisms of this amended White Paper, the first being that its implementation cannot be successful without notifying community members about its basic purposes and securing their support. The researcher concurs with Beukman (2017) as she has personally observed that many citizens are unaware of the existence of the White Paper on Safety and Security, much less the aims and objectives of this policy. It is acknowledged that the latter statement is not supported by either qualitative or quantitative data, but by virtue of the researcher's involvement and insight as a community member. This argument is supported by Stone (2017), who emphasises that co-operation between law enforcement and community members continues to deteriorate as citizens harbour fears and misconceptions surrounding the duties of law enforcement officials. Conversely, SAPS (2016) asserts that the relationship between citizens and law enforcement has improved since the abolishment of apartheid, which has aided in the development of amendments that were applied to the White Paper on Safety and Security. These contradictory arguments dictated the necessity of the current research which explored, among others, whether crime prevention strategies were implemented and managed by community members and if their efforts were overseen by members of law enforcement.

2.5.5   The Urban Renewal Programme (URP)

Additional policies that endorsed the implementation of CPTED in South Africa included the Urban Renewal Programme (2002). This programme was launched by former President Thabo Mbeki and was a 10-year initiative to renew eight urban nodes of deprivation in six South African cities. It aimed at addressing poverty and underdevelopment in targeted areas and focused on improving joint government and community planning and implementation to stimulate urban development by means of environmental design. The Urban Renewal Programme also aimed the implementation of policies that would address safety and security. This programme recognised that previously disadvantaged neighbourhoods had been spatially

engineered by the architects of apartheid and that people of colour were excluded from societal and political privileges by design (Geldenhuys, 2015). This observation is significant as Kruger (2018) claims that this design is currently typified by high levels of crime in such neighbourhoods. URP strategies were implemented in KwaZulu-Natal in severely marginalised areas such as Inanda and KwaMashu and were geared towards providing effective service delivery (SaferSpaces, 2018). This programme is critiqued by Aboo (2013) who argues that URP strategies were implemented in only eight locations and that this programme was implemented on a limited scope. The latter author suggests a possible re-introduction of some aspects of this strategy such as sustaining it for a longer period which could result in favourable outcomes in terms of crime prevention (SaferSpaces, 2018).

The above key legislation and policies guided this investigation. This is significant as it highlights what has been achieved in terms of crime prevention and also exposes what still needs to be done to improve these strategies. Therefore, the discourse is framed to address the aforementioned gaps.

2.6   Crime Causation

Several scholars have noted that the complexity of definitions of crime causation occurs as a result of the complexity of crime itself (Siegel, 2011; Cozens, 2014; Kempen, 2017; Bezuidenhout, 2020; Denno, 2021). Crime causation is a complex construct that has been explored widely for centuries. Denno (2021:3) defines crime causation as "the origination of immoral acts" while Cozens (2016:167) defines crime causation as "the root of violative [violent] and/or harmful behaviours". Humans are dynamic, constantly transforming beings that are born with the innate ability to exercise free will and they thus possess the ability to make choices (Scott, 2010). However, the researcher poses the gnawing question, "To what degree are these choices informed when social demarcations are restrictive and contain a threat to life and livelihood?" as there are several factors that affect crime causation (Kempen, 2017). Whilst scholarly research scantly focused on the impact of an inadequately designed built environment on crime causation, much research has focused on the individual as the 'core' actor of criminality. Significantly, this research primarily explores aspects of the *built environment* that influences crime causation. The dynamic nature of crime causation necessitates that the role of the individual as an actor that perpetrates crime within a specific environment is elucidated.

2.6.1 Crime Causation: A shift from individual to biological criminology

Two arguments are considered for the phenomenon of crime causation. The first is termed 'classical criminology' and the second is termed 'biological criminology'.

The ability to unreservedly formulate choices is what differentiates humans from other species. This statement is espoused by Siegel (2011) who claims that individuals' ability to reason, negotiate, and perform risk analysis influences whether they will choose to commit a crime or not. This view is a reflection of classical criminology, of which Cesare Beccaria (1764) was a founder. Classical thought pivoted on the central idea that individuals choose to commit a crime. This decision is influenced by one's own actions, and the individual is thus responsible for his/her deeds in totality (Burke, 2009; Lilly et al., 2018). Furthermore, Siegel (2011) argues that a combination of both individual and social factors influences criminality, and he thus recognises that the basic principles of classical criminology are relevant in the present day.

An opposing view on the causes of criminality considers biology as a predictor for the exhibition of criminal behaviour. For centuries, the biology of an individual was deemed an indicator of whether an individual was likely to engage in criminal activity. Several scholars (Siegel, 2011; Piquero, 2016; Lilly et al., 2018) note the role of Cesare Lombroso (1894) in developing the biological mechanisms that are cited as relevant within the realm of crime causation. Lombroso (1894) argued that physical or biological characteristics such as large ears and lips, a protruding jawline, a sloping forehead, and an asymmetrical face indicated that an individual was a 'born criminal'. This means that this scholar rejected the notion that 'free will' and/or the choices that individuals make dictate a penchant for criminality.

Following earlier theories on individual-driven causes of crime, social factors and environmental factors as causes of crime have only been considered as recently as the 1970s (Bezuidenhout, 2020). The latter notion informed the requirement for a study of this nature so that it will add to the body of scholarly knowledge concerning the correlation between the design of the environment and crime. This study argues that inadequate environmental design impacts crime causation in many South African neighbourhoods. Therefore, to effectively espouse this argument, the impacts of inadequate environmental design are explored with

reference to disorder, social cohesion, and social control. This calls attention to the manner in which physical disorder, a lack of social cohesion, and a lack of social control affect criminality within built environments.

2.6.2 Crime causation: Disorder and lack of social cohesion and social control

Physical disorder could lead to serious crimes if left unattended. This is because visual signs of decay or disorganisation portray a neighbourhood that is 'unchecked' by both residents and law enforcement (O'Brien, Farrell and Welsh, 2019a). The researcher argues that the extent of physical disorder within neighbourhoods reflects the overall effectiveness of residents' efforts to improve and sustain the 'well-being' of their surroundings. This means that simply maintaining the outward appearance of one's neighbourhood may serve to deter criminal activity. To elucidate this notion for the purpose of this study, disorder is defined as the dishevelment and/or disarray of a particular space or place (Vlaskamp, 2011). According to Johansen, Neal and Gasteyer (2014), disorder can be promoted by a built environment in two ways:

1. Characteristics of the built environment such as abandoned properties directly create a sense of physical disorder.

2. Physical disorder could fail to encourage social order as it fosters the impression that residents do not maintain their surroundings.

The views of Johansen et al. (2014) suggest that an increase in the levels of disorder in neighbourhoods could lead to an increase in crime (Vlaskamp, 2011; Welsh, 2015; Santana et al., 2016; O'Brien et al., 2019a). However, this explanation is limited in that it does not differentiate between 'physical' and 'social' disorder. Physical disorder refers to the dilapidated outward appearance of buildings, roads, alleys, shopping complexes, and homes. Conversely, social disorder refers to a lack of community coordination and participation in addition to gang activity, delinquency, and public intoxication (Konkel, Ratkowski and Tapp, 2019). Empirical results obtained by Konkel et al. (2019) suggest that social disorder, unlike outward physical disorder, is unlikely to have an effect on crime in neighbourhoods. This argument is moot, however, as the latter study was conducted in the USA where physical and

social conditions relating to disorder differ significantly from those in South Africa. Nonetheless, they may be applicable to this study as they confirm a correlation between physical disorder and criminality. Conversely, Siegel (2011) argues that social disorder may point to a lack of social cohesion and social control in neighbourhoods.

The degree of social cohesion amongst community members in a specific neighbourhood determines whether residents view their neighbourhood in a positive or negative light. According to Piquero (2016), social cohesion is the degree or level of social integration and inclusion in communities and society at large. It is argued that current definitions of social cohesion do not encompass the multiplicity of values and cultures that are present in current societies (Fonseca, Lukosch and Brazier, 2019; Bezuidenhout, 2020). This is noteworthy as South African values and culture are diverse as we are a nation of varied ethnicities, creeds, and traditions (Bezuidenhout, 2020). For instance, Tolsma, Meer and Gesthuizen (2009) aver that social cohesion promotes harmony and community participation that develops when individuals bond with one another. However, Tolsma et al. (2009) do not consider that individuals possess differing characteristics based on their ethnicities and cultures. This means that lack of social cohesion could contribute to chronic and substantial conflict in societies as a result of intrinsic differences (Fonseca et al., 2019). In ethnically diverse communities, residents share few characteristics which could lead to their inability to communicate effectively. These communities experience feelings of threat and alienation and this hampers social cohesion (Higgins and Hunt, 2016). Therefore social cohesion in the South African context is defined by Burns et al. (2018:5) as follows:

> "...the process of unifying South Africans across diverse backgrounds to create a common vision to work in the interest of the nation and all individuals therein. Social cohesion is a key constituent of a broader development agenda for the country, an objective to be pursued in its own right, defining it as a 'common attachment to the ethical principles of the constitution'."

This implication of this quotation is crucial as it initiates the discussion that a lack of social cohesion could influence criminality in a built environment. Fonseca et al. (2019) also note that a lack of or diminished social cohesion amongst residents as a result of cultural differences and values could result in discord amongst said residents. Thus another gnawing question is, "How does a lack of social cohesion contribute to an increase in criminality in neighbourhoods?" Vahed (2013) provides a solution to this inquiry by arguing that the built

environment affects how criminals view a particular neighbourhood. This scholar further avers that a strong degree of social cohesion in a community results in increased collaboration among residents to maintain their neighbourhood. This notion was significant for this study as it highlights an association between disorder and social cohesion in terms of criminality in a particular built environment. This correlation illustrates that a well-maintained neighbourhood possesses a socially cohesive community that will proactively participate to reduce criminality. A question that needs to be posed, however, is, "How do communities achieve and maintain social cohesion?" This calls attention to the notion of social control.

The normative practices and/or behaviours on which members of society base their lives imply that social order is a core goal of social control. According to Little (2014), social control is the regulation and enforcement of norms and is dictated by rewards and penalties. Rewards will effectively prevent crime while penalties will result in increased criminality. In this context the researcher argues that communities that implement informal social controls increase social cohesion and thus reduce crime. This means that neighbourhoods that are traditionally cohesive are governed by a form of informal social control (Groff, 2015). For instance, forms of informal social control that were applicable to this study were community policing initiatives, neighbourhood watches, and socialisation.

Community policing involves the coordination and cooperative efforts of law enforcement agents and residents. According to Dlamini (2017), citizens are the primary actors that initiate collaboration within their neighbourhoods. Should the assistance of a law enforcement agent be required, community members are aware of the actual crime issues that are occurring within their spaces (Buthelezi, 2017). This calls attention to the manner in which community policing initiatives bolster the attitudes of the community and encourage cooperation amongst residents, thereby enhancing crime prevention in such neighbourhoods.

Neighbourhood watches are deemed an effective deterrent of crime and thus result in crime reduction and prevention. A neighbourhood watch is defined as a surveillance program or group whereby residents 'watch over' the belongings and/or property of one another (Bezuidenhout, 2020). According to de Villiers (2021), the invaluable contributions of neighbourhood watches during the riots that occurred in July 2021 in Johannesburg and KwaZulu-Natal effectively prevented riotous criminal activities in many neighbourhoods.

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These groups of individuals operated in tandem with the SAPS and private security companies. However, Asala (2021) contends that national security is a complex nuance, as the SAPS lacks the capacity to solely protect over 59 million South African citizens. Thus private security is viewed as a 'saving grace' for many citizens who can afford to employ the services of these companies (Bennetts, Soebarto, Oakley and Babie, 2017). As Merebank is deemed a previously disadvantaged area (Ween, 2016), many residents may be unable to afford to hire private security companies for their protection. This means that the collaboration and cohesion of residents have become increasingly significant and highlights the need for a positive correlation between informal social control and crime prevention in order to negate the impact of an inadequately built environment on crime causation.

Socialisation is defined as the lifelong process of an individual, group, or society by means of social interaction (Fonseca et al., 2019). This means that healthy socialisation promotes social cohesion and social control in neighbourhoods. This will ensure that collaborative crime prevention measures will be considered and executed. This notion is affirmed by Cooper et al. (2009) who empirically studied the implementation of crime prevention strategies in neighbourhoods. They discovered that hosting social events such as 'barbeques' and 'clam bakes' built strong relationships among residents and resulted in residents watching out for one another. However, Govender (2008) argues that it could be difficult for residents to collaborate in South African neighbourhoods due to barriers that were created as a result of apartheid. Alternatively, Shackleton and Gwedla (2021) assert that transformation is a diverse process that will occur over time as South Africa continues to operate as a democracy. The researcher agrees with this view and thus endorses collaboration among community members via informal social control, as illustrated below.
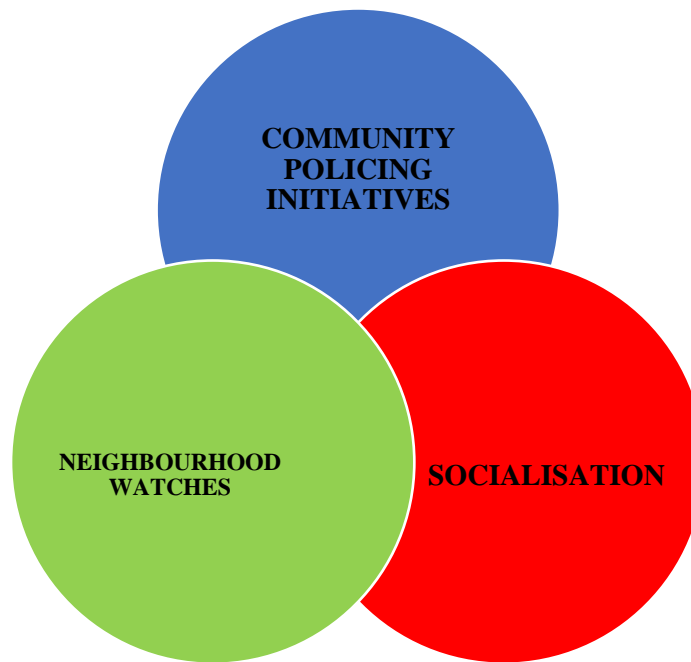
Figure 2.1: Diagram to illustrate the interrelatedness of informal social control measures

Source: Author (2021)

Figure 2.1. above illustrates the overlapping and interconnectedness of informal social control measures. The researcher is of the view that community policing initiatives, neighbourhood watches, and socialisation should operate jointly to promote crime prevention in urban neighbourhoods. In support of this view, empirical evidence is provided by Weisburd, White and Wire (2021) that informal social controls are key to understanding crime commission in built environments. The latter authors found that neighbourhoods in Baltimore (USA) that possessed strong levels of informal social control were safer compared to neighbourhoods in Chicago where such cohesion did not exist. A drawback of this study, however, is that it was quantitative in nature which means that the authentic perceptions of residents were not explored. The findings would have been more applicable to this study if qualitative interviews had been conducted to gain in-depth perspective on residents' insights regarding how informal social control measures could be increased to effectively contribute to crime prevention. What is significant, however, is that the latter study supports the researcher's notion that a correlation exists between informal social controls and crime prevention.

2.7 Profiling Property Crimes

As the scope of this study was limited to property crimes, an elucidation of this type of crime is relevant. According to Wright and Jacques (2017:4), property crimes are defined as "the removal of goods [that belong to an owner] without the use of threat or physical force". This definition was applicable to this study as only non-contact property crimes were considered. Furthermore, Govender (2018b:89) describes property crime as "...illegal activity that involves the transfer and/or destruction of property". Property crimes that were investigated by the current study were malicious damage to property, burglary at residential premises, and theft of motor vehicles and motorcycles. These crimes were identified as property crimes to reflect the relationship between criminality and place (Faull, 2021) through an exploring SAPS (2020) and VOCS (2020) crime statistics. For instance, statistical analysis of property crimes in South Africa indicated that there were an estimated 1,2 million incidences of burglary that affected 891 000 residential households in 2019/2020 (VOCS, 2020). The researcher thus profiled property crimes to frame the objectives of this study. According to the Oxford English Dictionary, profiling (2013:348) is defined as "a short description of important details that are collected about something". This means that the causes of property crimes were profiled in terms of the impact of inadequate environmental design on crimes of this nature. There are several factors that provoke property crime in South Africa such as inequality, unemployment, poverty, delinquency, gang activity, ineffective legislation, and law enforcement. These are explicated in Table 2.3 below. The researcher argues that these factors are drivers of property crime as they are provoked by inadequate built environments that are evident in several South African neighbourhoods. This argument is also espoused by Shackleton and Gwedla (2021), who claim that the impact of inadequate design of built environments on crime causation cannot be overlooked.

Table 2.3: Factors that contribute to property crimes

Factor	Description
Inequality (social, political, financial)	Bhorat et al. (2017) investigated the relationship between social and economic inequality and criminality in South Africa. The results of the study suggest a significant increase in property crimes neighbourhoods that are socio-economically deprived as a result of the enduring effects of apartheid (Ween, 2016).
Unemployment	A recent evaluation by Bezuidenhout (2020) indicates that the significant number of unemployed individuals in South Africa leads to the perpetration of 'convenient property crimes'.

Poverty	Papaioannou (2017:2) states that "hunger makes a thief out of any man". Bittar (2020) found a strong association between poverty and property-related crimes in South Africa by analysing statistics obtained from Statistics South Africa (2020). This scholar found that 49,2% of the South African population falls below the poverty line.
Delinquency and Gang Activity	Mulamba (2020) argues that delinquency and gang activity are important predictors of property crime across South Africa. This scholar discovered empirically that a strong correlation exists between delinquency and gang violence and that it is compounded by a lack of education and weak familial relationships among the youth.
Legislation/ Policies	A lack of proper implementation and management of crime reduction and prevention has resulted in increased crime causation in South African neighbourhoods. According to Venter (2020), the enduring effects of the Group Areas Act have contributed to crime causation in previously disadvantaged South African neighbourhoods.
Law Enforcement	The researcher argues that law enforcement cannot address property-related crimes in South Africa unaided. Furthermore, Govender (2018b) asserts that the failure of law enforcement to effectively reduce property crimes is caused by a lack of collaboration between communities and law enforcement to enforce crime reduction strategies.

Source: Author (2021), adapted from various sources

Scholarly debates surrounding the causes of property crime have varied, but the primary focus has been on the socio-economic disparities caused by a history of segregation in South Africa (Govender, 2018a; Mulamba, 2020; Adam, 2021). Taking into account the factors mentioned in Table 2.3 above, it is apparent that the causes of property crime in South Africa are multi-faceted and complex. This is endorsed by Kriegler (2021), who profiled property crime statistics in South Africa during the period of the COVID-19 pandemic lockdown restrictions. This scholar discovered that lockdown restrictions resulted in a decrease of 22% in property-related crimes. Furthermore, Kriegler (2021) highlights that double digit increases in property-crimes were recorded for the first quarter of 2021, which she attributes to the easing of lockdown restrictions. The researcher argues that this finding is significant as it highlights the positive results of imposing a degree of 'social control' on citizens. However, the COVID-19 pandemic was and continues to be an exceptional circumstance that has been statistically proven to affect property crime in South Africa. A weakness of this argument, however, is that in the absence of a global pandemic this 'restriction of movement of citizens' will be deemed unlawful as it will compromise the rights of individuals and society (Kriegler, 2021). Therefore, this study aimed to discover solutions for the deficit

within this argument by exploring crime prevention in built environments in order to suggest ways of reducing property crimes without infringing upon the rights of citizens. The core crime prevention model that informed this study was the Crime Prevention through Environmental Design (CPTED) strategy.

2.8 The development of the Crime Prevention through Environmental Design (CPTED) model

Elizabeth Wood (1961) was an advocate for physical design contributions in achieving social objectives, some of which included creating fulfilling and safe environments for residents. As an employee of the Chicago Housing Authority, she endeavoured to improve the living conditions of 'lower class' citizens via the development of a series of guidelines for improving the security of these environments. Wood (1961) developed two design goals to improve the safety and security of environments. The first goal involved the 'visibility' of apartment units for residents, which lead to the second goal, namely 'surveillability'. This refers to the extent to which a residence is observable. For instance, should residential areas be cleared of shrubbery and bushes that impede visibility, surveillance ability will be improved which will lead to increased safety and security. However, Wood argues that certain design and structural flaws could impede the visibility of some buildings and surveillance could be impossible in this instance. She urged planning and design committees to consider these issues when developing cities (Wood, 1961). Whilst Wood was a leading practitioner of social design with regard to housing, her ideas were not tested empirically (Jusiewicz, 2011).

During the 1960s, Jane Jacobs (1961) began studying urban cities in the United States, drawing on the work of Wood (1961). Jacobs's (1961) research was pioneering as she had a vested interest in the personal safety of citizens, as she rallied behind several movements for environmental design and neighbourhood control. Jacobs (1961:106) argued as follows:

> "Streets and their sidewalks, the main public places of a city, are its most vital organs. Think of a city and what comes to mind? Its streets. If a city's streets look interesting, the city looks interesting; if they look dull, the city looks dull. More than that, and here we get down to the first problem, if a city's streets are safe from barbarism and fear, the city is thereby tolerably safe from barbarism and fear."

If residents fear the streets, they begin to stop utilising these spaces. This decreases the amount of surveillance of streets and lanes that could lead to increased criminality within a specific area. Jacobs (1961) further claims that, in order to ensure the increased safety of residents, 'natural proprietors of the street' should be present. In agreement with this 'natural surveillance' notion, Aboo (2013) contends that residents should be aware of what happens in their streets and parks as this will promote a sense of safety in these neighbourhoods. However, Jacobs (1961) noted the breakdown of societies as she observed that rapid commercial and industrial growth resulted in some urban areas becoming plagued by high rates of criminality. In response to this issue, Jacobs purported that security guidelines should be implemented for the better design and planning of neighbourhoods. Like Wood (1961), Jacobs (1961) argued that one of the best fortifications against crime was to reside within a community where residents exhibited social cohesion. The work of Jacobs had a significant impact on the development of CPTED. This included territoriality and natural surveillance, which are components of the CPTED model (Sutton et al., 2008).

Also in the 1960s, Schlomo Angel (1968) argued that citizens should actively contribute to the prevention of crime in their neighbourhoods depending on which environments tend to afford opportunities for high levels of criminal activity. Angel (1968) reasoned that offenders chose their targets by means of 'rational choice', which means that they weigh the risks and benefits of committing a crime before engaging in such behaviour. He posited that frequent usage of an area by community members might deter crime as several witnesses would render criminal behaviour a high-risk option. Angel's ideas involved transforming the physical design of environments by channelling pedestrian traffic and business premises to 'busy' areas so as to prevent criminal activity from occurring (Paulsen, 2013). While Angel's argument is compelling, it does not account for the fact that some physical environments are designed inadequately. The latter often results in residents being unable to adequately witness criminal activity despite their best efforts. In this instance, the built environment itself will contribute to criminality in a specific neighbourhood (Piquero, 2016).

Jeffery (1971) built on the work of Jacobs (1961) when the 'Crime Prevention through Environmental Design' model was published. He argues that criminologists persistently focus on the individual characteristics of offenders while ignoring the physical environment where crimes are committed, and suggests that criminologists should shift emphasis from

punishment and deterrence to transforming the environment to prevent and reduce crime. Crime prevention focuses on behaviour, therefore the environment should be studied considering that the actions of individuals within a specific space could lead to criminality. Jeffery discovered that an environment could alter the behaviours of individuals by studying how environmental design and crime involved transforming feelings of fear and the action to offend. The seminal works of Jacobs (1961) and Jeffery (1971) exposed the changing urban landscape of the mid-1900s. The expansion of cities was mainly attributed to the increased use of transportation networks that created unprotected spaces or corridors that promoted criminality. This supported the notion that an increase in unprotected spaces results in criminality due to a lack of adequately planned, managed, and protected environments (Kruger and Landman, 2003). The title of Jeffery's book was used as an acronym to refer to this model, but the principles of CPTED were not established until the 1980s. This means that despite the significance of his work in the criminological field, it was originally largely ignored by criminologists as, at the time, governments and scholars were uninterested in further research into the link between environmental design, human behaviour and crime as they focused primarily on practical approaches for preventing crime (Jusiewicz, 2011). However, despite the initial disinterest in Jeffery's work, his theory eventually shifted the study of crime to focus on environmental criminology in crime prevention (Jeffery, 1999).

This shift in the study of crime prompted the works of architect Oscar Newman (1972), who developed the notion of 'defensible spaces'. Newman (1972) focused on the architecture of apartment buildings and the negative impact of these buildings on the safety of residents. Similar to Jacobs (1961), Newman (1972) contended that large apartment buildings led to an increase in the anonymity of residents. This made it difficult for residents to differentiate between actual home owners and outsiders, which posed a great threat to their safety (Newman, 1996). His notion of environmental design and crime guided the development of coordinated design standards such as land usage, street lighting, and street layout, all of which improve security. Newman's concept of environmental design involves more than simply re-designing space. Similar to Angel (1968), Newman (1972) aimed to create environments where opportunities for crime causation would be reduced and where residents would be encouraged to utilise public spaces and thus contribute to their own safety. Newman (1996) proposed that residents were unconcerned with the outside of their residences as they viewed this as 'public space'. This disinterest resulted in residents having no 'defensible space' as they had no regard for what occurred outside their residences, which

in turn resulted in the neglect and disrepair of buildings over time. This state of disrepair eventually led to escalating criminality in poorly maintained areas (Aboo, 2013).

Newman (1972) contributed to the work of Jacobs (1961) by suggesting that defensible spaces could be achieved by increasing natural surveillance, territoriality, access control, and an aesthetic image (Jeffery, 1999). Thus attention to beautifying urban spaces as a crime prevention strategy was applied extensively in the United States in the 1970s, and this eventually led to public housing projects being designed based on Newman's ideas. His ideas continue to be applied today as they heavily influence the planning and design of buildings (Paulsen, 2013). To illustrate this, Fester (2015:18) states the following:

> "In many cities in South Africa, gated communities and enclosed neighbourhoods have become a common sight. These types of developments have destroyed the sense of community and become a hindrance to the fight against crime. The argument Newman (1972) makes is that the breakdown of the community is allowing crime to flourish. He argues that there must be a way to bring neighbours back together and to reinforce a sense of community. If the physical design of the environment can do this, then it must be so exploited."

The work of Newman was severely critiqued as his notion of defensible space did not expound upon the 'actual mechanisms' whereby the design of the environment could influence crime prevention. Additionally, Newman refers to crime in broad terms and does not differentiate between different types of crime that could affect residential areas (Reynald and Elffers, 2015). As Newman drew on the works of both Angel (1968) and Jacobs (1961), the aforementioned critiques could additionally be applied to their arguments.

As a result of the critiques of Newman's work, Jeffery (1999) published a revised edition of 'Crime Prevention through Environmental Design'. In this book, he posits that Newman and Jacobs were limited in their work as their primary focus was on the architectural aspects of crime while they did not consider the social aspect in the development of cities. The development of spaces does not solely imply the built environment, but also refers to the physical and social interactions within these spaces (Kruger, 2018). Furthermore, Jeffery's model of CPTED improved Newman's concept of defensible space as he added the aspects of

access control and target hardening to territoriality and surveillance (Reynald, 2015; Nunlall et al., 2020).

2.8.1 Principles of the Crime Prevention through Environmental Design model

Scholarly discourse has widely debated the CPTED model on a global scale (Cozens et al., 2011; Aboo, 2013; Mihinjac and Saville, 2019; Bezuidenhout, 2020). In the South African context, the Council for Scientific and Industrial Research (2016:27) defines CPTED as "the implementation of measures to reduce the causes of and the opportunities for criminality [while also reducing] fear of crime by means of the application of adequate design principles to the built environment". CPTED emphasises crime prevention techniques that 'manipulate' opportunities within the environment to reinforce positive behaviours in these spaces. This manipulation of the environment is characterised by the five principles of CPTED which include territoriality, access and escape routes, surveillance, image and aesthetics, and target hardening.

Territoriality refers to the area of influence of a residence. This means that it refers to how residents utilise spaces to communicate ownership of their possessions. This principle of CPTED is enforced by dividing residential areas into zones where residents become responsible for their own safety and the cleanliness of the environment (Govender, 2008). Forms of territoriality include both symbolic and real barriers. Symbolic barriers include signage such as 'Warning!' and real barriers are for instance fencing (Cozens et al., 2005). Empirical studies have shown that burglars target residences that offer more opportunities for concealment that are often facilitated by trees, walls, and shrubs (Clarke, 2012). Studies (Jusiewicz, 2011; Reynald, 2015) have also indicated that fancy landscaping and decorations on properties could portray an image of wealth and encourage offenders to burglarise these residences. The researcher is of the view that properties with weakened territoriality tend to be burglarised more frequently. This means that properties with scant or non-existent symbolic or non-symbolic barriers encourage criminality. Nunlall et al. (2020) concur, averring that this could include signs of non-occupancy and a lack of fencing. A question that needs to be asked, therefore, is "To what degree will the implementation of territorial measures actually deter crime?"

Neighbourhoods require 'watchdogs' in the form of residents who monitor behaviour, movement, and activities. This statement defines the concept of surveillance simplistically. In terms of surveillance, two categories are considered in this study namely natural surveillance and mechanical surveillance. Natural surveillance is best described by the phrase "all eyes on the street" and can be applied to areas where residents and their activities can be naturally observed in interior and exterior public areas (Govender, 2008). These areas can be created by designing landscapes in a manner that allows unobstructed views of the surroundings. Furthermore, appropriate lighting and property design could enhance user safety and security (Wortley and Mazzerole, 2008). Mechanical surveillance involves the utilisation of surveillance tools such as closed-circuit television systems, commonly known as CCTV. Increasing surveillance in areas, whether by mechanical or natural means, will serve to alleviate the feeling of fear among residents. This view is significant as it draws attention to fear alleviation and crime prevention in a built environment, which were key objectives that this study addressed. It is thus argued that the implementation of crime prevention strategies in neighbourhoods will positively affect the community's experience of fear and perceptions of crime (Fry, 2017). Additionally, operational street lights at night increase visual clarity of the surroundings, thereby increasing the ability of residents to survey their immediate surroundings (Sakip et al., 2012). Welsh and Farrington (2008) investigated the extent to which street lighting influences criminality and argue that the presence of maintained street lights significantly reduces crime. However, it is also suggested that increasing community pride and social control will reduce criminality more effectively than increasing surveillance (Welsh and Farrington, 2008). The researcher concurs with this view as the findings of the aforementioned study address multiple objectives of the current study in terms of how social control and cohesion impact criminality in built environments.

The implementation of specific measures to make certain objects or areas less attractive for criminal activity is referred to as 'target hardening'. Target hardening measures are primarily considered in response to real or perceived threats, which once again highlights the notion that fear and crime prevention are associated. The effective implementation of target hardening thus increases the efforts that offenders need to exert to commit a crime. This principle is an established approach to crime prevention and thus walls or fences are erected around perimeters, security gates are installed, and alarm systems are used as a mechanism to implement this principle of the CPTED model (SaferSpaces, 2020). These mechanisms often serve as access control in tandem with target hardening. It should be noted that the utilisation

of target hardening mechanisms could lead to the creation of a 'fortress mentality', which refers to the phenomenon that residents withdraw behind the physical barriers that they erected. This results in contradicting the principles of CPTED which require territoriality and surveillance (Reynald, 2015; Andresen, 2020). The fortress mentality also means that residents no longer socialise with other members of their community, which in turn results in the breakdown of social cohesion and social control. This essentially presents a favourable image for criminals who would be more likely to commit crime in such built environments as they view these areas as 'devoid of residents' and thus 'devoid of surveillance'.

Access control focuses on reducing criminality by denying access to potential perpetrators of crime which also aims to create a perception of risk to deter criminals (Cozens et al., 2005; Reynald, 2015). According to Sakip et al. (2012), controlling access to personal and public dwellings is imperative in deterring crime. Obstructions to targeted areas that relate to access control occur in the forms of fencing, automatic locking systems, padlocks, alarm systems, and high perimeter walls. However, the effectiveness of controlling access to and escape routes from areas depends on the measures that each neighbourhood implements in addition to the contributions of each resident to control their private domains (Jusiewicz, 2011). A systematic review conducted by Cozens et al. (2005) found fluctuations in different countries. This is significant as systematic reviews investigate the findings of many studies, yet in this area they have yielded inconsistent results and this highlights the need for further research to address the gaps in research in this field. Govender (2008) criticises access control by asserting that rigid control of access and escape routes could leave residents feeling 'boxed in', and this may increase their fears regarding criminality in the neighbourhood. Furthermore, the researcher is of the opinion that residents could lose their sense of freedom and will be unable to enter and leave their communities without being monitored at access and escape routes. This indicates an infringement upon residents' right to privacy and freedom of movement as provided for in Chapter 2 of the Constitution of the Republic of South Africa (1996). Thus the gnawing question needs to be posed, "Does the implementation of crime prevention strategies in South African neighbourhoods infringe upon the rights of citizens?" If this is the case, such measures as discussed above contradict policies such as the NCPS (Department of Safety and Security, 1996) and could hinder the implementation of CPTED in South African neighbourhoods.

The image and aesthetics of a built environment signal to the outside world whether the area is constantly maintained and surveilled or not. A good image will create the perception that an area has limited social issues and that the community behaves as a cohesive unit (Sakip et al., 2012). This illustrates the existence of an interrelation between social cohesion, social control, and the image and aesthetics of a specific neighbourhood. However, Andresen (2020) asserts that few studies have determined the degree to which the aforementioned notions are correlated. This scholar notes that it is difficult to statistically measure the impact of the aesthetics of a built environment on criminality. The current study set out to address this gap in research as it was qualitative in nature and explored and evaluated the perceptions of residents. Neuman (2014) notes that investigating perceptions permits the researcher to access rich and meaningful details that effectively convey the impacts of specific notions among communities, and this is what the current study set out to do.

The aforementioned arguments indicate that the five principles of CPTED are linked by the common threads of social cohesion and social control. Furthermore, these measures are simplistic in nature and could be applied to any neighbourhood in South Africa. However, there are several criticisms of CPTED that should be noted in order to improve the management and implementation of this model.

2.8.2 Criticisms against and limitations of CPTED

While several criticisms have been levelled at the CPTED model, the most significant in relation to the current study include the displacement of crime, the development of 'offensible space', and an over-simplification of CPTED implementation (Andresen, 2020; Bottoms and Wiles, 2020; Bezuidenhout, 2020).

Crime displacement is defined as the "relocation of crime from an area that implements situational crime prevention methods within an area without such barriers" (Andresen, 2020: 108). It has been argued that CPTED displaces crime and aims to address the symptoms of crime rather than the root causes of criminality. For instance, offenders may continue to commit criminal offenses as they are pre-disposed to lawlessness regardless of preventative measures. Therefore, without addressing the root causes of crime, criminality is likely to persist (Johnson, Guerette and Bowers, 2014; Cozens and Love, 2015). In contrast to these assertions, Weisburd and Telp (2012) argue that empirical evidence suggests that crime is

connected to place or location. This means that while some places experience little or no crime, other places experience disproportionate levels of crime. Essentially, this purports that the actual characteristics of places influence crime causation and thus, if crime is not prevented within such a specific area, offenders will not relocate their criminal activity to other areas unless these other areas share the same inviting characteristics as the original target area. This suggests that criminal activity may be resistant to displacement (Bottoms and Wiles, 2020).

The prevalence of 'offensible spaces' makes reference to drug dealers and criminal gangs that utilise aspects of CPTED to commit crime and obscure their criminal activities (Cozens and Love, 2015). This criticism combines elements of Jeffery's (1971) CPTED and Newman's (1972) notion of defensible space. For instance, criminals utilise strategies such as surveillance and access control to facilitate their criminal activities. Govender (2008) argues that the concept of 'offensible spaces' is applicable to neighbourhoods where drug dealers survey the space where they will conduct their 'business' by utilising CCTV to ensure that there is no interference from law enforcement or rival drug dealers.

Furthermore, CPTED is frequently implemented too simplistically as a one-size-fits-all approach in the belief that it can be effectively applied to all neighbourhoods to prevent and thus reduce crime (Bezuidenhout, 2020). This oversimplification of CPTED may falsely indicate that the maintenance of street lights, surveillance, and target hardening will always reduce crime. This fallacy was exposed by Saville and Cleveland (1997) and further explored by Kruger (2005; 2018), who argues that local conditions need to be considered when CPTED is implemented. This is because every neighbourhood is unique and CPTED principles should be implemented only when this uniqueness has been considered if success is to be achieved.

2.8.3   The future of CPTED

This study focused primarily on first-generation CPTED while acknowledging the second-generation concepts of social cohesion and community connectivity. This review discusses first, second and third generation CPTED to illuminate future research opportunities regarding this model.

Jeffery's (1999) five principles of CPTED are referred to as first-generation CPTED. In the years following the initial popularity of this model, Saville and Cleveland (1997; 2008) coined the term 'second-generation CPTED', which is an approach that accounts for the psychological and social aspects of urban design (Bennetts et al., 2017). Whilst first-generation CPTED aims to enhance defensible space and territoriality, second-generation CPTED builds upon these concepts by acknowledging that residents must develop a sense of standards in regards to their neighbourhood. This means that residents must actually care about the places where they work, play, and live so as to develop strong feelings of territoriality. Residents must band together for a common purpose to ensure that safety is sustained and crime prevention occurs in their neighbourhood (Saville and Cleveland, 2008). Unlike first-generation CPTED, second-generation CPTED aims to reduce motivations to commit crime by addressing the social, cultural, and emotional needs of individuals in areas where criminality is an issue.

Second-generation CPTED is supported by four principles, namely social cohesion, community connectivity, community culture, and threshold capacity (Saville and Cleveland, 1997; Cozens and Love, 2015). Social cohesion was previously discussed and is reiterated as the core principle of second-generation CPTED. A community that is cohesive "works together for the common good of each resident" (Burke, 2009:67). By implementing strategies for social cohesion, residents are encouraged to work through their differences by means of conflict resolution. For instance, a neighbourhood watch may bring residents together but this does not mean that there will be no conflict among them. Social cohesion strategies include participation in local events, collaborative problem solving, and anti-violence education and awareness (Cozens and Love, 2015). Community connectivity involves the nurturing of partnerships between governmental/non-governmental organisations and the community. These partnerships will maintain 'self-policing' by communities and potentially reduce crime. Community culture makes reference to residents who share spaces and display territoriality by, for instance, participating in festivals and cultural events. A strong sense of community will encourage neighbourhoods to adopt positive behaviours and portray an image of unity to deter offenders (Cozens and Love, 2015; Saville, 2017). Threshold capacity views neighbourhoods as ecosystems with a finite carrying capacity for resources. For instance, if a particular area becomes over-populated the anonymity of residents is increased, it could promote criminal activity (Saville and Cleveland, 1997; Saville, 2017).

Third-generation CPTED was borne from recent developments in behavioural, cognitive and environmental sciences (Mihinjac and Saville, 2019). This model was introduced by Saville and Cleveland in 1997 and departed from simply enhancing physical design and promoting social cohesion to reduce crime. Third-generation CPTED adopts a more holistic approach for expanding first- and second-generation CPTED by focusing on how individuals perceive their environment and their satisfaction in relation to it (Jusciewicz, 2011). Third-generation CPTED is comprised of a sixth principle referred to as the 'environmental management and sustainability principle'. This principle provides for the long-term evaluation and monitoring of the five principles of first-generation CPTED. As all three models of CPTED are linked, this means that the models could be reconsidered and developed over time so as to become applicable to issues such as the zoning of land and transportation (Wortley and Mazzerole, 2008; Mihinjac and Saville, 2019).

Sustainable strategies geared towards crime prevention are rarely a part of urban design approaches (Saville, 2009). To promote holistic crime prevention, he proposes a strategy called 'SafeGrowth' which is an integrative planning process that aims to create safer neighbourhoods by means of promoting social cohesion and trust (Aboo, 2013). Saville (2009) expounds upon his theorisations regarding SafeGrowth and highlights the findings of a 2000–2009 longitudinal case study that was conducted in Toronto. This study reported a reduction in crime and an increase in community involvement over a nine-year period. The findings suggest that implementing third-generation CPTED is an effective and sustainable method for re-developing neighbourhoods (Saville, 2009). However, it should be noted that third-generation CPTED is a relatively new concept as opposed to Jeffery's (1971) original model, thus further empirical studies need to be conducted to determine the effectiveness of this model (Mihinjic and Saville, 2019). It was for this reason that the current study focused on first-generation CPTED while acknowledging the second-generation CPTED concepts of social cohesion and community connectivity. A combined model was not utilised as not all aspects of second-generation CPTED were considered and also because third-generation CPTED has been under studied.

2.9   Residents' Contribution to CPTED in South Africa

A model initiated by the Council for Scientific and Industrial Research (2016) illustrates the benefits of directly involving residents in the planning and implementation of crime prevention measures. This model consists of a workshop process that is based on the understanding that community members know the actual crime problems that are occurring within their neighbourhoods. Landman and Leibermann (2005) assert that workshops will enable residents to understand crime prevention methods such as CPTED. Another project that has been implemented in South Africa requires residents to inform the police of 'hot spots' of crime within their areas. These 'hotspots' are then plotted onto a map that law enforcement utilises to identify which crime prevention methods will be most effective for specific areas. Solutions are subsequently relayed to residents who will form part of the implementation and management of crime prevention methods (Kruger, 2018). These community projects are utilised in tandem with policies that regulate crime prevention in South Africa. However, Buthelezi (2017) argues that policies such as the NCPS have not been implemented consistently throughout the country, to the detriment of communities. This suggests that this gap in research should be addressed to correlate legislation and community projects for maximum effectiveness of crime prevention strategies. The researcher aimed to address the aforementioned gap by investigating residents' contribution to CPTED in an effort to contribute to the literature regarding community involvement in terms of crime prevention in built environments.

Community policing forums and local neighbourhood watch programmes have often been tasked with the implementation and management of the principles of CPTED (Kruger, 2005) as it is argued that residents' contributions to the implementation of CPTED will promote social control and social cohesion in their neighbourhoods (Beckett and Herbert, 2008). Conversely, Wortley and Mazzerole (2008) indicate that residents' contributions could have an undesirable effect on their opinions toward law enforcement. This is because residents may believe that law enforcement should take responsibility for implementing these measures without shifting the burden onto residents. These arguments are supported by Aboo (2013), who adds that the contributions of both residents and law enforcement are necessary in the South African context. The researcher avers that research on residents' contributions to implementing CPTED is limited in the South African landscape as most related research focused on the application of CPTED in large cities and thus scarcely explored crime at neighbourhood level. The current study thus aimed to contribute to this limited body of literature.

In the same vein, the impact that CPTED has had on crime prevention in South African neighbourhoods is not extensive and does not encompass community perceptions of fear of crime in relation to this phenomenon. This study thus aimed to address this gap on the strength of the argument that, despite several benefits of CPTED, it cannot be viewed as the sole solution to prevent and reduce crime in neighbourhoods (Fry, 2017). A review of the literature indicated that there is no one-size-fits-all formula for the implementation of CPTED in specific locations, and the dynamics of each situation should be considered in alignment with this. Furthermore, community engagement with regard to the implementation and management of CPTED principles in South African neighbourhoods has rarely been maintained consistently or improved upon (Aboo, 2013; SaferSpaces, 2016). However, the value of incorporating the principles of CPTED in the planning and design of the physical environment should not be underestimated as this could create an environment for future generations that is not conducive to criminality and supports secure living (Cozens and Love, 2015).

Fear of crime has been interwoven into the discourse of CPTED throughout the aforementioned section of this review. Below a detailed analysis is presented of perceptions of fear of crime as experienced in built environments are explored in order to address the objectives of this study.

2.10 An Environment that Encourages Fear

Fear of crime comprises two main dimensions, namely the perceived likelihood of harassment or victimisation and people's emotional response to experiences of criminality (Ratnayake, 2014). In the context of this study, fear was deemed the emotional response that resulted when residents were under threat of crime in the physical environment where they resided. Fear of crime was explored by comparing 'actual fear' and 'perceived fear'. This was necessary as earlier studies (Fry, 2017; Landman, 2017, Kruger, 2018; Ceccato, 2020) predominantly focused on actual fear of crime as reported in victimisation surveys and thus the perceived fear of residents was marginalised. Actual fear of crime has been measured statistically by means of SAPS statistics and VOCS (Landman, 2017; Kruger, 2018; Bezuidnehout, 2020). Perceived fear is emotionally-based fear that is experienced differently by each individual and is dependent on factors such as gender, race, and socio-economic

status (Vlaskamp, 2011; Minyuku, 2017). The researcher is of the view that inadequate environmental design and incivility both lead to an increase in perceived fear of crime in specific spaces.

2.10.1 Factors that affect a community's perceptions of safety and fear of crime

Community safety and the reduction of crime are increasingly significant phenomena that are explored globally. Fear of crime in particular is deemed an indicator of the persistent feeling of being unsafe in a neighbourhood (Bennett et al., 2017). Based on the correlation between fear of crime and the built environment (Cozens, 2011; Sakip, Johari and Salleh, 2012), the concerns about and perceptions of fear experienced by the average citizen were considered for the purpose of this study. In terms built environments, the researcher avers that a disordered environment portrays an image of danger that causes residents to feel threatened. However, Fry (2017) argues that this image is merely a perception as 'perceptions' are sensory experiences of one's surroundings. This means that a particular built environment may not be perilous in reality although it is perceived as dangerous and threatening by residents. As evidenced by several scholars (Davis, 2017; Kempen, 2017; Landman, 2017), there exists a link between fear of crime and inadequate environmental design. Several South African studies (Vahed, 2015; Fry, 2017; Shackleton and Gwedla, 2021) have been conducted to investigate the relationship between crime and the feeling of fear. However, few studies have examined community perceptions of fear of crime in the environmental design domain. The researcher found that the aforementioned studies predominantly investigated actual fear of crime and negated the effects of perceived fear of crime as experienced by South African residents.

Fear is described as an emotion that is experienced in response to a threatening stimulus. This means that fear is caused by a specific response or action. Every individual reacts differently to stimuli and people will thus experience fear differently (Fry, 2017). Moreover, fear of crime has been associated with low levels of health (i.e., either emotional well-being or physical health). Poor emotional health particularly often leads to low levels of trust in others and declining participation in social activities (Maruthaveeran and Konijnendik van den Bosh, 2015). In formulating the objectives of this study, specific symbols were related to specific aspects of the physical environment that invoke fear. For instance, Bennets et al. (2017) argue that inadequately lit pathways and overgrown brush are more likely to incite

fear than adequately lit and well-maintained areas. Furthermore, anxiety experienced by individuals correlates with the perception of fear of crime. An individual's perception of crime is often a larger issue than the crime itself, and this leads to unwarranted feelings of anxiety and dread (Sakip et al., 2012; Bennetts et al., 2017). Perceptions are generated by determinants that provoke emotions such as fear of crime that individuals experience. Individuals' contexts are thus underpinned by personal traits that determine the extent of their fear of crime. The concept of situational context for instance highlights the general features of an area that determine if that area is compromised by physical and social disorder or not.

Individual characteristics are briefly discussed to explain the context of situational characteristics that influence perceptions of fear of crime (Fry, 2017). In this study, understanding situational characteristics was of prime importance to adequately investigate the affected community's perceptions of fear of crime that was allegedly caused by environmental disorder. The researcher argued that the association between fear of crime and the built environment could be explored effectively by elucidating variables that were affected by fear of crime. Vlaskamp (2011) and Maruthaveeran and Konijnendijk van den Bosh (2014; 2015) identified such variables and listed age, gender, and socio-economic status. As it has been adequately demonstrated that socio-economic factors affect residents' perceptions of fear of crime, the researcher argues that socio-economic factors that cause fear of crime are also influenced by apartheid policies whose aftermath continues to impact South African citizens' experiences of fear and anxiety in poorly built/constructed neighbourhoods.

Two articles, one each by Vlaskamp (2011) and Maruthaveeran and Konijnendik van den Bosh (2014), were explored to compare and contrast these characteristics. Vlaskamp (2011) argues that each individual experiences varying degrees of fear and that personal characteristics play a key role in explaining individuals' tendency to display fear of crime. Such personal characteristics are age, gender, and income. Vlaskamp (2011) for instance states that the elderly are the group that is most fearful of crime in their surroundings, but Maruthaveeran and Konijnendik van den Bosh (2014) disagree as they established a weak correlation between age and fear. However, it must be noted that the latter study was a systematic review that utilised an under-represented sample size of differing age groups, and this could possibly have skewed the results (Neuman, 2014). In terms of gender, both studies found that females were more fearful of crime compared to their male counterparts. Women often feel more fearful of crimes that might be committed against them on the basis of their

perceived physical vulnerability. However, both Vlaskamp (2011) and Maruthaveeran and Konijnendik van den Bosh (2014) assert that this could be due to male participants displaying a culturally imbibed sense of masculinity that could perhaps distort such results. The final personal characteristic that impacts individuals' sense of fear is income. Vlaskamp (2011:19) argues that "the poor are considered more fearful compared to those in the middle- or upper-class categories of society. The poorer are more vulnerable, because they are likely to live in lower socio-economic neighbourhoods". The researcher concurs with a similar view that is expressed by Maruthaveeran and Konijnendik van den Bosh (2014) and notes that South Africans who reside in economically and socially deprived built environments are vulnerable and perceive their surroundings as dangerous (Kruger, 2018).

The situational context contains characteristics that form part of the environment that surrounds individuals. A combination of personal characteristics and situational characteristics highlights how each individual experiences fear in the environments within which they reside. Situational factors include physical disorder, social disorder, and crime (Vlaskamp, 2011). These factors were reviewed by Vlaskamp (2011) and in a second study by Maruthaveeran and Konijnendik van den Bosh (2015). For the purpose of this study, disorder is defined as a deviation from norms within specific neighbourhoods. As was expounded in a previous section of this review, disorder often shatters social norms and thus leads to crime causation and fear of crime (Maruthaveeran and Konijnendik van den Bosh, 2015).

Both social and physical disorder are relevant in an investigation of community perceptions of fear of crime. Social disorder refers to a lack of social control in communities such as public intoxication, drug nuisance, and street fights. Physical disorder highlights visual forms of decay such as broken street lights, abandoned or unkempt buildings, and vandalism. Physical disorder relates directly to inadequate environmental design and invokes a sense of fear among community members (Govender, 2008; Welsh, 2015). According to Sakip et al. (2012), individuals' perception of a neighbourhood is based on what they actually see. To support this assertion, Cozens (2011) avers that individuals are bound to experience a heightened sense of fear when they reside or work in a disordered area. However, some effects of disorder on residents are likely to be indirect due to heightened levels of the *perceived* risks of crime. This is significant as social disorder was explored as a causative factor of crime in a built environment. The narrative thus supports the notion that a

correlation exists between built environment, crime causation, and fear. This means that the objectives of this study were explored cohesively.

Furthermore, Vlaskamp (2011) argues that physical disorder is associated with perceptions of fear of crime whilst social disorder directly provokes fear. Individuals are thus more likely to fear youth nuisance and nuisance related to drugs and aggravated assaults compared to vandalism and a lack of street lights (Govender, 2008). In contrast to Vlaskamp (2011), Maruthaveeran and Konijnendik van den Bosh (2015) support the direct relationship between physical disorder and fear of crime. The latter study utilised a qualitative approach using semi-structured interviews, which was the methodology utilised in the current study as well, and therefore the findings of the aforementioned study provided a methodological point of departure from which the researcher could conduct the current study.

2.10.2 A South African perspective on fear of crime in relation to environmental design

According to Kempen (2017), South African citizens are of the view that the government is too weak and/or too preoccupied with its political positioning to fulfil its obligation to keep citizens safe. The latter author contends that this deviation from its mandate leads to feelings of fear amongst communities. According to Aboo (2013), South African residents' fear arises from issues such as conflict due to the conflict between people of various races, ethnicities, and nationalities who reside in close proximity to one another. This is a direct consequence of a country whose policies were entrenched in the apartheid philosophy. Therefore, in the South African context fear of crime is often explained as a deep fear of change and racial differences (Bezuidenhout, 2020).

Lemanski (2006) investigated residents' fear of crime in two residential suburbs in Cape Town. The study was conducted in a gated community and a community that was 'developing', and the differences between these suburbs clearly influenced the results. Significantly, Lemanski (2006) discovered that the different crime prevention strategies utilised by these suburbs influenced levels of fear as the residents in the gated community felt safer compared to those who lived in the township. This illustrates the prevalence of fear caused by inadequately built apartheid structures. In contrast to the aforementioned argument, Fry (2017) avers that citizens that reside within 'developing' districts feel an increasing sense of fear due to a lack of security and control related to access and escape routes. Fear in

this instance was caused by specific groups such as a large number of foreigners living in the developing area. A weakness of this argument, however, is that many 'developed' South African communities are gated and thus have closed-off boom-gated access and escape routes that are monitored by private security companies (Nunlall et al., 2020). The aforementioned scholars argue that this sense of safety and security alleviates fear amongst such 'privileged' residents who are unaffected by the aftermath of apartheid policies, which is a view that the researcher supports. This is based on data found by Kruger (2018) that suggested that citizens that live within gated communities were less afraid of being subjected to property crime due to high measures of security that were implemented around their properties, in comparison to those citizens that were not as secure within developing communities. However, a critique of this argument is offered by Vilalta (2020:108), whose results showed "...that neither gated communities nor apartment buildings provided their residents with lower levels of fear of crime". This illustrates the degree of contention that is associated with fear of crime that is experienced within built environments and supports the necessity for continued scholarly exploration for more definitive data in this field. Additionally, Landman (2017) investigated disorder in four parks in Johannesburg. The participants revealed that their perceptions and fear of crime were directly associated with a lack of maintenance and thus persistent disorder in these parks. In addition to disorder, public drinking and delinquency often persuaded residents to steer clear of parks (SaferSpaces, 2016; Landman, 2017). These findings informed the objectives of this study as they highlighted an association between disorder, a lack of social cohesion and control, and fear of crime as experienced by residents.

Residents feel secure in neighbourhoods that are orderly. Gau, Corsaro and Brunson (2014) argue that in neighbourhoods where community members assist one another they are unlikely to experience high levels of fear. In contrast, Burke (2009) asserts that those living in neighbourhoods that suffer physical and social incivilities such as delinquency, abandoned buildings, littered areas, and vagabonds are increasingly likely to be fearful. This simply means that disorder breeds fear. When individuals are persistently approached by drug dealers or when gangs begin to infiltrate a neighbourhood residents become increasingly afraid. The presence of incivility and delinquency in neighbourhoods also convince residents that they reside parallel to danger (O'Brien et al., 2019b). Lee, Reyns, Kim and Maher (2020) assert that this results in residents becoming 'numb' as crime and fear of crime increase within their neighbourhoods and they eventually become indifferent to the suffering of other community members. Lee et al. (2020) contend that the proliferation of crime and the fear of

it destroys social bonds. It seems logical to argue that the solution for fear of crime as experienced by residents is the implementation of the principles of Crime Prevention through Environmental Design (CPTED). However, Fry (2017) and Landman (2017) argue that, while a large volume of literature on fear of crime exists, few qualitative studies have been conducted to examine community perceptions of fear of crime in South Africa. It was this gap that the current study endeavoured to fill.

Individuals' perceptions of fear of crime increase during the night. Furthermore, it has been argued that females' perceptions of fear of crime are high in comparison with those of their male counterparts (Vlaskamp, 2011). To support this argument, the magnitude of quantitative data reported by the 2019/2020 VOCS on fear of crime in South Africa was perused. These quantitative data have been correlated with qualitative data (scholarly arguments) (Statistics South Africa, 2020; Fry, 2017) to highlight the positive correlation between inadequate environmental design and perceptions of fear of crime, which prompted this study. Perceptions of safety are defined as subjective feelings of well-being, and these 'feelings' affect the manner in which human beings interact with their surroundings (Vlaskamp, 2011). The results of the above survey indicated that most households felt safer walking the streets and using lanes during the day compared to walking alone in the dark. For the year 2019/2020, individuals felt 44.8% safer walking alone during the day as opposed to walking alone at night. This trend correlated with that of the three years prior to the survey. Additionally, the survey found that males in general felt safer walking the streets during the day compared to females (Statistics South Africa, 2020). Vlaskamp (2011) asserts that females feel increasingly victimised in the environments where they reside. The latter scholar argues that females experience a heightened sense of fear of crime in dilapidated surroundings. According to Maruthaveeran and Konijnendijk van den Bosh (2014), females are often increasingly fearful that crime will be committed against them on the basis of their perceived physical vulnerability. This means that women often view themselves as the 'weaker sex'. The aforementioned argument is applicable in the South African context as females in this country are more fearful than men due to high rates of gender-based violence that plague its female population (Lemanski, 2006).

2.11 Chapter Summary

The relationship between the physical environment, crime, and fear of crime is one of the most contentious criminological arguments in current scholarly debates. Disorder, social cohesion, and social control frame the inadequacy of some environmental designs and highlight that measures of crime prevention are essential in such South African settings. A core argument that this review forwarded is that the planning and design of urban settlements during the apartheid era were underpinned by segregationist and politically-infused policies that marginalised the well-being of people of colour. An analysis of the CPTED model in regard to environmental design indicated that utilising CPTED could successfully reduce and prevent crime. Moreover, it has been shown that the successful implementation of the CPTED model has validated the argument that criminality and space/place are linked. Internationally, the application of CPTED is promoted by policies in Europe and America, and the widespread implementation of the model on these continents has been noted with approval. Conversely, CPTED implementation in countries in Asia and Africa, as well as in South Africa, has not been consistently applied and policies should be reviewed regularly to ensure the desired outcomes. A core argument emanating from this review is that residents' contribution is critical to ensure the successful implementation of the CPTED model. Another issue that has been highlighted is that, due to the design of built environments in the apartheid era, higher levels of fear of crime are concentrated in 'non-gated' or 'non-white' communities than in secure, gated communities that are generally associated with white residential areas. Additionally, this review uncovered gaps in the body of related research and it was explained that these gaps framed the objectives of the current study. The first of these gaps is that limited research has focused on the implementation of CPTED at neighbourhood level. The second major gap that the review uncovered is that the actual impact of CPTED in South African neighbourhoods is relatively unknown, while the third gaps is a lack of qualitative research on community perceptions of fear of crime in South African communities. The next chapter will illuminate the theoretical frameworks that underpinned this study.

CHAPTER THREE
THEORETICAL FRAMEWORK

3.1 Introduction

A theoretical framework is employed to utilise concepts and theories that pertain to a study. Theories that would support the objectives of the current study were selected due to their ease of application, appropriateness in terms of the topic under investigation, and their explanatory power regarding the research findings. Bezuidenhout (2020:138) states that "the purpose of theories is to propose explanations for phenomena – crime, in this instance". In this study the aim of utilising criminological theories was to provide clear and valid explanations of the data in order to address the causes of criminality in a selected built environment if addition to predicting criminal behaviour (Siegel, 2011). The significance of utilising a theoretical framework for the purpose of a dissertation is illuminated by Grant and Osanloo (2014: 12) as follows:

> "The theoretical framework is the foundation from which all knowledge is constructed for a research study. It serves as the structure and support for the rationale for the study, the problem statement, the purpose, the significance and the research questions. The theoretical framework provides an anchor for the literature review, and most importantly, the methods and analysis."

Therefore, in the context of inadequate environmental design in relation to crime causation, the situational crime prevention theory (SCPT), the broken windows theory, and Burgess' concentric zone model were utilised to emphasise how and why crime occurred in the inadequately built neighbourhood under study, while the impact of crime on the communities could also be explained in greater depth. Furthermore, the social disorganisation theory, which describes how and why a lack of community cohesion causes incivility and deprivation, was used to explain the perceptions of fear of crime among residents in the apartheid-designed residential area under study (Piquero, 2016). The researcher argued that the physical environment ought to be investigated in order to ascertain its contribution to crime in a specified space or place. However, Burke (2009) purports that an inadequately constructed physical environment cannot solely explain criminality. Thus additional factors such as poverty, incivility, and neighbourhood disorder were explored to give substance to this research. This chapter clarifies how the theories cited above assisted in explicating the

arguments that underpinned this research. As opportunity and opportunistic behaviour are significant aspects of criminality, a brief summary of how opportunity affects this phenomenon is provided. This is because the SCPT and the broken windows theory explain opportunistic criminal behaviour in the criminological sphere (Burke, 2009; Piquero, 2016).

3.2 Opportunity and Crime

To achieve the aims and objectives of this study, it was imperative to acknowledge criminological theories of opportunity. These theories have been utilised by several scholars to explain crime that occurs within the physical environment (Cornish and Clarke, 1986; Cohen and Felson, 1979; Clarke, 1980). The earliest correlation that linked opportunity and crime involved property crime, which was also a focus of this study. Shariati and Guerette (2017:27) define opportunity as "a favourable situation that intends to yield a positive outcome" for a person with nefarious intent.

The SCPT and the broken windows theory were considered highly appropriate for the exploration of the data to address the research questions and achieve the objectives of this study. Scholars such as Cohen and Felson (1979) and Cornish and Clarke (1986) often utilised alternate opportunity theories such as the rational choice theory (RCT) and the routine activities theory (RAT) to explain how and why criminality occurred in specific physical environments. However, the current researcher argued that RCT is too simplistic to adequately explain crime causation in the context of the research questions that were posed in this study. The researcher acknowledged that RAT might adequately explain the causes of property crime (i.e., the convergence of a target and offender in conjunction with the lack of a capable guardian), but it was argued that RAT is predominantly classified as a victimological theory which is an orientation that was beyond the scope of this study. Moreover, RCT and RAT emphasise the role of the offender as the driver of crime causation, but they discount the *characteristics* of *the physical environment* in which crime occurs. This study focused on the notion that an inadequately constructed physical environment potentially creates opportunities for the commission of crimes and that this necessitates strategies to prevent these crimes. In this regard, the 'characteristics' of the offender were thus not explored in depth and this obviated the use of RCT and RAT.

More appropriately, the situational crime prevention theory (Clarke, 1980) emphasises the specific characteristics of an environment and assists the evaluation of the process through which a crime is committed. Clarke (1980) argues that this is a shift from emphasising the root causes of crime to focusing on why it is likely to be commissioned by focusing on *where* crime is committed. The applicability of opportunity-based theories for this study was vested in their potential for the design of simple and efficient crime prevention measures. These theories have also guided the design and implementation of CPTED that proposes, for instance, improving street lighting, securing access and escape routes, and increasing natural surveillance (Wang and Zhang, 2020). Thus the opportunity-based theories that were employed adequately supported the aims and objectives of this study.

3.3 The Theoretical Frameworks that Underpinned this Study

3.3.1 The Situational Crime Prevention Theory (SCPT)

The notion of situational crime initially gained recognition in the 1940s when Edwin Sutherland (1947) argued that crime was either caused by biological factors or environmental (situational) factors. The SCPT was developed by Clarke (1980) in an attempt to negate theoretical assumptions that undermined the value of utilising physical measures to prevent crime. Shariati and Guerette (2017) contend that the SCPT seeks to alter environments that promote criminal behaviour and thereby reduce opportunities for offending. These scholars note that this argument signals a departure from traditional criminology that focused on the criminal nature of offenders and measures to 'cure' or address that nature to prevent crime. The current researcher argues that SCPT offers a unique approach in criminology as it is rooted in the belief that crime can be deterred by strategically altering the environment in which it habitually occurs. This assertion ias based on Jeffery's (1971; 1999) principles of CPTED that are the foundation of the SCPT, which was discussed in detail in Chapter Two.

In accordance with the research question that initiated the exploration of crime prevention, situational crime prevention is regarded as the result of an interaction between the disposition (of the criminal) and the situation (or the environment) (Piquero, 2016; Eck and Clarke, 2019). Therefore, the researcher argues that the manner in which elements of the built environment are arranged or positioned influences criminality in a specific area. This argument is supported by Huisman and van Erp (2013), who contend that offenders choose to

commit crimes based on available opportunities that are encouraged or discouraged by situational factors. Situational crime prevention thus focuses on specific crimes and/or disorder in addition to areas where crime is concentrated (Siegel, 2011).

The theoretical postulations presented above indicate that the development of SCPT was an offshoot of RCT (Cornish and Clarke, 1986) that is rooted in classical criminology (Beccaria, 1764). This is corroborated by Freilich (2015), who explored the similarities between classical criminology and SCPT. This scholar discovered that both classical criminology and SCPT acknowledge offender agency. This means that both theories postulate that the offender acts independently and exercises free will when a crime is commissioned in terms of place and time. This supports the researcher's argument that an inadequately constructed physical environment could potentially create *opportunities* for crime causation. For instance, an offender may *choose* to commit a crime if there are few or no measures to prevent the crime in that specific physical environment, and this clearly increases the opportunity for crime commission.

Hayward (2007) contends that SCPT utilises measures directed at specific forms of crime that involve the design, management, and manipulation of the built environment where certain crimes are intended to occur. The primary proposition of SCPT is that opportunities for the commission of crime should be reduced, if not eradicated (Piquero, 2016). Therefore communities, businesses, and the public are encouraged to employ practical deterrents to ensure that criminals will perceive these specific areas as 'high risk' and thus avoid committing criminal acts there. Siegel (2011:76) defines deterrence as "the prevention of socially undesirable behaviour" as the potential perpetrator should fear punishment and/or retribution. For instance, practical deterrents could involve the installation of CCTV cameras, security fences, and gates.

It is noteworthy that the notion of 'the situation' in the situational crime prevention theory is a departure from traditional theories of crime causation. Newman, Clarke and Shoham (2016) argue that the situation itself could be seen as the driver of crime. Inadequate environmental design will thus actually present opportunities for the commission of crime. For instance, a neighbourhood that lacks situational security measures will essentially fail to prevent crime (Newman et al., 2016). Acknowledging Siegel's (2011) argument, Huisman and van Erp

(2013), Newman et al. (2016), and Eck and Clarke (2019) endorse the elements of situational crime prevention namely causation, disposition, and motivation.

Causation highlights that an inadequately designed environment becomes a situational agent of crime causation (Eck and Clarke, 2019). In the context of this study, the manner in which Merebank was designed was deemed an 'agent of causation'. However, causation is a highly contested notion in criminology (Eck and Clarke, 2019) as some scholars (Siegel, 2011; Freilich, 2015, Denno, 2021) argue that it cannot be measured adequately. Moreover, situational causation excludes background influences such as poverty and social class, which is significant in the South African context where class is a pivotal agent of social division (Shackleton and Gwedla, 2021) regardless of efforts by the Constitution (RSA, 1996) to negate its influence.

Disposition is defined as instinctive drivers that motivate one to commit a crime (Newman et al., 2016). It is emphasised that the most effective manner in which to prevent crime is at the point of the crime itself (Huisman and van Erp, 2013). For instance, an individual who possesses a criminal disposition is more motivated to commit crime. Furthermore, crime prevention occurs in places that are considered dangerous as they have become increasingly prone to the occurrence of criminal activity. A weakness of this assumption is that no single explanation has been offered to explain why some individuals seek out opportunities to commit crime and others not (Shariati and Guerette, 2017; Bezuidenhout, 2020).

Motivation is defined as the effective, goal-orientated drive to commit a crime and is deemed a situation-bound action (Eck and Clarke, 2019). For instance, an offender is increasingly motivated to commit burglary if he/she is able to access properties without extensive effort due to a lack of security. However, scholars (Siegel, 2011; Ween, 2016; Bezuidenhout, 2020) cannot determine whether motivation exists as a sole cause of opportunistic crime or whether factors such as poverty, unemployment, drug use and/or gang activity affect criminality in conjunction with motivation. This suggests that further research should be conducted to illuminate the causal drivers of motivation (Eck and Clarke, 2019).

We now turn to an exploration of the broken windows theory to further explain opportunity theories of crime.

3.3.2 The broken windows theory

The broken windows theory was developed by George Wilson and James Kelling (1982). This theory examines the correlation between low levels of disorder and crime and is anchored in propositions of how residents are affected by the presence of disorder (O'Brien et al., 2019a). The theory postulates that spaces that are left unattended, coupled with a lack of territoriality and evident disorganisation, become increasingly prone to criminal activity (Siegel, 2011). Klinenberg (2018) states that a 'the broken window' symbol refers to neglect in any built environment such as when broken windows are left unattended. When this happens, it leads to disorder in that neighbourhood as the criminal mind sees this as an opportunity for nefarious activity. Gau et al. (2014) contend that disorder in neighbourhoods, as symbolised by broken windows, portrays the image of an 'unmonitored' area that consequently breeds criminality. Wilson and Kelling (1982:33) describe disorder that is symbolised by broken windows as follows:

> "A piece of property is abandoned, weeds grow up, a window is smashed. Adults stop scolding rowdy children; the children, emboldened, become more rowdy. Families move out, unattached adults move in. Teenagers gather in front of the corner store. The merchant asks them to move; they refuse. Fights occur. Litter accumulates. People start drinking in front of the grocery store; in time, an inebriate slumps to the sidewalk and is allowed to sleep it off. Pedestrians are approached by panhandlers."

O'Brien et al. (2019a) argue that disorder in neighbourhoods could lead to crime by means of two pathways that indicate a direct correlation between disorder and criminality. This theory purports that a broken window, or other forms of physical dilapidation, signal that criminality goes unpunished which further encourages individuals to violate laws and norms in that area. In the instance of the second pathway, disorder signals an unprotected area where danger may lurk around every corner (O'Brien et al., 2019a). For example, residents may assume that crime is on the rise in a specific area due to a lack of visible protective measures. This phenomenon coincides with the principles of CPTED and encourages residents to implement measures such as target hardening and surveillance (Cooper et al., 2009; Aboo, 2013).

In addition to establishing a correlation between disorderly neighbourhoods and crime, Wilson and Kelling (1982) illuminate the role that the police should play to reduce criminal activity that is caused by disorder. Childress (2016) argues that the police should focus on disorder and minor crimes in neighbourhoods before these crimes veer into more serious territory. This could assist with the reduction of fear experienced by residents as crime is curbed. According to Faull (2019), the promotion of increased social control will assist residents to manage their neighbourhoods and reduce serious crime within their area. This highlights the applicability of the notion of social control to explain how crime is caused in built environments.

The value of the broken windows theory for this study was based on the fact that the Merebank neighbourhood was in a state of disrepair at the time of the study (Govender, 2008; Pillay, 2010). A neighbourhood that is perpetually in a state of disrepair is subjected to increased criminal activity. Conversely, Siegel (2011) states that if a neighbourhood is well maintained by members of the community and local government, crime commission will effectively become reduced. The broken windows theory highlights that heightened perceptions of fear of crime and diminished community control significantly inhibit community participation in crime prevention efforts (Welsh, 2015). This means that community members will refrain from participating in efforts to reduce and prevent crime if the neighbourhood in which they reside has fallen into physical disrepair. It therefore follows that increased disrepair in neighbourhoods increases community perceptions of fear (Klinenberg, 2018).

The broken windows theory was applicable to the study at two levels. First, this theory helped the researcher to explain why Merebank, that was not monitored by means of either natural or mechanical surveillance, could descend into disrepair which thus perpetuated criminal activity. For instance, if community members fail to survey the neighbourhoods in which they reside, disorder is exacerbated and it becomes increasingly difficult to implement strategies for crime prevention. This supports the assertion that the broken windows theory is influenced by the CPTED principle of territoriality, which means that a lack of territoriality leads to progressive crime and disorganisation in urban neighbourhoods (Lee et al., 2016). Secondly, this theory helped to explain how disrepair of the environment caused increased perceptions of fear among the residents (Cozens, 2011). For instance, the broken windows theory explains how unkempt and poorly constructed spaces influence criminality and result

in the distortion between territoriality and social cohesion. This means that residents do not identify with unsafe spaces and tend to increasingly develop feelings of fear of crime in their neighbourhood (Cozens, 2011).

Furthermore, the broken windows theory explains the relationship between fear, physical disorder, and crime, which was a core objective of this research. The researcher explored this relationship with reference to two relevant studies, namely one that was conducted by Gau et al. (2014) and another that was conducted by O'Brien, Farrell and Welsh (2019b). Gau et al. (2014) focused on the relationship between physical disorder and fear while Gau et al. (2014) explored how social cohesion and social control affected the fear-disorder relationship. The findings of these studies indicated that disordered environments evoke a sense of fear within residents (Gau et al., 2014). However, if a strong sense of social cohesion and social control exists within communities that are physically disordered, residents felt a sense of safety and security. The tenets of the broken windows theory are similar to those of the social disorganisation theory, which will be discussed in a subsequent section.

It is argued that fear is pivotal in the broken windows theory as it is a consequence of disorder that paralyses a community that lives in disorder (Piquero, 2016). Based on the testing of relevant hypotheses, Piquero (2016) highlights that the correlation between disorder and fear is partially affected by social mechanisms. Essentially, this means that social cohesion and social control are not the sole contributors to the fear-disorder relationship (Gau et al., 2014). However, the latter research contained a gap that was explored by O'Brien et al. (2019b). They investigated how additional mechanisms such as perceptions, attitudes, and aggression might affect the fear-disorder relationship. The latter study was a meta-analysis of ninety-six studies and yielded unexpected results, such as that disorder does not induce greater aggression and/or negative attitudes regarding how neighbourhoods are perceived (O'Brien et al., 2019b). This means that the tenets of the broken windows theory could be ineffective when trying to explain the correlation between disorder, fear, and criminality. While this critique is valid, the broken windows theory does expose a correlation between physical disorder and criminality, which was a core objective of the current research.

In South Africa, implementing policing strategies that are aligned with the broken windows theory has often yielded unfavourable results. For instance, Faull (2019) contends that arresting several criminals for petty offences does not necessarily result in continued safety in

a neighbourhood. In actual fact, this method of policing could potentially cause more harm as it may elevate the rates of more serious crimes. According to Nsibande (2018), the SAPS has historically chased arrest and crime-reduction statistics by policing aliens and impoverished people. Faull (2019) argues that such a strategy is ineffective and that policing should focus on problem solving methods that promote trust in the police. However, the researcher argues that if issues are holistically tackled in specific areas it could serve to prevent crime. Implementing the CPTED model in neighbourhoods that experience disorder in tandem with police intervention may therefore certainly form part of such a holistic approach.

Policies that dictate modern-day policing and a rejuvenated criminal justice system aim to reduce crime by focusing on punishing individuals rather than improving deteriorated areas. This is evidenced by the fact that there is little investment in housing and neighbourhood amenities such as maintaining parks and community gardens (Klinenberg, 2018) in dilapidated areas. The researcher argues that if time and effort were invested in repairing and maintaining such amenities, individuals would be drawn into the public realm and natural surveillance will be increased. Aboo (2013) supports this assertion by arguing that maintaining amenities will contribute to reducing crime caused by inadequate environmental design. Klinenberg (2018) also argues that place-based interventions are likely to be more effective than people-based interventions. These arguments were applicable to this study as it had been noted that several abandoned properties existed in the Merebank area which left the impression of an unkempt and disordered environment. According to Govender (2008), these disreputable properties are a sanctuary for drug users and delinquents and the situation is perpetuated due to a lack of police presence and no intervention by the municipality to repair these abandoned buildings.

3.3.3 Burgess' concentric zone model

Burgess' (1925) concentric zone model was developed within the parameters of the Chicago School of Thought. This model was developed in the 19th century to describe the rapid growth due to industrialisation in the city of Chicago. Proponents of the Chicago School of Thought studied the relationship between environmental conditions and crime. Sociologists Park, Burgess and McKenzie (1925) contended that crime was not caused due to the personal characteristics of an offender, but rather in response to an inadequate environment for appropriate human interaction. Crime was thus regarded as a social phenomenon that could

effectively be eradicated by improving economic, environmental, and social conditions (Lilly et al., 2018).

In the same vein, a lack of social cohesion and the rapid growth of cities resulted in an anomic state within these spaces (Siegel, 2011), which inevitably resulted in high rates of crime (Tibbetts and Hemmens, 2015). According to Higgins and Hunt (2016), social cohesion describes how residents view their neighbourhoods, which could be in a favourable or unfavourable light. This concept was effectively described by Burgess (1925), who maintained that all cities could be divided into five zones which he illustrated in his concentric zone model. Figure 3.1 below illustrates the division of a city into separate zones, each affecting criminality as a result of differing aspects of the physical environment. These aspects, coupled with socio-economic factors, affect criminality in built environments (Caboz and Moynihan, 2020).
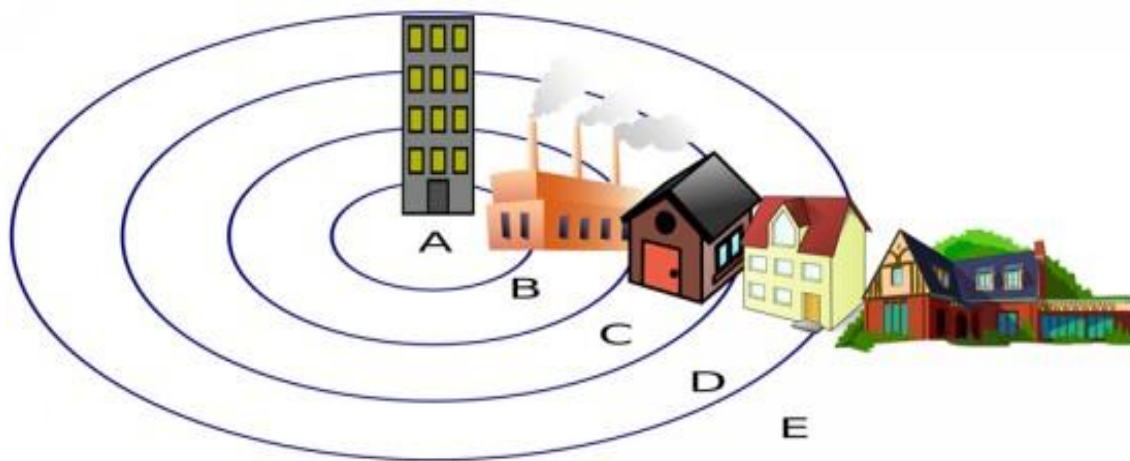
Figure 3.1: Burgess' concentric zone model
Source: Tibbetts and Hemmens (2015) adapted from Burgess (1925)

Zone A is the innermost zone and comprises the central business district. Zone B is the zone of transition, Zone C is the workers' zone, Zone D is the residential zone, and Zone E is the commuter zone. This theory argues that the growth of each zone puts pressure on the next zone when growth or expansion is experienced (Siegel, 2011). In the case of Merebank, the industrial zone (Zone B) puts pressure on the residential zone to grow and accommodate the industries in this zone. Sutherland and Scott (2009), who explored Merebank and surrounding areas, asserted that this growth is impossible in Merebank due to minimal space allocated for

housing and other amenities in the residential zone. Burgess (1925) proposes that certain neighbourhoods have higher crime rates than others, and that these higher crime-prone areas are predominantly located in Zone B. This is the zone of transition from the residential to the industrial areas. Caboz and Moynihan (2020) argue that the growth of cities due to industrialisation has been invasive on residential areas and has caused chaos and a breakdown of stability in residential neighbourhoods. Govender (2008) reveals that rapid industrialisation in the Merebank area from the 1960s to date has caused a negative shift in the dynamics of the neighbourhood. Many residents have relocated from Merebank when they were able to afford to, but many have been compelled to stay, to their detriment. The concentric zone model thus adequately explains the occurrence of elevated crime rates that characterise a highly industrialised Merebank. Furthermore, Govender (2008) notes that industries within the Merebank area are not located in a zone that is separate from residential areas because industries in Merebank are literally located in residential areas. Francis (2008) contends that, as a result of such a situation, residents are often exposed to an onslaught of criminal activity due to the proximity of industries. Moreover, challenges and criminality are also exacerbated by the movement of new residents into the area, which changes the fabric of the community and the proliferation of other issues such as overcrowding and poverty.

According to Sutherland and Scott (2009), overcrowding in Merebank has negatively affected the environmental space in the area. As an area that was historically allocated for Indian settlement in the apartheid area, Merebank was a small geographic area but it was required to accommodate many households. The ripple effect that exacerbated congestion still affects residential space in Merebank today. Moreover, the construction of residential accommodation in an already industrialised area has severely impeded the construction of adequate housing for a growing population (Caboz and Moynihan, 2020). This has compelled – and continues to compel –large numbers of residents to live within small houses that were built in close proximity to each other. Many residents feel increasingly unsafe without privacy and often see themselves at the mercy of some poorly disciplined neighbours and vagrants that have infiltrated the area. This has led to decreased social cohesion (Francis, 2008) which the social disorganisation theory so adequately illuminates.

Theoretically, residents of congested zones should relocate to other zones as their economic situation improves. With reference to the social disorganisation theory, Caboz and Moynihan (2020) highlight that crime is elevated in residential zones that are in close proximity to

industries. Siegel (2011) indicates that the cities of today are far better transformed in comparison to 1925 Chicago and have become increasingly gentrified. This means that wealthier individuals have located to these cities and have improved their properties in their residential areas. The opposite has occurred in Merebank, as most wealthy residents have relocated to 'posh' areas. Conditions in Merebank have thus continued to deteriorate over time as a result of the high amalgamation of residents and the destruction of community bonds. Media reports (George, 2017; Local shopping centre becomes haven for criminal activity and drugs, 2021) corroborate these arguments. Industries are permanent fixtures in the built environment in Merebank and cause the devaluation of properties while increasing criminality. Significantly, Burgess' concentric zone theory explains how and why the close proximity of industries to residential properties has contributed to elevated rates of crime in Merebank.

However, the Concentric Zone Model is not without flaws. According to Piquero (2016), the core limitation of this model is its inability to acknowledge re-development in modern cities. It has also been critiqued as 'too simplistic' in nature to explain elevated crime rates as a result of the design of a built environment. For instance, Merebank may not have undergone major infrastructural changes due to limited space and resources (Govender, 2008), but many of its residents have ensured their own security in the past two decades (Kruger, 2018). This illustrates that, while major zonal transformations could not have been accomplished, these modern-day residents discovered ways to adapt to their inadequately designed built environment. However, in Merebank the proximity of industries and socio-economic deprivation have resulted in a lack of overall transformation of the area (Chiniah, 2018; Mass meeting addresses high crime levels in Merebank, 2020).

3.3.4 The social disorganisation theory

The social disorganisation theory was derived from the Chicago School of Thought model. Akers and Sellers (2013) define social disorganisation as a breakdown in traditional social control and organisation in communities, neighbourhoods, families, and societies. Welsh (2015) further asserts that social disorganisation is associated with a breakdown in social control and organisation in society, neighbourhoods, and communities which results in criminal activity. The social disorganisation theory is a macro theory that accounts for different communities and neighbourhoods. This means that this theory aims to focus on

crime levels in society on a structural or organisational level. Shaw and McKay (1942) first proposed the social disorganisation theory to explain why some neighbourhoods experienced increased social problems compared to others. This theory is premised on the argument that neighbourhoods with high crime rates experience three core problems, namely physical dilapidation, poverty, and a high rate of amalgamated cultures coupled with unemployment and the fact that residents constantly move in and out of such areas. Combined, these factors then cause crime rates to rise. This theory also links the prevalence of a high crime rate to the environmental characteristics of a neighbourhood. Beckett and Herbert (2008) argue that crime rates become elevated in highly transient neighbourhoods, particularly in those where commercial and residential properties exist alongside each other. It also suggests that people living in neighbourhoods that experience the constant movement of residents into and out of the area are unable to develop strong social bonds. Similarly, Lilly et al. (2015) assert that the fabric of social life becomes frayed within highly transient neighbourhoods and social disorganisation occurs which prompts residents to leave at the earliest opportunity (Hardyns and Pauwels, 2017). This cycle perpetuates criminality in such built environments.

Figure 3.2 below illustrates the factors that contribute to social disorganisation and the consequent perpetuation of criminal behaviour in certain neighbourhoods. This is significant as each of these factors is present in the South African context. For instance, our diversity as a nation often causes conflict in social settings, which is an unfortunate consequence of apartheid (Venter, 2020). It was thus important to consider social factors and their impact on the inadequately built environment under study to explain persistent and potential criminality in the Merebank area.
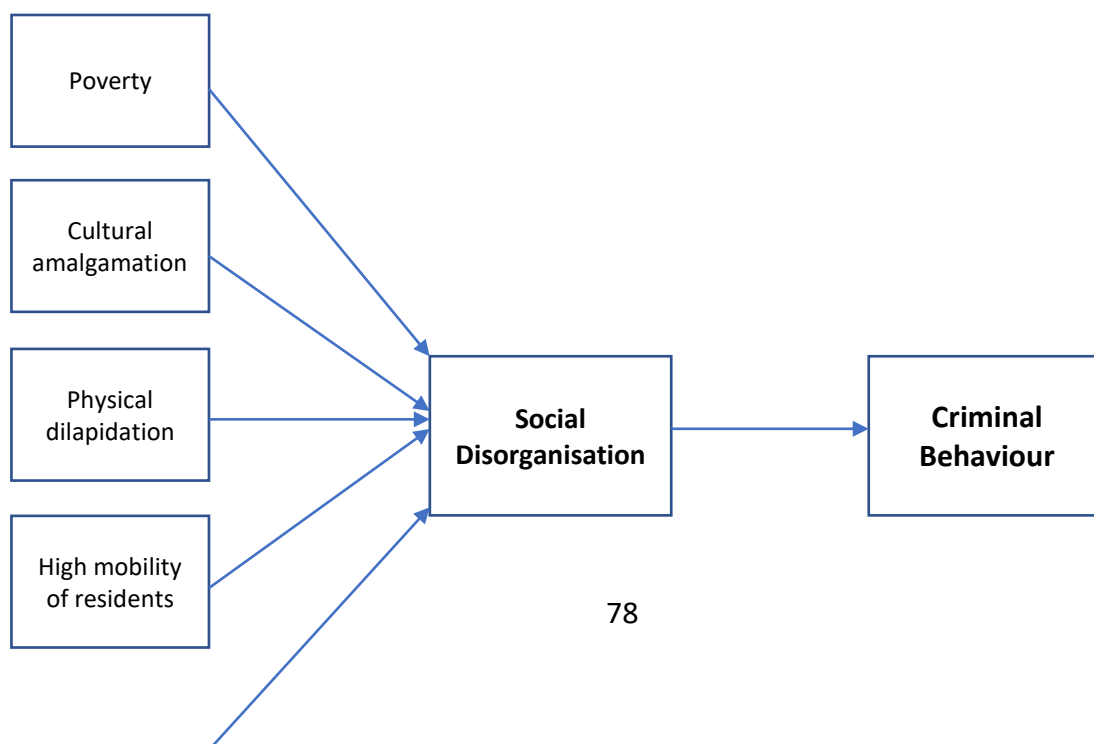
```
┌─────────────┐
│ Social ills (drug │
│  and alcohol │
│    abuse)    │
└─────────────┘
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Figure 3.2: Illustration of Shaw and McKay's theory of social disorganisation

Source: Tibbetts and Hemmens (2015) adapted from Shaw and McKay (1942)

Visser et al. (2013) argue that a lack of social cohesion leads to deprivation, incivility, and crime causation in neighbourhoods. The higher the levels of social disorder, the higher the crime and the higher the levels of fear of crime and vulnerability (Fry, 2017). It is possible that residents of Merebank have become intertwined with this vicious cycle. A lack of social cohesion amongst residents could occur and result in residents increasingly concentrate on protecting themselves and their families. They could thus distance themselves from their neighbours and possibly absolve themselves from resolving issues relating to environmental design as a cohesive community (Govender, 2008). This additionally means that socialisation and the bonds of social cohesion may be weakened, which may lead to the perpetuation of criminal activity. Potential perpetrators of crime may thus view an area as being under-surveilled and identify increased opportunities to commit crimes there (Newman et al., 2016).

For the purposes of this dissertation, the inadequate environmental design of Merebank was reviewed. Govender (2008) makes reference to the deprived conditions in this area, arguing that they were caused by a loss of social control and a lack of intervention by the government. She also refers to the fact that, in recent years, Merebank has been affected by the movement of residents into and out of the area, which resulted in a cultural amalgam of individuals and households that became part of the fabric of this neighbourhood. The latter author also argues that the constant turnover of residents in Merebank has weakened communication amongst residents and has hindered attempts to solve neighbourhood problems. To verify this data and contribute additional insights to the pool of knowledge, lifelong residents of Merebank were targeted by the current study.

Shaw and McKay (1942) further propose that high rates of poverty and dilapidation in neighbourhoods propagate delinquency. From the researcher's observations, the area of Merebank meets these requirements as this area is dotted with several dilapidated dwellings that have become havens for delinquents such as drug addicts and drug and alcohol peddlers.

The researcher additionally notes that many 'troubled youths' can be observed loitering in this area and they have become vagrants who have no core families to depend on. In the case of Merebank, the social disorganisation theory thus supports the observation that high crime rates in a neighbourhood are caused by deprived conditions, as such conditions are visibly prevalent in the Merebank area (Sutherland and Scott, 2009).

A lack of social cohesion additionally promotes gangsterism. The residents of Merebank have reportedly faced violence as gangsterism has infiltrated the area as a result of its close proximity to Wentworth (eNCA, 2016). Wentworth is an area that is widely known as a hub for drug abuse and gang-related violence (Aboo, 2013; Sibisi, 2016). The environmental design of Merebank, coupled with the lack of social cohesion, has led to an increase of criminal activity in the area (Govender, 2008). However, while the social disorganisation theory explains criminal activity in Merebank, there are several flaws associated with this theory. For instance, Shaw and McKay (1942) conducted their initial analysis in the early 1900s, which was a time when data analysis was in its infancy compared to modern data analysis techniques. Moreover, the social disorganisation theory argues that physical dilapidation, poverty, and a high amalgamation of residents of various groupings may lead to elevated crime rates in a specific area, but this theory does not address the actual mechanisms that cause this elevation such as informal social control or a lack of social bonding. This means that researchers were unable to rule out the strain theory, which also theorises a crime-poverty correlation (Piquero, 2016). However, the current researcher argues that the strain theory does not explain criminality with regard to environmental design as it discounts the physical dilapidation of an environment. However, as the modern world has ushered in different social and cultural conditions, Shaw and McKay's (1942) conclusion that crime rates correspond to neighbourhood structure remains valid (Siegel, 2011). As the basis of this theory is neighbourhood disintegration as a core cause of criminality in such areas, Shaw and McKay (1942) paved the way for the appropriate development of many community development programs today. For instance, Merebank boasts several community development programs that aim to reduce crime in the area, such as extensive 'clean-up' initiatives. These programs were spearheaded by groups of residents and have reintroduced social cohesion in the attempt to reduce criminality caused by inadequate environmental design (Mass meeting addresses high crime levels in Merebank, 2020).

With regard to crime prevention, Shaw and McKay developed the Chicago Area Projects. These projects aimed to mobilise community members to improve conditions in their neighbourhoods. As part of these projects community members were trained to be active advocates for the care of their own neighbourhoods (Paternoster and Bachman, 2001). Residents of Merebank have been mobilised in a similar fashion to improve the overall conditions of the area by implementing CPTED measures. These include managing access and escape routes, surveillance, and liaising with the municipality to repair street lights, and maintain streets and lanes for easy and safe access by vehicles and pedestrians respectively (Govender, 2008).

3.4 Chapter Summary

As this study focused on how inadequate environmental design affects criminality, theories that underpinned this investigation were utilised. More particularly, opportunity theories in tandem with Burgess' concentric zone model and the social disorganisation theory were utilised. These theories aided in eliciting in-depth interpretation of the problem of inadequate apartheid environmental design by illuminating causative factors that should be considered to adequately prevent and/or reduce crime in the study area. The relevance and application of these theories were highlighted. The research methodology and data analysis chapters were underpinned by these theoretical lenses.

CHAPTER FOUR
RESEARCH METHODOLOGY

4.1   Introduction

This chapter clarifies the methodology that was employed in this study and discusses the systematic processes that were followed. According to Neuman (2014), conducting research requires logical thinking and adherence to rules. This study was developed based on the identified problem, which was a combination of property crimes and perceptions of fear of crime as a result of inadequate environmental design in the Merebank area. To address this issue, scientific methodological procedures were adopted that would produce comprehensive data for analysis and discussion with the aim of establishing scholarly outcomes. Adams, Khan, Raeside and White (2007) assert that social science research explores the views of individuals who live in society and elucidates their cultures and their daily lives. Therefore social scientists follow specific research strategies by utilising appropriate tools in order to achieve the objectives of their respective studies. Maxfield and Babbie (2015) concur that every dissertation should be driven by a clearly defined research approach and design and should systematically explain how data were collected and analysed. Social science research is valuable in that it provides authentic interpretations of a phenomenon under study and because it utilises several methods to elicit meaningful insights regarding the social world. It is significant that these insights could affect and shape the development of communities and society as a whole (Bhattacherjee, 2012). In light of the above, this chapter presents a detailed discussion of the scientific methods that were employed to gather and interpret the data.

4.2 Geographic and Demographic Demarcation of the Study

Merebank is located to the south of the city of Durban in the KwaZulu-Natal Province (Figure 4.1 below). This study was conducted in Ward 68. Merebank is a historically Indian area that is currently plagued by high levels of crime. As a result of apartheid planning, Govender (2008) asserts that the environmental design of Merebank has been rendered inadequate and has increased opportunities for offenders to commit various types of crime in this area. Kruger (2018) concurs that apartheid planning created built environments that are not conducive and/or responsive to the community which it serves. The researcher selected

Merebank as the area of study due to its history of apartheid planning, and this phenomenon underpinned the objectives of the study. Furthermore, the researcher hails from Merebank and is thus well versed in its community dynamics, crime prevention efforts, and the sense of fear that is prevalent among its residents.

Figure 4.1 : Map of Merebank (East) and neighbouring Merewent
Source: Google Maps (2020)

In order to provide an accurate portrait of the demographic data related to Merebank, a brief exploration of the demographic data of the eThekwini Metropolitan area in which Merebank is located is presented. According to Bezuidenhout (2020), demographics analyse populations on the basis of gender, age, and race. The latest demographic statistics regarding eThekwini were published by Statistics South Africa in 2016 based on a community survey. These statistics highlight that the population of eThekwini increased from 10 267 300 in 2011 to 11 065 240 in 2016. This is the only pertinent information that could be extracted from the community survey. The community survey data are unavailable at ward level and are not comprehensive in comparison to the 2011 census.

Due to the COVID-19 pandemic, the 2020 census was postponed at the time of writing this dissertation. Whilst the data that were obtained from the 2011 census were already nine years old, it was the most accurate demographic information available. For the purpose of this study, Ward 68 was selected as the study parameter of choice. This area includes Merebank

East and Merewent, that are collectively referred to as Merebank for the purpose of this study. Data were separated upon completion of the census.

Merebank is located in the city of Durban within the eThekwini Metropolitan area. In 2011, Durban itself had a population of 595 061 while Merebank had a population of 14 914 (Statistics South Africa, 2011). Merebank thus comprised approximately 2.5% of the total population of Durban.

Table 4.1: Demographic features of Merebank Proper and Merewent

	Population Density	Gender (%)	Population Group (highest %)	First Language (highest %)
		F - 52%	Indian - 82%	English – 85%
		M - 48%	Other – 18%	Other – 15%
Total:	14914			

Source: Adapted from SAPS Statistics (2011)

The classification by means of a population group is based on South Africa's history of apartheid and because population group statistics are known as the best measure of previous socio-economic deprivation (Statistics South Africa, 2016). The fact that the data indicate that the highest percentage of the population group in Merebank is Indians (82%), indicates that the Merebank area had been earmarked for Indian residential settlement by the apartheid regime.

4.3   Research Paradigm

The research paradigm is the overarching framework that informs the research. In this regard Kivunja and Kuyini (2017:26) state the following:

> "A research paradigm inherently reflects the researcher's beliefs about the
> world that s/he lives in and wants to live in. A paradigm constitutes the abstract
> beliefs and principles that shape how a researcher sees the world, and how s/he
> interprets and acts within that world."

A research paradigm is supported by a particular ontology, epistemology, and methodology (Adams et al., 2007). Ontology refers to assumptions about the nature of the world and seeks to discover 'what is out there to be known'. Epistemology refers to assumptions about how to gain knowledge about the world and seeks to discover 'how we know what we know' (Scales, 2013). Methodology refers to the actual methods utilised to conduct a study and is comprised of qualitative, quantitative or mixed-method methodological approaches (Bhattacherjee, 2012).

In consideration of the qualitative approach that was utilised by this study in addition to its ontology and epistemology, the researcher adopted an interpretive paradigm, or hermeneutics. Creswell (2013) asserts that an interpretive paradigm aims to understand the subjective meanings and experiences of participants by means of the researcher's scholarly involvement with them. Kivunja and Kuyini (2017) urge that the views of participants should be elicited as opposed to those of the researcher as the emphasis is to understand the views of individual participants and their interpretations of their surroundings. The ontology of the interpretive paradigm assumes that the world is defined by the subjective experiences of individuals. The epistemological assumption is that individuals can be understood if they are engaged in a natural and empathic manner (Creswell, 2013). This means that the researcher takes cognisance of the data by means of individual thought processes that are informed by his/her interactions with the participants. Additionally, the researcher constructs knowledge on the basis of personal life experiences (Guba and Lincoln, 1994; Kothari, 2004).

The interpretive approach enabled this researcher to engage selected residents of Merebank in interviews and to gain meaningful understandings of their experiences of criminality in the Merebank area. To understand the experiences of these residents, the researcher interacted with them as study participants and thus encapsulated the essence of their reality based on their views of the interaction between the physical environment and crime. Prasad (2004) emphasises that utilising an interpretive paradigm acknowledges that reality is a socially constructed phenomenon that is rooted in cultural, social, personal, and historical contexts. Neuman (2014) argues that conducting qualitative research that is embedded in the interpretive paradigm is based on the profound assumption that individuals are not passive; rather, they possess inner capabilities that permit them to make their own judgements and have their own perceptions. This means that adopting an interpretive perspective directed the face-to-face interviews that were interactional procedures by means of dialogue. This

permitted the elicitation and meaning making of multi-faceted data. The data obtained from each participant were based on their authentic and personal experiences, and each participant differed in the sense of their diverse rationalities that demonstrated the value of conducting a study within the interpretive realm. This argument is supported by Creswell (2013), who asserts that the researcher becomes deeply involved in the research process and interprets reality through logical and sensible reasoning. The ability of researchers who adopt this approach to separate themselves from the research process enriches the overall data collection and analysis process as they are drawn into the socially constructed realities of the participants rather than their own. In essence, this was the reason why qualitative inquiry was employed in this study.

4.4 Research Approach

An approach in research is defined as the manner of dealing with a specific issue. Thus a research approach delineates a specific series of steps that direct the researcher toward achieving the aims and objectives of that particular study (Neuman, 2014). The core distinction between quantitative and qualitative data is simply the distinction between numerical and non-numerical data (Adams et al., 2007). Maxfield and Babbie (2015) assert that quantitative data are useful for determining the relationship between variables upon the formation of hypotheses. Bezuidenhout (2020) adds that the objectives of quantitative research are to assign numerical values to data and utilise statistical formulae to analyse figures. A qualitative research approach aims to gain insight into the thoughts, feelings, motivations, and concerns of individuals in order to provide in-depth insight into the phenomenon under study (Kothari, 2004). The objectives of this study were geared toward unearthing the perceptions and subjective views of Merebank residents with regard to their experiences of and insights into the relationship between inadequate environmental design and crime. According to Neuman (2014), qualitative researchers are often described as the primary research instruments as data collection is usually dependent on their personal involvement by means of interviews and/or observations. As the views of the study participants were elicited in an unquantifiable manner, a qualitative approach was deemed appropriate for the purpose of this study.

4.5 Research Design

Various definitions of the 'design' concept have been proposed by scholars (Kothari, 2004, Neuman, 2014; Maxfield and Babbie, 2015). According to the Oxford English Dictionary design (2013) is the process of deciding how something will work and/or look by means of establishing plans or developing models. Maxwell and Babbie (2015:214) state that "design is a logical progression of stages or tasks, from problem formulation to the generation of conclusions or theory, that are necessary in planning or carrying out a study". Creswell (2013:7) supports this assertion by describing the research design as "specified procedures of inquiry". Inquiry elicits the acquisition of information or data in relation to the research topic under study. In the same vein, the qualitative research design allows the researcher to become completely immersed in the gathering of rich and dynamic data (Neuman, 2014). According to Akhtar (2016), the research design is considered to hold the research process together. This design anticipates the countless decisions that are associated with the data collection and analysis processes and presents a logical basis for these decisions (Neuman, 2014). It also permits the sequential collection of information regarding a particular phenomenon or notion within a specified setting. The primary aim of this study was to investigate the impact of inadequate environmental design on crime causation in Merebank, and therefore this study adopted a qualitative research approach. Neuman (2014) contends that most qualitative studies utilise a case-oriented research design that places specific cases centre stage, which is a proposition that this study adopted.

4.5.1   The case study as a strategy of enquiry

A case study research design focuses on the acquisition of astute insight into the views of a small number participants who possess knowledge about and insight into a specific phenomenon. Kothari (2004) asserts that a case study reveals how an issue evolves or how a social relationship has developed. This research design was thus favourable as it addressed the rationale for conducting this study whose purpose was to illuminate the subjective experiences of a few participants regarding the relationship between inadequate environmental design and crime in Merebank. Engaging with residents of Merebank thus produced complex narratives that illuminated their perceptions of the extent to which apartheid planning and design affected their lives. According to Creswell (2007), the purpose of a case study is to delve into the lived experiences of participants while allowing the study of an issue through one or more cases within a specific setting. This was a suitable approach as the researcher primarily focused on issues concerning environmental design by

interviewing residents of Merebank. The study thus adopted a collective case study design as multiple participants (15) and one area of concern were selected for inquiry (Creswell, 2007). Adams et al. (2007) concur that this particular method allows the researcher to select multiple cases to illustrate differing perspectives on the same issue. The researcher thus adopted a collective case study design to replicate procedures for each case (Creswell, 2013). The logic that was applied by the researcher was entrenched in the questions posed during the semi-structured interviews as they were replicated for all the participants, which is a form of questioning that is a key feature of the collective case study design.

For the purpose of this study, data were collected by means of semi-structured interviews. Purposeful sampling was utilised as participants were selected based on their lifelong residency in Merebank. This was essential for comparisons between aspects of environmental design in the past and present. The extent to which crime and perceptions of fear of crime were impacted by inadequate environmental design formed the basis of this inquiry. According to Cooper et al. (2009), case studies have been utilised extensively to determine how environments may be designed against crime. In the instance of this particular study, residents of Merebank were the specific 'group'/'case' under study. A significant argument presented by de Marrais and Lapan (2004) highlights that research studies are often meant to be generalisable to populations as a whole. As a result of the small samples that are utilised for case study research, the results of these studies are not considered generalisable. However, Neuman (2014) asserts that the main goal of case study research is to discover the uniqueness of each case which discounts generalisability, and which is additionally supported by the utilisation of the collective case study design (Neuman, 2014). In the current study the researcher aimed to discover additional information about Merebank to assist residents to prevent and reduce crime in their area. The researcher was thus not concerned with generalisability, and therefore the collective case study research design was an appropriate choice. Alternatively, Bezuidenhout (2020) argues that, in addition to the critique of generalisability, it is often difficult to summarise specific case studies and that this renders the development of theories and propositions difficult. However, Kothari (2004) emphasises that not all case study research is conducted to develop theoretical propositions but rather to advance a specific subject or phenomenon, which is an assertion that was applicable to this study.

Furthermore, there are several advantages to utilising case studies. Case studies often clarify the thought process of the researcher which could result in adjusting the direction of the study. Additionally, by means of examining individual cases, intricate social realities are revealed, which is a process that permits the researcher to develop rich and complex results (Neuman, 2014). This underlines the point that qualitative research approach is frequently used in tandem with a case study research design. The researcher also opted for a case study design as Adams et al. (2007) argue that the researcher who utilises this design allows the participants to describe their real-life contexts and to share their experiences. The subsequent report therefore becomes a journalistic account of sorts and contributes positively to the outcomes of such research, as was the case in the current study.

4.5.2   Purpose of inquiry: Explorative and descriptive research

Research methodologies can be classified on the basis of their purpose which is dependent on the nature of the study (Maxfield and Babbie, 2015). For instance, the nature of the current study was delineated by the case-study research design. This design aligns with the purposes of explorative and descriptive research as the purpose of the inquiry was to illuminate the experiences and perceptions of residents of Merebank regarding inadequate environmental design and fear of crime that occurred as a result of this. Furthermore, the objectives of this study aimed to 'investigate' and 'examine', which are constructs that are rooted in exploration and description as purposes of research. According to Maxwell and Babbie (2015), exploration permits the researcher to gain familiarity with a particular phenomenon in order to gain new insights. A phenomenon is defined as an origin of human experiences (Kothari, 2004). For instance, this study explored the phenomena of crime, fear, and community cohesion. Neuman (2014) argues that exploratory research is generally conducted to examine a particular problem in order to gain in-depth understanding of this issue. This contention supported the current research as the core objective of this study was to investigate the impact of inadequate environmental design on crime causation in Merebank.

Nassaji (2015:131) contends that the general purpose of a case study is to describe individuals or cases in detail whilst identifying key issues associated with these cases. Descriptive research further involves the documentation of observations by the researcher when conducting field research (Neuman, 2014). Observation was also utilised as a method of data collection for this study, and its purpose was to document the non-verbal cues that

emanated from the participants. According to Creswell (2014), descriptive research is rooted in observation, which was a significant component of the data collection phase. Observation guided the researcher when refining and developing research questions and when asking probing questions for clarity or more in-depth insight.

4.6 Procedures for the Recruitment of Participants

4.6.1 Gatekeepers' permission

As will be explained subesquently, ethical clearance was granted by the HSSREC prior to conducting the interviews. The researcher requested an appointment with Mr Aubrey Snyman, Councillor of Ward 68, who signed a hard copy of his gatekeeper's letter.

4.6.2 Study population and sampling techniques

According to Neuman (2014), a population within the realm of scientific research is as a group of individuals from whom particular information can be obtained. Bhattacherjee (2012) suggests that the research questions of a study direct which members of a specific population should be selected as part of the research sample.

4.6.2.1 Purposive sampling

Sampling refers to the selection of particular units of a larger population for further study. Traditionally, the case study design utilised qualitative methods and sampling (Neuman, 2014; Bezuidenhout, 2020). Purposive sampling was utilised as it is a non-probability sampling method. This means that each member of the sample was selected deliberately by means of the judgement of the researcher. In the same vein, purposive sampling involves deliberately selecting participants on the basis that they will be useful for the purpose of the study (Maxfield and Babbie, 2015). Clark and Creswell (2008) critique purposive sampling as they argue that this sampling method is not representative of the total population. As participants are selected to represent a particular interest, the outcomes of purposive sampling may not be generalised to the population as a whole (Clark and Creswell, 2008). However,

Neuman (2014) argues that, as purposive sampling requires the judgement of the researcher to select unique cases, this sampling technique is especially informative in qualitative studies. This assertion is supported by the utilisation of a case study research design as Kothari (2004) asserts that case study research is conducted to advance a *specific* subject.

Purposive sampling was thus utilised as this study focused on the rich experiences of a selected group of individuals who had resided in Merebank for a long period. As an earlier resident of Merebank, the researcher could identify an informal gatekeeper (participant P- 1) who then approached potential participants by means of purposeful judgement as it was envisaged that such a sample would contribute positively to the research. This informal gatekeeper and lifelong resident of Merebank assisted with the selection of participants on the basis of their known contributions towards the safety of the community.

4.6.2.2 Sample size

According to Kothari (2004), large samples are not necessary to obtain information that is useful for understanding the depth and context of particular issues when conducting a qualitative study. A core purpose of qualitative research is to elicit rich and detailed data based on the subjective experiences of participants, unlike quantitative research that represents populations (Neuman, 2014). Therefore, the researcher purposively facilitated the selection of 15 participants that would contribute to the depth and variation of the data. With the support of participant P-1 (unofficial gatekeeper), the researcher initially identified and contacted 22 participants, but the COVID-19 pandemic prevented interviews with residents who were concerned for their safety and chose to forego involvement.

4.6.2.3 Sampling demographics

The researcher recruited 15 participants for the study. The residents who finally participated were between 25 and 55 years of age, while 9 were male and 6 were female. As a criterion for this study, participants were selected on the basis of their lifelong residency in Merebank to establish the transformation and/or impact of the physical environment on residents over a period of several years. In line with the demographic characteristics of the study location, each of the 15 selected participants was of Indian descent. It must be reiterated at this point that the researcher sought to investigate participants' perceptions of fear of crime as a result

of inadequate environmental design in Merebank, and thus it was assumed that even the participants who had not been born yet or were very young when apartheid was abolished would possess adequate first-hand experiences of the impact of apartheid on crime and criminality in the Merebank area currently. For this reason, participants who were 25 years old were also included in the study.

4.7   Methods of Data Collection

4.7.1   Observation

To observe is to watch, to see, to perceive. According to Creswell (2007), observation is an unobtrusive method of data collection that is utilised for the purpose of capturing information about the contexts and settings within which participants interact. The utilisation of observation was considered suitable for this study as the researcher aimed to investigate the lived experiences of the selected Merebank participants. Maxwell and Babbie (2015) support this assertion by contending that a core purpose of observation in research is rooted in flexibility. The researcher was thus able to seamlessly conduct semi-structured interviews within the realm of a collective case study research design. According to Adam et al. (2007), observation is a remarkably effective tool for the purpose of interpreting the perceptions of participants. The researcher was granted 'the best seat in the house' as she could observe the participants' reactions when she asked probing questions with regard to the concepts of crime causation and fear of crime.

The researcher observed the non-verbal cues of participants such as their voice tempo, facial expressions, and body language during the semi-structured interviews. Detailed notes were taken during the interviews as audio recordings alone would not indicate these non-verbal cues (Neuman, 2014). These notes assisted the researcher to correlate the information provided by the participants with the non-verbal cues. According to Merriam (2009), the combination of observation and interview data permits a holistic interpretation of the phenomenon that is investigated. Additionally, the researcher observed several other features in Merebank in relation to the study. The obvious dilapidated physical condition of the area, the interactions among residents, and the perpetuation of delinquency on the streets are examples.

Visual evidence served to emphasise the state of disrepair in Merebank. Photographs (see Chapter Five) were taken by the researcher over a period of three months to document this disrepair. These photographs illustrate the planning and design issues in Merebank that were also referred to by the participants as factors that exert an influence on criminality and perceptions of fear of crime.

4.7.2 Semi-structured interviews

Rabionet (2011:563) states:

> "There is no doubt that qualitative interviewing is a flexible and powerful tool to capture the voices and the ways people make meaning of their experiences."

One-on-one semi-structured interviews were conducted to collect meaningful and relevant data from the research participants. Creswell (2007) argues that interviews permit a large body of detailed data to be collected from a small sample and this contention befitted the qualitative research approach that was utilised by this study. Maree (2007:12) defines an interview as "a two-way conversation whereby the interviewer probes the participant by means of inquiring questions to collect data that denotes [*sic*] the opinions and beliefs of the interviewee". This study addressed the research objectives by posing correlated interview questions to participants during the one-on-one semi-structured interviews. Semi-structured interviews were deemed appropriate as this data collection tool allows flexible and open dialogue between the researcher and the interviewee and it facilitates access to the participants' perceptions and views to elicit rich material (Maxwell and Babbie, 2015). Moreover, the utilisation of semi-structured interviews was appropriate for this study as the primary aim was to investigate the perceptions and experiences of residents of Merebank with regard to crime causation and fear of crime. By pursuing this approach to data collection, the researcher was able to view the world through the eyes of the participants. Meaningful data were obtained to elicit understanding of the social realities of the participants' lived experiences regarding the topic under investigation. This also supported the data analysis process to answer the research questions (Maxfield and Babbie, 2015).

Prior to conducting the semi-structured interviews, the researcher developed a set of interview questions and follow-up probes in the form of a semi-structured interview schedule (Appendix A) with the objectives and research questions in mind. Furthermore, the literature review assisted the researcher to develop these questions (Bhattacherjee, 2012). Whilst the research questions were asked in a particular order, the nature of a semi-structured interview allowed the researcher to probe further depending on the reactions of each participant. Questions and probes were thus added to gather increasingly meaningful data until the point of saturation had been reached and as a catalyst for the researcher to gain knowledge from the participants.

The semi-structured interviews were conducted in English as all the participants used English as their home language. Fifteen participants were interviewed for approximately thirty minutes each. The interviews were conducted according to a schedule that had been constructed two weeks prior to conducting the interviews. Dates and times were based on the availability of the researcher and the participants. The interviews were conducted in January 2021 over a period of two weeks. The researcher could not conduct interviews at an earlier date due to COVID-19 lockdown restrictions. Prior to and during these interviews the researcher and participants rigorously observed sanitizing and social distancing protocols.

According to Maxwell and Babbie (2015), semi-structured interviews establish rapport between the interviewer and interviewee as questions are asked in an open and empathetic manner. Rapport building between the interviewer and interviewees occurred by means of interactions with the informal gatekeeper, whose role and position were explained earlier. Moreover, as a previous resident of Merebank many participants were familiar with the researcher and her family. This became a point of initiation and assisted in building rapport with each interviewee. The opening briefing also established and maintained rapport between the interviewer and the interviewees. According to Neuman (2014), the nature of qualitative data collection permits key issues that were identified in one interview to assist with the refinement and/or development of questions or probes in upcoming interviews. This was done by writing notes on the interview schedule in allotted spaces. These notes regarding probes and non-verbal cues related to the participants' perceptions and the possible development of new questions related to observations and the interviews (Neuman, 2014).

The semi-structured interviews were audio recorded (Rabionet, 2011). As audio recording the interviews was imperative, the quality of the recording equipment was monitored to ensure that data could be effectively analysed. A trustworthy tape recorder was thus utilised. Adams et al. (2007) argue that semi-structured interviews are labour intensive, time consuming, and require the researcher to possess a certain level of interviewing skills. Similarly, Neuman (2014) asserts that the researcher should be extensively knowledgeable regarding relevant and substantive issues that pertain to the study. Without extensive knowledge, the researcher will be unable to probe effectively and important data may be lost. Conversely, the researcher may pose additional probing questions during an interview based on the data discovered due to probing (Rabionet, 2011). For instance, in the current study the researcher did not initially consider the association between delinquent drug usage, the physical environment, and crime. However, probing during the interview process yielded this information that effectively contributed to the development of additional research questions and rich data. Upon the conclusion of all the interviews, the researcher transcribed each interview verbatim to prepare for the analysis of the data. Voice recordings, notes, and transcriptions ensured that the researcher did not 'lose' any data and repeated readings additionally ensured that the researcher became increasingly familiar with the data that had been collected. This was advantageous for the purpose of data analysis as the researcher became fully immersed in the rich and meaningful body of data.

4.8 Ethical Considerations

Social science research contains a moral-ethical dimension. Essentially, the ethics concept defines what moral and legitimate research procedure involves. Ethical issues are referred to as the concerns and conflicts that involve the correct manner in which to conduct research (Neuman, 2014). Based on this definition, a researcher is obligated to conduct research in a manner that is morally defensible and responsible (Creswell, 2003). Criminological research inquiry dictates that a code of ethics should be adhered to when conducting research ethically. For the purpose of this study, ethical principles as proposed by Maxfield and Babbie (2015) – who specialise in criminological inquiry − were adhered to. These principles dictate that harming participants in any way should be avoided, whilst gaining individuals' voluntary consent and maintaining their anonymity (Maxfield and Babbie, 2015) are essential. Each of the aforementioned ethical principles was adhered to throughout the this study.

4.8.1 Gatekeepers' letters

Gatekeepers are individuals who stand between the researcher and a potential participant in the study. Gatekeepers control access to participants on the basis of their professional, political, or personal association with such individuals (Maxfield and Babbie, 2015). For the purpose of this research, three gatekeepers were consulted, namely the Humanities and Social Sciences Research Ethics Committee (HSSREC), Aubrey Snyman (Ward Councillor of Merebank and Wentworth), and a colleague and lifelong resident of Merebank who was involved as an 'unofficial' gatekeeper. HSSREC was utilised to gain ethical permission from the university to conduct research and Mr Snyman provided the researcher with an official gatekeepers letter allowing the researcher to conduct research in Durban ward 68. The unofficial gatekeeper assisted the researcher with finding suitable participants within ward 68.

According to the University of KwaZulu-Natal (2020), research that involves human subjects requires the approval of the University Research Ethics committee. The HSSREC is responsible for granting students of Humanities permission to conduct research that requires interaction with human subjects. An application to obtain ethical clearance was forwarded to HSSREC and the researcher was granted full approval (Appendix B). The researcher obtained official permission from Mr Aubrey Snyman in the form of a gatekeeper's letter (Appendix C) to ensure that access was granted to conduct research among Merebank residents. In addition to the procedural necessity for this, a meeting with Mr Snyman provided the researcher with valuable information regarding the history of the environmental design of Merebank. This furnished the researcher with significant information pertaining to the objectives of this study. According to Neuman (2014), it is important that a researcher operates in collaboration with a gatekeeper to gain admission to and build rapport with participants. The informal gatekeeper, (participant P-1), assisted the researcher with this by scheduling appointments with community members that were identified and willing to participate in this study.

4.8.2 Informed consent

Prior to commencing interviews, all study participants should be furnished with a consent form which they should sign before they participate in the study. Informed consent is acquired by means of a written statement that explains the nature and purpose of the study and which is signed to indicate voluntary participation (Neuman, 2014) to ensure the ethical integrity of the study (Maxfield and Babbie, 2015). This requirement was duly adhered to in the current study.

4.8.3 Confidentiality

Research findings are based on information elicited from willing participants, but this information should under no circumstances be linked to any names or identity and to breach this agreement is unethical (Kothari, 2004). The participants were allocated sequential numbers from 1 – 15 and will be referred to as P-1 to P-15 in Chapter Five.

4.8.4 The administration of semi-structured interviews while adhering to ethical considerations

To ensure that logical procedures supported this research, a series of steps was followed when the interviews were conducted. Creswell (2013) supports this approach as it is argued that specific tasks need to be carried out in an orderly manner. Flick, von Kardorff and Steinke (2013) argue that following procedure when approaching and conducting interviews is necessary to guide novice researchers. This was significant as this study marked the first instance that the researcher conducted semi-structured interviews. The following procedures were adhered to:

The COVID-19 pandemic presented unprecedented challenges. The researcher waited several months for national lockdown regulations to be relaxed so that it was possible to conduct face-to-face interviews. Personal protective equipment was utilised by the researcher, the informal gatekeeper, and every participant and the social distancing measure of 1,5 metres was adhered to at all times. Adams et al. (2007) contend that qualitative inquiry favours face-to-face interviewing to assist the researcher with observations and to probe on the basis of non-verbal cues. The digital age permits researchers to conduct interviews using 'Zoom' or 'MS Teams' that allows them to physically observe participants' reactions whilst remaining safe during a pandemic. However, 9 of the 15 participants did not have access to the internet

or technological devices. For the purpose of maintaining consistency (Bhattacherjee, 2012; Neuman, 2014), face-to-face semi-structured interviews were conducted with every participant in this study.

1. Participants were informed that their participation in the study was entirely voluntary. For the purpose of avoiding ethical issues (Maxfield and Babbie, 2015), each participant was requested to read and sign a consent form that acknowledged their voluntary and anonymous contribution to this study. (Appendix D). The participants were allowed to ask for clarification of any concepts that were difficult for them to understand prior to signing the consent form.

2. The researcher informed the participants of the objectives of the study. Neuman (2014) highlights that the participants should be briefed prior to being interviewed to increase their understanding of the purpose of the research. This was done by explaining the key objectives and conceptual terms that were pertinent to the study.

3. Participants were subsequently requested to provide permission to be audio recorded by signing on the combined informed consent and audio consent form (Appendix D). Once permission had been granted, the interview was commenced. The audio recording device was placed between the researcher and the participant to maintain social distancing and for clarity of the recording.

4. The researcher initiated the face-to-face semi-structured interviews. During each interview session the researcher recorded the verbal and non-verbal responses of the participants whilst sometimes probing or providing clarity if the interviewee was uncertain of the meaning of a question or concept. According to Kothari (2004), participants' responses become increasingly meaningful if the researcher establishes rapport with them. This rapport is strengthened when the participant feels comfortable to ask the researcher for clarification. The researcher believes that the participants were open and honest and that a 'connection' was established with every individual. This is because the community of Merebank deems inadequate apartheid environmental design as a cause of crime and harbour a deep concern about their respective neighbourhoods. They were thus amenable to bringing these concerns to light.

Upon the completion of each interview session, the participants were debriefed. Kothari (2004) describes a debriefing as the thorough discussion of data immediately after the interview has been concluded. In this process possible concerns or misconceptions that may

have arisen as a result of the interview that had been conducted were rectified. The researcher adhered to a structured debriefing document (Appendix E) to ensure that consistency was maintained. Neuman (2014) highlights that debriefing is a counterpart to the informed consent stage and informs participants about the intentions related to the study to which they contributed. Therefore, consistency and logic were maintained for both forms of consent.

4.9 Data Analysis

Adams et al. (2007) contend that the successful analysis of data is directed by procedures regarding the type of analysis that the researcher adheres to. This argument is supported by Bhattacherjee (2012:113) who states: "A creative and investigative mindset is needed for qualitative analysis, based on an ethically enlightened and participant-in-context attitude, and a set of analytic strategies". In the same vein, de Wet and Erasmus (2005) aver that data analysis in qualitative research is often viewed as unsystematic and thus lacking academic rigour. This means that qualitative research is often critiques as not being 'thorough and systematic' in comparison to quantitative data. This section thus describes the in-depth, sequential examination of the data analysis process to assuage these views and to ensure the reader that rigour was maintained.

Thematic analysis as proposed by Braun and Clarke (2006) was employed. This choice of data analysis is guided by a strategy of inquiry that is utilised for the purpose of the research (Denzin and Lincoln, 2008). The interpretive paradigm was employed in tandem with a collective case study approach as the strategy of inquiry. Conducting case studies provided a meaningful context for the lived experiences of the participants. The descriptive nature of this research elicited individuals' subjective beliefs as they described the situation or 'case' from their point of view. This case study also utilised observations and textual information to represent human experiences (Creswell, 2013). As the interview process produced lengthy excerpts that illuminated the participants' attitudes, views, and experiences, thematic analysis was utilised to examine the data. Six steps were followed to identify codes and themes (Braun and Clarke, 2006) in the pursuit of analysing patterns (Neuman, 2014) that were found within the qualitative data. The steps that are denoted in Table 4.2 below were adhered to in the process of data analysis.

Table 4.2: The six phases of thematic analysis

Phase	Description of the Phase
1. Becoming familiar with the data	The information provided by the residents of Merebank was transcribed after intently listening to the audio recordings, reading the transcriptions several times, and noting down non-verbal clues and cues in the transcription document.
2. Generating initial codes	Data were translated into codes in the form of key ideas, key words, and statements. Codes are the initial building blocks of data analysis and identify and provide a label for the features of the data that could be relevant in terms of the research questions of the study (Creswell, 2013). Data relevant to each code were collated and are detailed in the data presentation and analysis chapter of this dissertation.
3. Searching for themes	Initial codes were collated into potential and 'broad' themes, whilst all the data relevant to each potential theme were collated. Searching for themes is an active process whereby themes are constructed and not 'discovered' by means of familiarity with the data. This phase involved evaluating coded data to identify areas of similarity between codes. These unifying features reflected meaningful patterns within the data. For instance, 'filthy streets/lanes' resulted in increased criminal activity in Merebank. All codes that highlighted these conditions were referred to as 'access and escape routes'.
4. Reviewing themes	This phase involved 'quality checking' of the research data. This involved discarding some codes or themes that were no longer deemed relevant to the data. In addition to this, some attention was dedicated to comparing audio recordings and transcripts with the themes that had been developed. If there were inconsistencies, the analysis was revised until final themes that were appropriate for the research were identified. After reviewing these themes, a thematic map of the data was generated.
5. Definitions of and naming themes	Continued analysis was conducted to refine the specifics of the themes. Defining the themes involved clear statements that were unique about each theme. The naming of themes occurred through analysis and repeated reading of each theme so as to be as accurate as possible. The name of themes were identified in a streamlined manner in accordance with the research questions.
6. Writing the report	This phase was thoroughly interwoven and occurred at every step of the research process. The sequence in which themes are presented is significant in the data analysis chapter. The themes thus connect logically and meaningfully so that a coherent story of the data is told. This process did not involve restating data but ensured that the report critically detailed information pertaining to the research in an organised manner. Compelling quotes by the participants were extracted in relation to the research questions and literature and are presented verbatim. The final dissertation in a scholarly report on the entire research process and its findings.

Source: Adapted from Braun and Clarke (2006:87)

Each audio recorded interview was transcribed verbatim to permit straightforward access to the excerpts as they emerged from the data and pertained to each theme. Neuman (2014) asserts that the transcription process ensures that the researcher becomes familiar with the data at the early stages of data collection. The researcher thus began transcribing each interview on the day that it was conducted to ensure familiarisation with the data and issues that emerged. These issues included developing new questions, refining the original questions, and identifying effective probes for use in upcoming interviews. This 'corrective' process contributed positively to the data collection process as comprehensive and meaningful data were elicited (Braun and Clarke, 2006). The researcher effectively coded the data by means of highlighting key words and statements followed by the attachment of each of these codes to a theme. This was performed manually using different colour highlighters. These colours identified the initial codes and subsequently represented the themes. To ensure that the formulation of themes was effective and encompassed all the initial codes, thematic maps were created in accordance with the objectives of the research. One example of such a thematic map is illustrated in Figure 4.2 below. This map pertains to the objective to evaluate the Merebank community's perceptions of fear of crime.
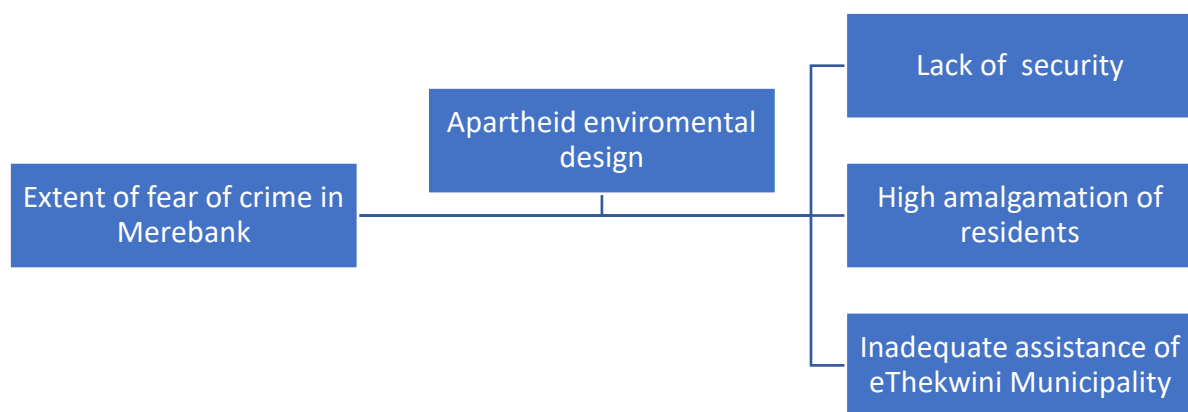

Figure 4.2: Example of a thematic map
Source: Author (2021)

The assistance of a colleague was enlisted to evaluate the initial codes and to determine whether the correct labels had been assigned to each code. The colleague additionally ensured that each category was comprehensive and exhaustive to meaningfully correlate the

research questions and the data. Furthermore, this informed the division of the codes into themes and eased the process of analysis.

4.10 Trustworthiness of the Study

In scholarly discourse, validity and reliability are constructs that are generally adhered to by quantitative researchers (Creswell, 2013; Neuman, 2014; Bezuidenhout, 2020). Validity denotes whether the research measured what it was supposed to measure while reliability denotes whether research instruments will produce the same results if utilised in a similar context on several differing occasions (Bezuidenhout, 2020). Achieving trustworthiness and credibility are deemed the 'validity' and 'reliability' of qualitative research. According to Shenton (2004), the researcher should focus on projecting an accurate picture of the phenomenon under study. This was achieved by providing in-depth details of the context of the study and following sequential steps to demonstrate the findings that emerged from the data. This process assured that the researcher was unbiased when presenting the data and the findings (Neuman, 2014). Lincoln and Guba's (1999) model of trustworthiness was utilised to ensure the trustworthiness of this investigation as an alternative to validity and reliability. This model proposes adherence to four constructs: credibility, confirmability, dependability, and transferability which were addressed as follows:

4.10.1 Credibility

To demonstrate a degree of 'validity', credibility involves establishing that the results of the study are believable in terms of the views of the research participants (Lincoln and Guba, 1999). The researcher ensured that the findings were plausible (Kothari, 2004) by developing familiarity with the research setting as well as aspects of community interaction and crime statistics. As interviews and observation are widely utilised research methods for qualitative inquiry, the utilisation of these tools for data collection further ensured that the research was authentic.

4.10.2 Confirmability

Confirmability poses the question, "Are the results of the study confirmed by other data sources?" (Shenton, 2004). To answer this question, the researcher ensured that the results of

the study reflected the authentic views of the participants. To substantiate the achievement of confirmability, a detailed methodological description was recorded in a prior section of this chapter. This description will permit the reader to determine the integrity of the research results for further examination (Maxwell and Babbie, 2015). In order to confirm the overall results of this study, the researcher compared the findings that emerged from the data with those of studies that had been conducted in the same field.

4.10.3 Dependability

According to Adams et al. (2007) and Maxwell and Babbie (2015), dependability addresses the need for the findings of the research to be stable and consistent enough to convince the reader or evaluator that the findings were discovered in a sequential and ethical manner. De Wet and Erasmus (2005) argue that research is dependable in the instance that research techniques are well-documented, progressive, and reviewed. This study achieved the dependability requirement by utilising a reputable and tested research design, by clearly elucidating the operational details of the data collection process, and by utilising the thematic (step-by-step) method of data analysis.

4.10.4 Transferability

Transferability determines the degree to which the findings of the research can be applied or 'transferred' to studies of a similar nature (Shenton, 2004). The researcher ensured transferability by describing the context and methodology of the research and presenting adequate background information pertaining to the research and research objectives. Current and future scholars will thus be able to effectively apply the results to a different context (Lincoln and Guba, 1999; Shenton, 2004).

4.11 Chapter Summary

This chapter presented a clear and sequential elucidation of the research steps that were followed to conduct the study in a manner that befitted scholarly research outputs. This 'roadmap' directed the course of the study and thus ensured that the researcher operated within the parameters of the objectives of this study. This permitted the researcher to streamline the strategies of inquiry that were utilised in tandem with the formulation of relevant interview questions. Thematic analysis, which was discussed in detail, will steer the subsequent chapter. Additionally, this chapter highlighted the importance of adherence to ethical codes and the manner in which this was achieved was discussed to confirm that the moral integrity of the research was assured.

CHAPTER FIVE
DATA PRESENTATION, INTERPRETATION AND ANALYSIS

5.1 Introduction

This chapter presents the core of the study as data are presented and the meaning and implications of these data, that were collected by means of semi-structured interviews and observations, are illuminated. Inadequate environmental design and criminality have been associated with factors such as apartheid legislation, physical disorder, and socio-economic disparities in neighbourhoods where the majority of South African citizens reside in ethnicity-based demarcated areas as a legacy of apartheid (Kruger, 2018). Each of the aforementioned factors is explored as a theme in this chapter. The analysis of the data followed the procedural guidelines provided by Braun and Clarke (2006), which means that thematic analysis, that was discussed in the previous chapter, was applied. The themes and sub-themes that emerged from the data were analysed logically and the comments and views of the participants are presented verbatim to maintain the authenticity of their narratives. The central purpose of this chapter is to comprehensively illustrate the collective experiences and perceptions of the representatives of the residents of Merebank by giving voice to their unique perspectives. The analysis process integrates contradictory and corresponding data with those of earlier research studies in the field. Based on extensive enquiry of the literature applicable to this field of study, the four imperative questions that framed this study were as follows:

- What is the impact of inadequate environmental design on crime causation in Merebank?
- How does the Crime Prevention through Environmental Design model impact crime prevention in Merebank?
- What is the contribution of Merebank residents to the implementation and enforcement of the Crime Prevention through Environmental Design model in this area?
- What are the perceptions of fear of crime among members of the Merebank community due to inadequate environmental design?

To answer the questions posed above, this chapter investigates emerging issues associated with environmental design and crime by reporting and analysing data that were collected qualitatively. In the presentation of the findings, the themes and sub-themes that emerged are integrated with the literature and theories that underpinned the aim and objectives of the study. As a result of the qualitative nature of this investigation, data presentation, interpretation, and analysis are discussed concurrently. As several themes may overlap, the discourse is structured with reference to the aforementioned research questions for consistency and logical flow.

5.2 Environmental Design in the Apartheid Era

The core aim of this study was to investigate the impact of the apartheid built environment on crime causation in Merebank. The study took specific cognisance of the demarcation of this area that had been zoned for residential purposes based on ethnicity in close proximity to a large industrial area. The participants, who all represented the Indian race group, communicated their understanding of how apartheid planning and design impacted the built environment in which they were compelled to reside. Based on their responses, the majority of the participants believed that, as a result of apartheid zoning policies mandatyed by the Group Areas Act, access to the area was restricted and they had felt safer during apartheid than they did at present. Moreover, in terms of the built environment, the participants mentioned that the physical environment had been well-maintained during the apartheid era, as opposed to the present day. Jansen (2017) also who asserts that the legacy of apartheid in South Africa is particularly deep and that overcoming inherited social and spatial structures is a persistent challenge. Additionally, Nunlall et al. (2020) illuminate that any built environment, whether residential or for business/industrial purposes, should be designed and maintained in a manner that will curb and prevent crime and alleviate the fear of crime. Unfortunately, South Africa's legacy of apartheid has denied this focus (Nunlall et al., 2020). To highlight the effects of inadequate apartheid-era environmental design on the community of Merebank, the verbatim comments of the participants are presented and discussed.

P – 5 illuminated upon the lack of urban planning and design as a result of exclusionary apartheid policies:

"Like I said, it wasn't thought. They just built it. If you go to another district, like in times now. For the white people it was thought about, here we got the sewer line apartheid in our yard. In the white district, you'll never find a sewer line in your yard. Like here we not supposed to build here, we got the sewer line here. In the White district you'll see you got the sewer line you'll see Tara Road, all the manholes on the road. So, because they knew Indian people coming here, we shunk them here they gave us this was a one bedroom house. They gave us one bedroom house, how many people they didn't care. So, in that way it was a hazard. Ya it wasn't thought about ya – we were shunked here."

P-14 considered that the infrastructure of Merebank had been well maintained during the apartheid era, which served to enhance the safety of residents at that time.

"If I say something maybe it's wrong. After 1994...ya, in that time it wasn't bad like this. The roads were done, it was maintained. You never had a problem." (P-14)

Moreover, the majority of the participants agreed that they felt more secure during apartheid. A comment in this regard was offered by P-4:

"I'll go back to apartheid. Very much safer it was."

Similarly, P-5 elaborated on the response of P-4 by appending the difference between criminality during apartheid and today:

"After apartheid, crime was more because now there was interaction. After apartheid everything opened up so it was free. So then the crime started." (P-5)

P-10 distinctly explicated the contentions of P-4 and P-5 by arguing that the Group Areas Act of 1950 was responsible for ensuring that residents were safer:

"To put it harshly, during the apartheid time we felt much safer because I'm not being racist or anything, but we had the Group Areas Act. We had Blacks in their area, Whites in their area, and Indians in their area. Although when it came to sports and things we were disadvantaged, we were safer at that time. Then we were far safer than we are now. Then strangely enough the municipality maintained the road verges and the overgrowth and undergrowth were all taken care of by the municipality. They

attended to dilapidated buildings, notices were served to the people to either repair their houses or do something about it. But now you find the overgrowth on the road verges are overgrown. Uhh, overgrowths are not being trimmed, street lights don't work and... uhh...they make it all easy for the criminals. They pose as municipal workers but they are crooks. They are rogues." (P-10)

P-6 echoed the same sentiments as P-10:

"Ya it is, the crime is more because people from other races started to come in here now. Before we didn't have that, see that Group Act. It was only Indians." (P-6)

These responses surprisingly indicated that the segregationist Group Areas Act promoted and sustained the safety of Indian residents in Merebank during the apartheid period. This finding contradicts Shackleton and Gwedla's (2021) argument that the segregationist Group Areas Act, which was a cornerstone policy of apartheid, compromised the safety and integrity of residents compelled to live in these segregated areas. This suggests that the issues that currently plague the community of Merebank are prevalent due to a lack of control and management measures to prevent and reduce crime. This finding thus corroborates Bezuidenhout's (2020) assertion that the abolishment of the Group Areas Act resulted in increased pressure on residential areas due to their often compromised zoned locations and the migration of citizens into and out of areas that they had previously been forbidden to inhabit or even frequent. This means that community ties post-1994 have the tendency to dissolve. These findings are also supported by the social disorganisation theory. For instance, Ball et al. (2015) assert that the fabric of social life becomes frayed in highly transient neighbourhoods and that this provokes and exacerbates social disorganisation, thus prompting law-abiding residents to leave at the earliest opportunity (Hardyns and Pauwels, 2017). This is a cycle that perpetuates criminality in such a built environment. It also confirms Venter's (2020) assertion that our diversity as a nation often causes conflict in social settings, which is an unfortunate consequence of apartheid that segregated the populace instead of instilling social cohesion amongst this country's diverse racial groupings.

Moreover, the data suggest that the zoning of Merebank to be developed in close proximity to industries results in the influx of vagrants and undesirable elemnts, and that this is the cause of crime and fear along with construction. The views of the participants thus corroborated those Kruger (2018), who argues that, during the era of apartheid, Black, Coloured and

Indian citizens were forced to reside in areas that were demarcated by the government for their settlement to enforce a policy of racial 'separate development'. The environmental location and design of these areas did not prioritise safety and security, which has impacted Merebank to this day.

Aligned with the purpose of this study to investigate whether inadequate environmental design and race-related zoning during apartheid have contributed to crime causation from 1994 to the present, the findings indicated that a lack of control and management subsequent to the abolishment of apartheid laws contributed significantly to crime in the study area after 1994. A possible reason for this finding is offered by Landman (2017) who argues that, after the 1994 elections, the ANC government has failed to commit to or develop sustainable and responsive urban environments.

5.3 Property Crime

As the scope of this study was limited to non-contact property crimes in the study area, the researcher probed the participants for information within the alignment of these boundaries. The participants offered their opinions on which crimes were most prevalent in Merebank and what the reasons for this were. In South Africa, increasing cases of property crime have been profiled in the media and Merebank is no exception. An exploration of the property crime phenomenon in Merebank was essential to address the objectives of this study and thus property crimes were profiled in terms of the impact of inadequate environmental design and race-related zoning on crimes of this nature. Crime statistics provided by the SAPS (2020) for the period 1994−2020 indicate a steady decrease in property crime. However, media reports (George, 2017, Nsibande, 2018; Mass meeting addresses high crime levels in Merebank Merebank, 2020; Local shoppinh centre becomes haven for criminal activity and drugs, 2021) and scholarly arguments (Kruger, 2009; de Kock, 2015; Ween, 2016; Nunlall et al., 2020; Venter, 2020) directly contradict these statistics. Of particular relevance to this discussion is a media report by George (2017:2) in which she states the following:

> "The [previously] quiet area has become a dangerous and unsafe neighbourhood for residents. Numerous reports of house break-ins in the area has [*sic*] left residents unhappy and concerned about their safety. Members of the community are calling for local police to engage in more visible policing at night."

To address the evident contradiction between SAPS statistics and media reports, it was determined whether property crime affected the residents of Merebank. The majority of the participants emphasised that they could not provide statistical input, and thus their responses reflected their authentic and honest perceptions based on their personal experiences of resident and media reports. The majority of the participants indicated that property crimes such as theft and house burglaries were common in Merebank. These results were in line with the problem statement that underpinned this study, as it emphasised that property crimes affected residents of Merebank due to the inadequate design of the environment and/or aspects within the environment that promoted criminality. For instance, P-1 stated:

"No, Merebank doesn't tend to have hijackings in the sense where you are in the vehicle and somebody comes and takes the car away from you. But they'll just steal your car if your car is parked outside."

Similarly, P-3 asserted:

"Housebreaking and cars stolen are the main ones..."

P-12 also offered insight into the most common crimes in Merebank:

"Like, theft and house burglary."

These comments were corroborated by the 2019/2020 VOCS statistical analysis of property crimes in South Africa. The latter report indicated that there were an estimated 1,2 million incidences of burglary that affected 891 000 residential households. As the VOCS reported on the total number of crime incidents that could be traced and that might not have been reported to the SAPS, the statistics presented by the former survey surpass those of the SAPS. Therefore, to address contradictory statistics and media reports, they were aligned with data related to the participants' perceptions. It is acknowledged that the participants could not supply any statistical data nor comment knowledgeably on available statistics, but this was a qualitative study that explored participants' lived experiences and perceived realities.

It is also acknowledged that the participants' emphasis on the prevalence of property crimes and the statistical data that were perused cannot be cited without emphasising the role of COVID-19 on property crime at the time of the investigation. Based on the literature review, it was apparent that the causes of property crime in South Africa are multi-faceted and complex. This is also evidenced by Kreigler (2021), who profiled property crime statistics in

South Africa during the COVID-19 pandemic lockdown restrictions. This scholar discovered that lockdown restrictions resulted in a decrease of 22% in property-related crimes. However, Kriegler (2021) highlights that double-digit increases in property crimes were recorded for the first quarter of 2021, which he attributed to the easing of lockdown restrictions. The participants also perceived that the lockdown periods imposed as a result of COVID-19 led to the reduction of property crimes.

To confirm the above, P-8 mentioned the following:

"I think...uhhh...in fact...uhh...during COVID it was petty crimes, small crimes like maybe somebody would walk into your yard and just pinch like a wheelbarrow or a broom outside or something. But before COVID it was bad. Houses were getting burgled, cars were broken into."

P-10 commented as follows:

"Petty theft now during COVID because of the curfew. Before cars and all were getting stolen, it was during the early hours of the morning like two, three o'clock in the morning. Now because of the curfew after 11 [23:00] nobody is allowed to be on the road or whatever, now it's all the petty ones."

In addressing the question pertaining to the impact of inadequate environmental design on property crime in Merebank, the majority of the participants commented that property crimes indeed affected residents. The core finding was that it was house burglaries and theft that predominantly affected the residents of Merebank. Moreover, the aforementioned finding supports Shackleton and Gwedla's (2021) assertion that the impact of inadequate design of the built environment and crime causation cannot be considered in isolation.

As the literature explicates factors that influence property crimes and crime causation in South African neighbourhoods as socio-economic disparities and delinquency, the data presented above seemed to support the prevalence of delinquency in the Merebank area. This argument is offered in light of the fact that the crimes the participants referred to are generally committed as opportunistic crimes by vagrants and delinquents who often enter properties on the spur of the moment to steal what they can easily access, or to deliberately steal motor vehicles.

5.4 Zoning and the proximity to industries

Merebank is an industrial hub as large industries such as the Mondi paper mill and Engen oil refinery are situated in close proximity to the residential area of Merebank. When the participants were asked whether the presence of these and other industries contributed to the prevalence of crime in Merebank, two thirds of the participants reported that the close proximity of industries to their residential properties resulted in increased opportunities for the perpetration of crime. Moreover, the majority reported that the industries employed many individuals from outside the area. As these employees are unknown to the residents, the participants were of the opinion that these individuals were responsible for committing crimes and not the residents of Merebank. This is illustrated by a response from P-2:

> *"Yes, industries. You get people from all around coming to the industry to look for work. Then you get loitering as well."* (P-2)

P-4 elaborated by giving an example of a scenario where crimes will be committed by 'outsiders':

> *"Ya, the industries are here like Mondi. When Mondi started, they employed all the people from here. But if you invite people from other places then it causes access to crime for everybody. That's how we get burgled. If you hire a maid, the maid gives the information and then they come and rob [you]. In Merebank that's what's been happening. Definitely, because with the industrial areas being so close to the residential areas with access for unknown people you know are uninvited guests. They come into the area [and] they have easy access. So, you won't be able to differentiate between the residents of the area and employees."*

P-2 additionally stated that affluent individuals tended to leave Merebank as a result of new residents, usually employees at the industries, moved into the area to reside closer to their place of employment:

> *"So, when you have industries around you, you tend to attract people around you that need employment at that facility. So, industry normally you don't get top people. It means easy access to work and you don't have to pay high costs to travel. When you offer work like that they don't have their own transport. Then the affluent people tend to leave the area."*

The aforementioned results are in accord with findings by Shaw and McKay (1942). These authors argue that residents constantly move in and out of an area and that unemployment causes crime rates to increase. The social disorganisation theory links high crime rates to the environmental characteristics of a neighbourhood and this theory thus also underscores the above finding. Additionally, Beckett and Herbert (2008) argue that crime rates become elevated in highly transient neighbourhoods where commercial and residential properties exist alongside each other. This suggests that residents who live in areas that experience the constant movement of people into and out of the area are unable to develop strong social bonds with their neighbours.

Moreover, the close proximity of industries to the residential area in Merebank can be explained with reference to Burgess' concentric zone model (1925) as depicted in the photographs on the next pages.

Figure 5.1: Photograph indicating the close proximity of Mondi to residences in Merebank
Source: Author (2021)

Figure 5.1 above provides a visual evidence of the close proximity of Mondi to residential properties in Merebank. Burgess (1925) proposes that certain neighbourhoods experience higher crime rates than others as they are predominantly located in what he terms as Zone B.

This is the zone of transition from residential to industrial areas. Thus a possible explanation for the prevalence of crime in Merebank in that the industrial zone (Zone B) puts pressure on the residential zone to grow and accommodate employees from these industries. Sutherland and Scott (2009) assert that this growth cannot occur in Merebank due to minimal space for housing and other amenities in the residential zone. Rapid industrialisation in Merebank from the 1960s onward has thus caused a negative shift in the dynamics of the neighbourhood. Many residents, who were able to afford it, have relocated from Merebank while the residents who remained there did so to their detriment (Govender, 2008). The concentric zone model thus adequately explains the elevated crime rates that characterise the highly industrialised Merebank area. Francis (2008) also corroborates this findings by contending that, as a result of the infringement of industries on residential areas, residents are often exposed to an onslaught of criminal activity.

5.5 Disorder

When asked whether they felt as though disorder and disrepair affected criminality in Merebank, the participants on the whole indicated that these factors were evident in Merebank and contributed to criminality. They specifically referred to the presence of dilapidated homes which they argued was a cause for inviting criminals into the area. This finding corresponds with that of O'Brien et al. (2019a), who assert that physical disorder could lead to serious crimes if left unattended. This is because visual signs of decay or disorganisation portray a neighbourhood that is 'unchecked' or not monitored by either residents or law enforcement. The data pertaining to disorder were split into two sub-themes, namely dilapidated buildings and unkempt vegetation.

5.5.1 Dilapidated buildings

Vlaskamp (2011) defines disorder as the dishevelment and/or disarray of a particular space or place. Physical disorder refers to the dilapidated outward appearance of buildings, roads, alleys, shopping complexes, and homes. On the other hand, social disorder refers to a lack of community co-ordination and participation in addition to gang activity, delinquency, and public intoxication (Konkel et al., 2019). Johansen et al. (2014) state that disorder can be provoked by a built environment in two ways:

- The features of a built environment, such as abandoned properties, directly create a sense of physical disorder.

- Physical disorder could fail to discourage social disorder by fostering the impression that residents do not maintain their surroundings.

The following were responses that related to these sub/themes as the participants argued that abandoned properties directly created a sense of physical and social disorder:

P-14 stated:

"Ya ya, look at the conditions of the flats. They have never even been painted for years. It looks like it's gonna fall apart. It looks like an abandoned building and attracts the wrong kind of people. These days you can't stand outside for nothing, you must have a good reason."

P-10 elaborated on the response of P-14 by stating the following:

"If you see dilapidated buildings or neglected buildings now. That becomes like a place where all the addicts want to hang around. Or you know...uhh...if it's residential areas that are empty, they want to go stay there, you know, because they don't have homes and things like that."

On the theme of physical disorder P-15 stated the following:

"You know, when we look at it in that way we don't know if the people living in the abandoned houses will come and rob us, or maybe someone from outside. You never know. Maybe the grass cutters too, they notice if someone is at home. Then they send the people in."

Figure 5.2 and Figure 5.3 below illustrate the physical disorder that was highlighted by the participants. Figure 5.2 is a dilapidated house where the researcher observed squatters who lived there. Figure 5.3 illustrates a physically dilapidated block of flats (apartments) in Merebank. Several blocks of these flats exist in the area, none of which are adequately maintained. Govender (2008) also avers that several abandoned properties in Merebank are unkempt and disordered, and these properties have become hovels for drug use and peddling as well as delinquency. This assertion is in line with the findings outlined above, as the

participants concurred that abandoned properties invited criminality into Merebank, which underscores the linkage between physical and social disorder.

Figure 5.2: Image of a dilapidated former residential dwelling in Merebank
Source: Author (2021)

Figure 5.3: Image of a dilapidated block of flats in Merebank where squatters have settled

Source: Author (2021)

5.5.2   Unkempt and overgrown vegetation

The majority of the participants revealed that vegetation along the streets and lanes and in former parks, as well as thick brush surrounding homes, were inadequately maintained in Merebank. This finding is in line with Wilson and Kelling's (1982: 33) description of disorder:

> "A piece of property is abandoned, weeds grow up, a window is smashed. Adults stop scolding rowdy children; the children, emboldened, become more rowdy. Families move out, unattached adults move in. Teenagers gather in front of the corner store. The merchant asks them to move; they refuse. Fights occur. Litter accumulates. People start drinking in front of the grocery; in time, an inebriate slumps to the sidewalk and is allowed to sleep it off. Pedestrians are approached by panhandlers."

When the participants were asked: "Are you of the opinion that disrepair and disorder contribute to crime causation in Merebank?" the participants commented that unkempt vegetation promoted criminality. For instance, P-6 stated:

> *"See, look at their grass there. Look at how big that bush is there. Anybody that is thin or something that we can't see will be hiding [there]."*

P-8 commented on how easily unkempt vegetation afforded criminals the opportunity to conceal stolen items:

> *"Even if they steal items they can just hide them in the bush and the grass..."*

Klinenberg (2018) asserts that there is little value in housing and neighbourhood amenities such as parks and community gardens if they are not maintained. Aboo (2013) supports this notion, stating that proper maintenance will reduce crime caused by inadequate environmental design, which highlights the impact of environmental design on criminality. Based on the findings, this research also asserts that maintaining parks and vegetation in

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residential neighbourhoods is essential to portray an environment that is clean and protected by its residents. This will ensure that visibility is increased which will, in turn, promote the safety of all. The comments by the participants confirmed the aforementioned assertions by Klinenberg (2018) and Aboo (2013). For instance, P-9 stated:

> *"There was a burglary in Buldana Road. The guys actually took the TV and all, and the next day they broke into his car, They took his whole windscreen out and took his sound system. Then the neighbour saw the rubber on the road. So, the owner came that evening and saw the rubber there and actually went into the bush where he saw his TV and everything [hidden] in the bush."*

P-11 agreed with P-9 and added the following:

> *"What happens is a lot of people use this shortcut to go to the shopping centre and it's much faster than going all the way around. Unfortunately, it is covered a little bit and people have been mugged. Covered by bushes. Unfortunately, the greenery just grows too fast for them to cut it all the time and people have been mugged and things like that on that route."*

Figure 5.4 and Figure 5.5 illustrate the unkempt nature of the vegetation in Merebank as referred to by the participants. There are several additional areas in Merebank that are overgrown with unkempt vegetation and that reportedly provided concealment for stolen goods and criminals in the recent past. The aforementioned finding is in line with Paulsen's (2013) suggestion that the layout and form of the built environment has a significant influence on the extent of crime as it creates prospects for crime causation. This means that the prevalence of unkempt vegetation undeniably provides opportunities for the commission of crime, whether major or petty.

Figure 5.4: Image of overgrown brush in Merebank

Source: Author (2021)

Figure 5.5: Image of overgrown brush with evidence of littering in Merebank

Source: Author (2021)

The findings that were mentioned above relate to the situational crime prevention theory (SCPT) and the broken windows theory. Shariati and Guerette (2017) argue that SCPT seeks to alter environments that promote criminal behaviour and thus initiate the reduction of opportunities for offending. In line with the aforementioned assertion, the information provided by the participants highlighted the role of physical disorder as a driver of opportunities for criminality. Additionally, Gau et al. (2014) contend that disorder in neighbourhoods portrays the image of an 'unmonitored' area. This is underscored by the broken windows theory as such areas are a breeding ground for criminality. The findings also

corroborate Klinenberg's (2018) assertion that a 'broken window', which is a symbolic representation of neglect in a built environment, will eventually lead to disorder in that neighbourhood as it enhances the perception that there is not control or order and this in turn lures criminals to such areas. Furthermore, several scholars have noted that the complexity of the definitions of crime causation is a result of the complexity of crime itself (Siegel, 2011; Cozens, 2014; Kempen, 2017; Bezuidenhout, 2020; Denno, 2021). This is because humans are dynamic beings who constantly transform as they are born with the innate ability to exercise free will and thus possess the ability to make choices (Scott, 2010). However, the question may be posed, "To what degree are these choices *informed*?" The aforementioned findings address this question as they reveal that disorder, in the shape of dilapidated buildings and unkempt vegetation, provides opportunities for criminal activities as such features influence the rational decision by criminals to commit a crime or crimes, which is underscored by the rational choice theory that was not a focus of this study. This means that criminals are increasingly likely to commit a crime if dilapidated buildings and unkempt vegetation are present.

5.6 Infrastructural Design

5.6.1 Street lights in disrepair

When the participants were asked if they were of the opinion that poor lighting influenced crime causation in Merebank, they were in agreement that poor lighting contributed to criminality in Merebank. This views is in line with a finding by Newman (1996), whose notion of environmental design and crime is based on the development of coordinated design standards such as street lights and street layout – both of which will improve security and thus limit criminality. Each participant commented on the disrepair of street lights in some way, and the following are examples of their shared views. P-12 commented as follows:

> *"Ya, our streetlights don't work at night. This means the criminals will come. With no street lights it's dark and that's towards the lane here."*

P-10 added:

> *"...street lights don't work and...uhh...they make it all easy for the criminals to come during the night."*

The comment on the fact that crimes occurred at night as a result of non-functional street lights corroborated a finding by Sakip et al. (2012), who argue that operational street lights at night increase visibility and curtail criminality as it also increases residents' ability to survey their immediate surroundings at night.

Participants P-15 and P-8 elaborated on this theme by commenting on the unacceptable length of time that street lights had been in disrepair in Merebank:

P-15 stated:

> *"How long we didn't have street lights! My daughter had been phoning maybe about the whole year but we never had those street lights [repaired]."*

Similarly, P-8 stated:

> *"I truly believe that, because I'll say about 60% of the time our street lights are not even working. Yes, there's no lighting. You can go and enter this yard and nobody will see you. It's very easy living in Merebank to jump from one yard to another [as an escape route]."*

Welsh and Farrington (2008), who investigated the impact of street lighting on criminality, found that the presence of maintained street lights significantly reduced crime. They suggest that enhancing community pride and social control will reduce criminality more effectively than increasing surveillance (Welsh and Farrington, 2008).

Poorly maintained streets and lanes for vehicles and pedestrians is another sub-theme that emerged from the data. The findings pertaining to this sub-theme are associated with the impact of non-functional street lights.

5.6.2   Poorly maintained lanes

In response to the question whether poorly maintained lanes and streets contributed to crime causation in Merebank, the majority agreed that this was indeed the case. According to Welsh (2015), poorly maintained and unsafe lanes in particular often become hot spots for criminal activity. This is particularly applicable to areas that are not regularly surveillanced by law enforcement and members of the community. Approximately two thirds of the participants

perceived that a lack of municipal maintenance was a core cause of badly maintained streets and lanes and that this promoted criminality. This means that if the municipality were to regularly maintain streets and pedestrian lanes, crime causation will decrease significantly. However, participants P-2 and P-4 were adamant that municipal efforts to maintain the Merebank area was non-existent:

P-2 stated:

> "Oh yes. Like walking down a lane – the bushes are quite thick on either side. The municipality doesn't care and doesn't cut them down."

P-4 elaborated as follows:

> "This lane and going to the back has never been cleaned by the municipality. Never. The school told me straight. So I clean it and I pay for it."

The participants also cited the presence of vagrants that loitered in streets and lanes, arguing that they contributed to a 'criminal atmosphere'. However, buildings, streets and lanes are deemed 'permanent' structures and will displace hundreds of residents in the event of complete or partial reconstruction (Centre for Scientific and Industrial Research, 2016). This means that it is relatively impossible to alter the structure and position of streets or to close streets/lanes off to reduce criminality. In this regard, the participants commented as follows:

P-5 stated:

> "Ya, the lanes. We've got quite a few lanes here. They are not lit properly and not designed properly. Those are the places the guys are hanging around. Before it was not a problem, now it's a problem with the guys hanging around. Ya, because of the lanes. They are not lit up and they are dirty. Uhh...and that [creates] an atmosphere for criminals."

P-10 elaborated on the response by P-5 as follows:

> "Yes, because there's so much of guys loitering around every corner and down the lanes, and in Merebank we have quite a few lanes for, you know, access to the shops and easy access to amenities, and they are hanging around [there] drinking. They make

noise, they urinate here on the side. Now because of all of that now it's more dangerous for me."

The findings based on these comments are in line with those of Francis (2008), who asserts that many residents feel increasingly unsafe and often see themselves at the mercy of vagrants who loiter in dilapidated areas. Moreover, these responses were aligned with the tenets of the broken windows theory that posits that an unrepaired area will lure vagrants and those with criminal intent. The fact that certain areas Merebank are in a state of disrepair is undeniable (Govender, 2008; Pillay, 2010), and a neighbourhood that remains in a state of disrepair will be subjected to increased criminal activity. Siegel (2011) optimistically states that if a neighbourhood is well maintained by members of the community and local government, crime commission will effectively become reduced. This means that poorly maintained lanes/streets and non-functional street lights are evidence of disrepair. Cozens and Love (2015) agree, arguing that unkempt lanes and non-functional street lights are drivers of crime causation. For instance, an area that houses several abandoned and physically dilapidated buildings will create the perception of community neglect and potential offenders will infiltrate such an area to thieve what is left as they will perceive a lack of guardianship and care in such areas. The findings discussed above are aligned with the primary postulate of SCPT, which urges for the reduction of opportunities for crime commission (Piquero, 2016).

In summary, the findings that have been discussed hitherto illustrated that poorly maintained street lights and lanes contributed to criminality in Merebank. This means that in response to the research question whether inadequate environmental design contributed to crime causation, inoperative street lights and poorly maintained lanes were cited as factors that positively influenced criminality in Merebank.

We now turn to unpacking the impact of the lack of social control on the residents of Merebank to progress from physical disorder as crime causation to the effects of social disorder on crime.

5.7 Lack of Social Control

According to Little (2014: 3), social control is "the regulation and enforcement of norms as dictated by rewards and penalties". The sub-themes that emerged from this main theme were primarily drug usage and delinquency as they were key to demonstrating a lack of social control in Merebank. The participants were of the view that drug use/abuse and delinquency were rife in the Merebank community. These emerged as social factors associated with the inadequately built environment that contributed to crime. Two thirds of the participants stated that drug abuse was a cause of criminality in the built environment, and these residents agreed that they were significantly and negatively impacted by this phenomenon. The respondents offered insightful responses. For instance, P-6 commented on how one of several abandoned homes in Merebank had become a haven for drug addicts and peddlers and thus an indicator of social disorder:

> *"Yes, the ones that's taking the drugs stay there in that houses. They stay over there. If you go to Sylhet Place, you'll see the castle house. The house down the road they rule the road with drugs. They are small nippers, [who are] all the runners, yes."*

P-3 added the following:
> *"The municipality doesn't want to cancel the debt so that someone can buy the abandoned property and live in it. This leads to squatters and drug addicts, unfortunately."*

P-15 stated:
> *"Drugs! Uhh...they look for drugs, cheap drugs. They need the stuff, they need the food. So, at night when we are asleep it's scary, it is! They are walking on the road looking for stuff."*

The findings based on these comments corroborate those by Govender (2008), who argues that residents are more likely to fear youth nuisance, drug-related nuisance, and aggravated assault than vandalism and a lack of street lights. In the same vein, the participants expressed their aversion to delinquency and a lack of social control among the youth in no uncertain terms.

P-14 stated:

> *"Youngsters are hanging around and all that. There's no parents here. Ya, and they get drunk and start fighting. We don't know if they are just watching what's going on and who's at home."*

P-3 linked drug use and delinquency by commenting as follows:

> *"So children basically will go out and they will mingle with other children and you're gonna have problems such as abuse of drugs. These delinquent behaviours [occur because] children are not being controlled."*

The findings based on these data highlight the effects of drug use and delinquency as drivers of crime causation and are in line with Shaw and McKay's (1942) findings of delinquency in Chicago neighbourhoods. Despite the fact that the aforementioned authors' findings were first revealed more than seventy ago, they were shown to be still relevant to this study. Shaw and McKay (1942) contend that the display of delinquent behaviour is proliferated by deteriorated built environments. This notion was supported by the views of the participants as they commented frankly that Merebank was characterised by a deteriorated and deteriorating built environment. Moreover, P-14 and P-3's views corroborated Cozens and Love's (2015) argument that delinquency should be explored in a holistic manner when the impacts of social, behavioural, and the external physical environment are considered as a drivers of crime causation. Therefore, in response to the research question: "What is the impact of inadequate environmental design on crime causation in Merebank?" it is argued that drug use and delinquent behaviour occur as a result of the interaction between a dilapidated physical environment and a lack of social control in this environment. This argument is corroborated by Faull (2019), who asserts that the promotion of social control will assist residents to manage their neighbourhoods and reduce serious crime in their area. This finding affirms the applicability of the notion that the absence of social control is a factor that causes crime in a built environment.

5.8 Crime Prevention

According to the National Crime Prevention Strategy (Department of Safety and Security, 1996), crime prevention is any proactive collaborative actions that are aimed at the management or reduction of actual levels of crime or perceived fear of crime. Moreover, the White Paper on Safety and Security and its consequent amendment (Department of Safety

and Security, 1998; 2016) prioritises crime prevention in accordance with the research question that explored crime prevention in Merebank. According to Aboo (2013), CPTED aims to deter criminal acts in relation to the external physical surroundings in which individuals live. The participants revealed two features of CPTED that were prevalent in Merebank, namely target hardening and surveillance.

5.8.1 Target hardening

When they were asked which aspects of CPTED were implemented in the Merebank community, all the participants indicated that measures of target hardening were utilised. According to SaferSpaces (2020), target hardening is an established approach to crime. This means that walls and fences around perimeters, security gates, and alarm systems are mechanisms that are utilised to prevent crime. This assertion by SaferSpaces (2020) was confirmed by the participants who stated that measures of target hardening were implemented in Merebank.

P-1 commented that high walls were built as a measure of target hardening throughout Merebank:

> *"...people have built high walls and fences around them. But I know of a neighbour that lives two houses away. They do not have a proper fence between them and their backdoor neighbour – so one road above them. So, we have a wall separating our two neighbours, we have walls separating all four sides. They only have walls on two sides. We even have spikes on the gate. When I was younger, I remember that people would mix glass and cement to harm criminals."*

P-9 mentioned other forms of target hardening:

> *"...we have to secure our homes with burglar guards plus high walls – gates, lock-up gates..."*

Similarly, P-14 stated:

> *"We do have burglar guards. There are two gates here so they can't come in and we don't allow anyone in."*

P-15 also commented that target hardening measures were implemented to keep intruders out, which was a statement that P-14 and P-15 agreed with. Reynald (2015) and Andresen (2020)

also contend that the implementation of such target hardening mechanisms often comprises measures to control access. This means that walls and burglar guards that are a form of target hardening additionally prevent the access of intruders, which is a form of access control.

In corroboration of the above notion, P-15 stated:

> *"Places need to be fenced, like, all the way around, you know? We had an open place here so we tried to close that down. We raised the front wall to try and prevent them from getting in."*

Figure 5.6 below illustrates a wall being built as a form of target hardening in Merebank. This is an indication of the necessity to implement target hardening measures in Merebank for the purpose of crime prevention. It is noteworthy that Figure 5.7 below corroborates this contention of the researcher as it illustrates the necessity to raise a protective fence to ensure that unwarranted access to the property was prevented. This suggests that the low original fence, that is clearly visible and that originally demarcated the property, had to be extensively extended due to intrusions and harassment. This was obviously done for security purposes and not for aesthetic reasons.

Figure 5.6: A wall being built as a protective barrier
Source: Author (2021)

Figure 5.7: Image of a raised fence for security reasons
Source: Author (2021)

The effective implementation of target hardening measures increases the efforts that an offender should expend to commit a crime (SaferSpaces, 2020). This notion was corroborated as the participants indicated that offenders were prevented from entering their homes as a result of the target hardening measures that they had implemented. This finding is consistent with that of Shariati and Guerette (2017), who argue that SCPT alters environments that promote criminal behaviour in order to reduce opportunities for offending. This is also underpinned by the opportunity theory, as Huisman and van Erp (2013) contend that offenders choose to commit crimes based on available opportunities and situational factors that either promote or deter crime. For instance, an offender may choose to commit a crime if there are limited or no measures in place to ensure crime prevention in a specific physical environment. Therefore, by implementing measures of target hardening, the opportunity for crime commission is decreased and criminals may thus choose not to commit their crimes in that location.

5.8.2 Surveillance

When asked whether surveillance was implemented as a form of crime prevention in Merebank, the residents responded in the affirmative. Almost two thirds of the participants indicated that surveillance occurred in the form of mechanical surveillance, while the majority indicated the utilisation of natural surveillance, which are both methods that are promoted by CPTED. Mechanical surveillance involved the utilisation of surveillance tools such as closed-circuit television systems (CCTV). The participants stated that increasing

surveillance in the area, whether by mechanical or natural means, served to decrease the sense of fear prevalent among residents, which was a finding that Fry (2017) also elucidated. This finding was significant as it focused on both fear of crime and crime prevention in a built environment, which was a key objective that was explored by this study. In terms of mechanical surveillance, the participants provided insightful information. For instance, P-1 commented on utilising CCTV for the purpose of monitoring the immediate surroundings:

> *"I can think of areas that...take my house for example. We have cameras at my house that basically look at all corners of the house so we can see who is coming in. We need to watch the cameras and see what's going on here."*

P-3 echoed this by stating:

> *"Oh, I got CCTV already. So that's what I've done to see what's going on here."*

P-4 indicated that, despite installing CCTV, offenders had burgled a property:

> *"We got CCTV in that house and we got CCTV in the bottom house. People still came and stole and did what they wanted. So CCTV to me is a waste of time."*

Figure 5.8 below is an example of the installation of CCTV at domestic properties in Merebank. The visibility of CCTV acts as a deterrent for offenders as they are thus aware that they are being surveilled. This finding is underpinned by the theoretical view of Hayward (2007) that SCPT measures involve the design, management, and manipulation of the built environment within which crimes occur. It is for this reason that communities, businesses, and the public at large are encouraged to employ practical deterrents to ensure that criminals perceive these specific areas as 'high risk' and thus avoid committing criminal acts there. This means that the installation of CCTV referred to by the participants involved the management of the built environment in which they resided by employing visible CCTV as a practical deterrent for offenders operating in this built environment. It is noteworthy that the homes that were observed to possess CCTV were well-maintained and in alignment with residences generally associated with higher socio-economic status. As mentioned in the literature review, this illustrates the socio-economic divide that was created as a result of the implementation of apartheid zoning laws whereby some residents thrived, others remained on the same socio-economic level, while some slowly descend into poverty (Govender, 2008; Sutherland and Scott, 2009), as can be seen in image 5.2. above. This illuminates the class division that is present in Merebank, which is a legacy of apartheid.

Figure 5.8: Image that illustrates the installation of CCTV in Merebank

Source: Author (2021)

However, P-4 contended that, whilst mechanical surveillance in the form of CCTV was utilised, it was ineffective. P-1's reason for this ineffectiveness was that CCTV had to be constantly monitored to be effective, and only then could it be determined whether offenders were lurking or breaching the protective fence/wall. This illuminated the need for natural surveillance as well. The majority of the participants indicated that natural surveillance was utilised frequently by residents due to the close proximity of their homes to one another. Natural surveillance is described by the phrase 'all eyes on the street' and was applied in areas where residents and their activities were naturally observed in interior and exterior areas (Govender, 2008). To highlight the wide utilisation of natural surveillance in Merebank, the participants offered the following responses:

P-14 stated:

> *"In Merebank we just look out for each other."*

Similarly, P-2 said:

> *"You have to be on guard, and the neighbours watch properties too. Houses are close so we can see. Always look out for the next. Fortunately for Indore Road we've still got the old days when you come late on Indore Road, people are still on the road. Known people. Ya, you come here at 12 o'clock, you'll either see us sitting outside here and you'll see people walking around and this is fortunate."*

Therefore, as proposed by the theoretical assumptions of SCPT, the responses of the participants indicated that surveillance was a common practice in Merebank. Natural surveillance seemed to be utilised more frequently compared to mechanical surveillance. Furthermore, the broken windows theory was relevant as this theory explains how neighbourhoods that are not monitored by means of natural or mechanical surveillance can descend into disrepair and thus perpetuate criminal activity. For instance, if community members fail to exercise surveillance in their neighbourhood, disorder will result and it will be increasingly difficult to implement strategies of crime prevention (Lee et al., 2016). This means that the implementation of surveillance (both mechanical and natural) in Merebank contributed to diminishing disorder and this counteracted the effects of an inadequately designed and built environment. Moreover, the findings are consistent with those emerging from a study conducted by Owusu et al. (2015), who investigated CPTED implementation in Ghana. The latter study found that target hardening was the most utilised measure in residential neighbourhoods compared to other measures proposed by this model.

5.9 Private Security

In response to the research question that explored crime prevention, the employment and deployment of private security companies was cited by the majority of participants as a crime prevention measure in Merebank. This finding corroborated Asala's (2021) assertion that national security is a complex nuance, especially as the SAPS lacks the capacity to solely protect over 59 million South African citizens. In fact, some participants commented that the necessity for employing the services of private security companies was strengthened by the lack of SAPS presence in their neighbourhood.

P-10 elaborated on the lack of SAPS involvement in crime prevention in Merebank and highlighted the positive relationship that had developed between private security companies and residents. P-10 stated:

> *"There is no police patrolling here. So, we are working closely with the private security company PT Alarms that does regular patrolling in this area, but more especially on this road, because we have a special relationship with them. The criminals know to stay away because we got the signs up, also when they see them patrolling."*

P-3 confirmed this comment as follows:

"Well, basically we see we now have more security companies in the area. So now we've got visible security – policing, but not the SAPS. So, we've got PT Alarms, Blue Security, and Alpha. The problem arising in Merebank now is that over and above these companies we need to install alarms in our homes."

Furthermore, P-1 supported the importance of utilising the services of private security companies as their signs acted as a deterrent:

"So, crime prevention is mainly being done by private security companies. The mere fact that having a private security sign on your house that says, 'Hey, this house is protected by so and so...' decreases the fear that you have within you that somebody is going to break into your house because you know that they are going to look at the sign and be like, 'Hey, this house is protected by that security company' so they know they're not an easy target."

The views of P-10, P-3 and P-1 confirmed the association between deterrence and the deployment of private security personnel in Merebank. In corroboration of the establishment of the aforementioned association, Siegel (2011:76) refers to deterrence as "the prevention of socially undesirable behaviour for fear of punishment experienced by the perpetrator". In this instance, it may be safely argued that the mere presence of private security personnel patrolling Merebank acts as a deterrent of crime and thus contributes to crime prevention. Figure 5.9 below is a photograph of a private security company patrol car parked in the immediate vicinity of an open park. The researcher had viewed the driver patrolling at an earlier juncture and during several other visits to Merebank. The participants' comments regarding security company visibility was thus corroborated by this observation, which affirms the significance of private security companies operating in Merebank. Moreover, Figure 5.10 below is a photograph of the visibility of a security company's warning sign near Rawalpindi Road. The finding based on of P-3 and P-1's comments alludes to the deterrent value of private security signage, thus further corroborating the aforementioned definition provided by Siegel (2011).

Figure 5.9: Image of a private security company car patrolling the area near a park in Merebank

Source: Author (2021)

Figure 5.10: Image of a private security warning board in the vicinity of Rawalpindi Road

Source: Author (2021)

Additionally, almost two thirds of the participants were steadfast in their views regarding the affordability of utilising private security in Merebank. Their responses alluded to socio-economic disparities that have plagued the residents of Merebank post-apartheid. The findings are in line with Govender's (2008) assertion that Merebank is a previously

disadvantaged area that was zoned for Indian settlement under the apartheid regime, and that many residents are unable to afford private security for their protection.

P-5 alluded to the inability of all residents to afford private security and highlighted the socio-economic disparities that prevailed in Merebank:

"No, not all the households can afford it. They patrol sometimes. So, I'm not sure whether it's monitoring every house or those that pay. But we do have security..."

However, P-1 argued that even though not all the households had hired a private security company due to financial constraints, the homes in close proximity to those who had security services benefitted from the system as these companies patrolled and protected the entire street:

"Yes, residents pay about R360 per property and the security company then protects that specific area. The house on Buldana Road was broken into. There were three people that broke into the house and they used the canal to escape. Now that house didn't have a security company protecting it at the time. The neighbour saw that somebody had broken into the house and pressed their panic button. Then the security company came next door. Even though you pay for your house, they still come and protect the neighbours' properties because if the area is safe, more people are likely to get the product that they're offering if they can afford it."

As mentioned in the literature review, the researcher was of the opinion that the establishment and implementation of the Group Areas Act was the catalyst for the development of a built environment that served to promote criminality. The results support the views of the researcher and are in alignment with the effects of the Group Areas Act that caused socio-economic disparities that continue to plague residents of Merebank despite the abolishment of apartheid 27 years ago. Higgins and Hunt (2016) support this assertion by arguing that, whilst residents have been attempting to improve their safety by increasing security measures and maintaining the integrity of the built environment, transformation was often futile. This means that although private security companies are employed as a measure of crime prevention in Merebank, the environment itself has not been altered and crime causation continues to occur, with specific reference to its close proximity to a large industrial area. In regard to this, George (2017) highlighted in a media report that property crime continued to plague Merebank. Thus, in resolution of the question pertaining to the

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effectiveness of crime prevention methods in Merebank, it may be argued that private security companies are effective in terms of preventing crime only *to a certain extent* as property crime continues to plague the community.

5.10 The Community's Contribution to Crime Prevention

When the participants were asked what crime prevention measures had been implemented in Merebank, they shared similar views. The majority indicated that neighbourhood watches were the sole form of community contribution to crime prevention efforts in Merebank. However, only a minority affirmed that they were involved in such a neighbourhood watch, but overall there was agreement that the community worked cohesively to counteract the crime problem. The literature argues that neighbourhood watches are a form of informal social control, which is supported by empirical evidence offered by Weisburd et al. (2021) who argue that informal social controls are key to understanding crime causation in built environments.

In alignment with the findings by Weisburd et al. (2021), P-9 stated:

> *"Uhh...very few measures. A preventative measure that I've taken was getting a neighbourhood watch sorted out to guard the road. It is better for us because we work as a team, like together as a community."*

Similarly, P-7 stated:

> *"The only things that I know about are the neighbourhood watch on my street. We know the people there.   So...umm...besides that I don't really recall any other security measures."*

The majority believed that, while a neighbourhood watch is a measure that a community may utilise to ensure crime prevention in Merebank, these structures did not last long and quickly ran out of steam. The reasons for this were specified as follows:

P-3 commented:

> *"We tried to get a neighbourhood watch going, but unfortunately, we didn't get full support from all the neighbours. So it becomes an issue, especially if you are working. So, the neighbourhood watch has collapsed."*

Similarly, P-5 stated:

> *"Uhh...for prevention we started neighbourhood watches...uhh...street patrols and all these things, but for some reason it hasn't really worked in Merebank."*

The findings emanating from the above comments suggest a lack of social cohesion in Merebank as the residents rarely collaborated to form and sustain neighbourhood watches. A gnawing question came to mind: "How do communities achieve and maintain social cohesion?" The findings of the current study did not address this question as the majority of the participants admitted that the community was rarely concerned with the notion of social cohesion and community collaboration. Vahed (2013) discovered that a strong degree of social cohesion in communities resulted in the increased participation of residents to maintain and protect their neighbourhoods, but this was not the case in Merebank, which is a finding that supports a similar view by Vahed (2013). However, this finding is contradictory to the amended White Paper on Safety and Security (Department of Safety and Security, 2016) that urges a developmental and integrated approach to crime prevention, while recognising that safety extends beyond the purview of law enforcement. The reason for this contradiction lies in the lack of collaboration among residents and a resultant lack of social cohesion.

Moreover, while the literature proposes collaboration between the community and the police as well as socialisation and neighbourhood watches as forms of informal social control, the participants only mentioned neighbourhood watches in this regard. Figure 5.11 below illustrates the need for the interrelation of informal social control measures to prevent crime. As neighbourhood watches seemed to be rarely implemented in Merebank and community policing initiatives and socialisation were not on the agenda at all, this means that a level of social disorganisation was prevalent. The social disorganisation theory may thus be employed to explain this observation. Welsh (2015) asserts that social disorganisation occurs when there is a breakdown in social control and organisation in a given society, and neighbourhoods and communities thus fail to curb criminal activity to a large extent. Furthermore, Shaw and McKay (1942) developed the social disorganisation theory to explain why some neighbourhoods have increased social problems compared to others who remain relatively spared.

Figure 5.11: Diagram to illustrate the interrelation among informal social control measures to curb crime

Source: Author (2021)

Therefore, in response to the question: "What is the contribution of Merebank residents to the implementation and enforcement of crime prevention methods?" it was discovered that only a minority of residents prioritised community participation in regard to the enforcement of neighbourhood watches. This means that a predominant lack of social cohesion and a lack of informal social control were present in Merebank.

5.11 An Environment that Elicits Fear

As was mentioned in the literature review chapter, a neighbourhood with high levels of incivility may provoke anxiety and fear amongst its residents (Landman, 2017). However, it was found that the *extent* and *effects* of disorder and incivility on community members have been largely unexplored. This suggested a gap in the literature concerning community perceptions of fear of crime in relation to the design of the built environment. This research thus aimed to address this gap by exploring how residents actually truly felt about crime and what their perceived levels of fear of crime were in Merebank. To address the aforementioned gap, the participants were asked: "As a resident of Merebank, do you feel a sense of fear? If yes, elaborate as to why this is the case." The responses were divided into sub-themes as will be discussed below.

5.11.1 Darkness versus light

The majority of the participants admitted that they experienced fear, particularly during the evenings and at night when it is dark. According to Vlaskamp (2011), individuals' perceptions of fear of crime are increased during the night as opposed to during the day. The comments below corroborate this assertion:

P-1 provided a clear illustration of why fear was felt during the hours of darkness:

> *"Everyone knows that if anything were to happen, don't go there at certain times of the night because that's where people are going to congregate. You can only walk between the hours of 9 – 4 [09:00−16:00]. As soon as it becomes slightly dark, at like dusk, you know don't walk in Merebank. You take the car. My father has low sugar regularly and I have to go to the shop a night. I know not to go to the shops in Merebank so I go to Bluff. I know that there's security in Bluff."*

P-2 offered the following insight:

> *"But when it came to like 5 o'clock [17:00], everyone was inside their houses. This has gotten worse as the years go by. You can run around in front of your house but not any further."*

Similarly, P-15 explained:

> *"My husband walks around the whole day but not at night."*

The finding that emerged from these comments indicated that the participants did not feel safe at night or even in the early hours of the evening. However, the majority commented that they felt safe during the day. The findings are supported by the VOCS (2019/2020) on fear of crime in South Africa (Statistics South Africa, 2020). This survey was conducted to determine if a positive correlation exists between inadequate environmental design and perceptions of fear of crime. The results of this survey indicated that most households felt safer walking the streets during the day as opposed to walking alone in the dark. It was determined that, in the period 2019/2020, individuals felt 44.8% safer walking alone during

the day as opposed to the night. However, males in general feel safer walking the streets during the day and the night as opposed to females (Statistics South Africa, 2020). While the correlation between fear and gender was explored in the literature, the participants did not mention gender as a factor that affected their respective perceptions of fear.

5.11.2 Fear of crime after the abolishment of apartheid

Kruger (2018) asserts that fear among communities was born and bred in South African neighbourhoods that were affected by exclusionary and oppressive apartheid policies, particularly the Group Areas Act. To give credence to this assertion, the researcher explored the views of older participants who were residents in Merebank during apartheid to maintain authenticity. Such participants comprised the majority of the sample. When questioned about their views on segregationist apartheid policies and how these policies affected the feeling of fear and the development of Merebank, sub-themes emerged from the responses. These are: a lack of police presence, and a lack of controlled access and escape routes.

5.11.2.1 Fear caused by a lack of police presence

The participants indicated that a lack of police presence in the post-apartheid are increased their perceptions of fear of crime. Media reports (Mass meeting addresses high crime levels in Merebank, 2020) corroborated the participants' claim of a lack of police presence in the area. Alternatively, conflicting media reports (More Units, Police for Wentworth, 2016) indicated that the government had deployed several specialised units to the Merebank area to reduce and prevent criminal activity. Moreover, the exploration of this sub-theme illuminated which of the aforementioned media reports were factual regarding a lack of police presence. The majority of the participants indicated that they had felt safer during apartheid when increased police presence was the norm. When probed regarding a comparison between levels of fear that were currently felt and those felt during apartheid, the participants commented on the prevalence of fear due to the current lack of police presence as follows:

P-10 stated:

"There's no police around now and the army used to move around by the shopping centre and by the beach. Now there's no surveillance. If you had to take into account the location of the Wentworth Police Station, the area that they have to handle [is huge]. Now when we in this area have a problem, they are a bit slow to respond. So if they, like, can provide, like, a satellite station with vehicles that are patrolling the area, that will help. But then you know, they concentrate more on certain areas and there's always shortage of staff and no vehicles. Then when there's a serious crime they do no...uhh.. respond. This is more scary these days. We personally had a drive-by shooting because of business one and a half years ago. Four people got shot, including a policeman and to date no-one was caught, no action was taken. So how do you even call the police to help?"

P-15 also mentioned adequate police presence during apartheid and a greater sense of safety then:

"The police [patrols] stopped now. That is why we are scared now. The police don't come around at all here. Nothing, you don't see them at all now. Maybe once a month. Before they used to go up and down and checked around."

P-11 concurred with the views of P-10 and P-15 and added the following:

"The police are hardly here and the nearest police station is Wentworth and they have their hands full. Of course we are more fearful now."

The participants' views supported media reports (Mass meeting addresses high crime levels in Merebank, 2020) that illuminated the current lack of police presence in the Merebank area, which contributed to escalating crime rates. This means that if police presence could be increased in this area, residents' fear will be significantly reduced. However, before the apartheid system is condoned in light of residents' sense of safety and lack of fear at that time, an examination of apartheid policies and practices indicated that, whilst the participants might have felt safer with increased police presence, these policies infringed on their right as individuals to move around freely within and outside their residential area. This type of restriction was lawful but oppressive in the extreme and was one of the reasons that apartheid is deemed abhorrent to this day.

In the final part of this section the sub-theme 'a lack of controlled access and escape routes' will be discussed.

5.11.2.2 Fear caused by a lack of controlled access and escape routes

The information provided by the participants under this sub-theme indicated that a lack of controlled access and escape routes precipitated perceptions of fear among residents in Merebank. In the context of apartheid environmental design, access and escape routes were controlled by law enforcement which resulted in decreased criminality and an increase in a sense of safety against crime in the Merebank area. However, Govender (2008) criticises access control during apartheid by asserting that such control could have left residents feeling 'boxed' in' in their residential area which could have resulted in fear due to a lack of personal freedom, if not criminality. This latter statement was actually not supported by the current study as none of the participants admitted to feeling restricted to their neighbourhood during apartheid. However, the majority of the participants revealed that uncontrolled access and escape routes were currently a cause of concern. For instance, P-10 commented on the design of the environment that restricted access and escape routes and that left them unmonitored:

> *"Definitely. Perpetrators of crime generally look for a quick getaway, easy access, and things like that. So, in your planning, especially if you look at town planning, they need to take all that into consideration when they're developing an area. In this area you can see...uhh...criminals or criminal elements, you know; they know the ins and outs of this area so, like, quick getaway from, like, the Indian area into the Black area is easy. We are living in fear because no control happens."*

P-5 elaborated on this in regard to the environmental design of Merebank:

> *"Umm, ya, the environment is easy to access. Our houses are easily accessible. Very easy in fact. If your buildings are poorly structured, they are accessible...easily accessible."*

P-8 viewed access and escape routes as a significant source of fear:

> *"In fact, we continuously live in fear because as you can see our attached neighbour they've got gates but their gates are continuously left open. It is simple to access the houses here. So, although we are trying to live securely here with our gates continuously closed, we can get burglars jumping over our wall from their yard*

because we are so closely built that the neighbours can walk from one wall to another and can even jump over. So that causes fear—basically we are living in a lot of fear."

The findings the emerged from the above comments support the views of Fry (2017), who asserts that citizens who reside in 'developing' areas feel an increased sense of fear due to a lack of security and no control of access and escape routes in their areas. Moreover, the findings indicate the presence of a lack of social cohesion amongst residents. Visser et al. (2013) argue that a lack of social cohesion leads to deprivation, incivility, and crime causation in neighbourhoods. It thus follows that, the higher the levels of social disorder, the higher the crime and the higher the levels of fear of crime and vulnerability (Fry, 2017). However, it can be argued that increased police presence and increased control of access and escape routes may allow for the better socialisation of residents and thus lead to decreased perceptions of fear of crime.

Unfortunately few studies could be traced that had examined community perceptions of fear of crime in the realm of environmental design and thus exposed a gap in the literature that needed to be explored. In fact, earlier studies predominantly investigated actual fear of crime and negated the effects of the perceived fear of crime as experienced by South African residents in a particular area. Thus, to answer the question: "What are the perceptions of fear of crime among the Merebank community due to inadequate environmental design?" the findings indicated that residents perceived this environment as significantly dangerous for two primary reasons: proximity to an industrial area and large industries that employ a huge workforce that is not recruited from Merebank, and relatively easy access to routes into and escape routes out of the area, in conjunction with a lack of monitoring of these routes. Moreover, the findings indicated that residents felt safer during apartheid due to increased control of access and escape routes and the presence of policing in the Merebank area, but this researcher argues that this sense of safety could have been compromised by a lack of actual personal freedom due to residential location based on ethnicity.

5.12 Chapter Summary

The findings that were illuminated in this chapter established a correlation between environmental design and criminality, with emphasis on apartheid environmental design (particularly in terms of access and escape routes), crime prevention, and fear of crime. A

close analysis of the literature and the data showed that the environmental zoning of areas during apartheid occurred due to the Group Areas Act. This resulted in the environmental location of residential areas based on race, and it was primarily this location in close proximity to industries and the resultant influx of vagrants that negatively impacted the Merebank community's current perceptions of crime and fear of crime. A surprising result is thus that Merebank residents felt safer during apartheid than in the present day. The findings additionally illuminated issues such as a lack of efforts by the community to prevent crime, and their predominant reliance on private security companies rather than on the police. Establishing neighbourhood watches was identified as the sole method of community contribution to prevent crime, but a minority of the participants actually joined a neighbourhood watch. Moreover, the participants argued that a lack of controlled access and escape routes rendered them feeling 'boxed in' in their neighbourhood and resulted in increasing perceptions of fear amongst them. Surprisingly, the participants admitted that they had felt safer during apartheid when police presence was increased and access and escape routes were controlled, while none commented about feeling boxed in and restricted during that time.

CHAPTER SIX
CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

This study aimed to investigate the impact of the apartheid built environment and fear of crime on criminality in Merebank. This investigation was given impetus by the problem statement in Chapter One which had been generated with reference to SAPS property crime statistics, VOCS findings, and media reports. The statistics were compared with media reports and contradictions were discovered. To address the issues under study, the prevalence of property crimes and crime prevention were explored against the background of apartheid residential zoning and built environmental issues in Merebank. Limited literature was available on community contributions to the implementation and management of crime prevention measures and perceptions of fear of crime in the South African context. This study is therefore significant as it was conducted in an attempt to contribute to the body of knowledge regarding the aforementioned gaps in research. Moreover, the conflict between the contributions of residents and law enforcement regarding crime prevention in the Merebank area was addressed by interpreting the views and perceptions of participants who had lived there for a long time. Semi-structured interviews were used to collect the data. Based on the literature review and with the key aim of the study in mind, four objectives were devised to underpin this investigation, namely: (i) to investigate the impact of inadequate environmental design on crime causation in Merebank; (ii) to investigate the impact of the Crime Prevention through Environmental Design model on crime prevention in Merebank; (iii) to examine Merebank residents' contribution to the implementation and enforcement of the Crime Prevention through Environmental Design model; and (iv) to investigate community members' perceptions of fear of crime due to inadequate environmental design in Merebank.

This chapter will conclude the study report with a summary of the key research findings in relation to the research aim and research questions, while its contribution to the pool of knowledge in the criminology field will also be expounded. Additionally, this chapter will acknowledge the limitations of the study and propose opportunities for future research.

6.2 General Conclusions

The research problem that was derived from the literature review and personal observations was confirmed by the participants who concurred with media reports in regard to the high rates of property crime in Merebank. In terms of crime prevention, the residents of Merebank utilised some of the proposals of the CPTED model with varying success. For instance, community cohesion was limited due to issues such as drug use and perceptions of fear. Moreover, apartheid zoning policy (Group Areas Act) underlying inadequate environmental design was mentioned by the participants.

The subsequent section will address the conclusions in confirmation that the objectives and aim of the study were achieved.

6.2.1 The impact of inadequate environmental design on crime causation in Merebank

This study explored inadequate apartheid environmental design and determined that it impacted criminality in Merebank. A key finding was that, despite more than twenty-seven years since the abolishment of apartheid, transformation has been limited in terms of the built environment and that this is not conducive to reduced criminality and increased liveability. Surprisingly, the abolishment of the Group Areas Act diminished residents' sense of safety and increased criminality in Merebank. The results also showed that security decreased as a result of a loss of control in the built environment, particularly as apartheid zoning policy ensured the monitoring and control of the movement of individuals into and out of the area. These findings corroborated those of Meth (2017) and Shackleton and Gwedla (2021).

Furthermore, the visible and textual data indicated that, whilst residents cited the apartheid era as a safer time as a result of apartheid zoning policy (Group Areas Act) that separated races, they emphasised that the current influx of undesirable elements contributed to criminality within Merebank. These elements have seemingly created a lack of social cohesion and an increase in opportunities for criminality due to the dilapidated physical environment of many parts of Merebank and delinquency. Whilst apartheid zoning policies set the development of the inadequately designed built environment in motion, the aforementioned current issues cannot all be linked to the implementation of apartheid zoning

laws. Rather, it is a combination of these laws with current social and maintenance issues that contribute to criminality in Merebank.

Moreover, the participants indicated that property crimes occurred frequently in Merebank and they attributed this to lack of maintenance of vegetation in parks and open spaces, poor street lighting, abandoned and dilapidated buildings, and the influx of vagrants due to Merebank's close proximity to a large industrial area. The findings thus corroborated media reports of delinquency and criminal activity and highlighted the inaccuracy of SAPS statistics that indicated a decrease in property crime from 1994 to 2020. This study found that property crimes had decreased during the COVID-19 lockdown in 2020/2021, but that criminal activities had picked up again when the restrictions were somewhat lifted. This was corroborated by the aforementioned finding of a loss of control that caused increased criminality in Merebank.

The study found that Merebank's proximity to a highly industrialised area, which was a result of apartheid zoning policies based on race, caused the influx of unfamiliar individuals into the area and this resulted in the perpetration of criminality as social bonds were not formed among residents.

Disorder, which underpinned the aim and objectives of the study, was evident and was both physical and social in nature. Physical disorder was prevalent due to dilapidated and abandoned buildings where vagrants and delinquents operated nefariously and often with impunity due to limited police presence. Social disorder was prevalent due to limited social control that perpetuated a cycle of delinquency and particularly drug use. A link between physical and social disorder was thus established. It was concluded that physical disorder perpetuated social disorder and vice versa. In response to the research objectives, the results indicated that disorder negatively impacted criminality as the prevalence of disorder increased opportunities for crime causation.

6.2.2 The impact of the CPTED model on crime prevention in Merebank

In terms of crime prevention, the study found that only two (40%) of the five measures of the CPTED model were utilised, namely target hardening and surveillance. It was clear that the residents were unaware of the CPTED model and its benefits. Furthermore, crime prevention

was primarily administered by private security companies and not by the police or the residents themselves, which is a finding that further confirms the argument of a lack of social cohesion in the Merebank community.

6.2.3 Contributions by Merebank residents to the implementation and enforcement of aspects of the CPTED model

The lack of social cohesion was also confirmed by the unwillingness of residents to form and sustain neighbourhood watches as a community contribution to crime prevention. It is acknowledged that this finding cannot be extrapolated to the entire Merebank community as only 15 residents were interviewed, but the comment by two participants (who had lived here throughout the apartheid era to present) that neighbourhood watches were not sustained successfully underpinned this finding. The results further indicated that a lack of informal social control and social cohesion were evident in Merebank. It is argued that this was caused as a result of a high rate of fear of crime and a large number of transient residents who were admittedly unknown to lifelong residents of Merebank. This finding is corroborated by Shaw and McKay's (1942) social disorganisation theory.

6.2.4 Community perceptions of fear of crime due to inadequate environmental design

The findings of this study indicated that an inadequately designed built environment, and also an inadequately maintained environment, contributed to perpetuating perceptions of fear amongst the residents. The participants admitted that they were reluctant to leave their homes under the cover of darkness as they were of the view that they were vulnerable during the night. This finding corroborated the 2019/2020 VOCS that indicated that individuals felt safer walking the streets during the day. To contribute to the gap in the literature regarding 'how residents truly feel', the participants responded that they were increasingly fearful due to a lack of police presence in Merebank. This fear was exacerbated by their proximity to a large industrial area and the lack of access control of routes to and from Merebank.

6.3 Contribution of the Study

The findings of this study may potentially benefit South African communities that were compelled to reside in undesirable geographical locations as a result of the implementation of

the Group Areas Act. The design of such locations generally prevent expansion and development, which has been the case in Merebank. Moreover, the findings may encourage law enforcement (the SAPS particularly) to increasing its presence in Merebank and similar communities. Academics will also be encouraged to engage in further research to contribute to broader knowledge in this field of study.

In essence, the research outputs addressed the identified gaps in the literature and the aim and objectives were achieved as follows:

- The problem of inadequate environmental design and the perpetuation of crime were found to be enduring issues in Merebank due to a lack of transformation policies by the current government. Furthermore, the study findings will augment the insufficient body of literature on the impact of inadequately designed built environments on crime causation. The results will also augment the literature regarding the detrimental effects of the apartheid design and location of residential areas.

- When the findings are appropriately disseminated to the local municipality, the maintenance of street lights will improve and this will serve to increase visibility in Merebank at night. This will contribute to increased social cohesion amongst residents as they will be able to effectively 'look out' for one another during the hours of darkness, thereby increasing overall security. Moreover, this will alleviate perceptions of fear of crime.

- Limited research has focused on implementing CPTED at neighbourhood level and the actual impact of CPTED was thus relatively unknown. This study will contribute to addressing this gap. It was clear that most residents were unaware of CPTED as a strategy for crime prevention and thus increasing awareness may potentially serve to address the identified gap as a contribution to the body of knowledge. Awareness could be increased by community policing forums and existing neighbourhood watches hosting workshops or handing out simplistic pamphlets highlighting how measures of CPTED could improve the overall safety of residents. Furthermore, it is hoped that each of the participants that was interviewed will share the information that was gained from their interviews with other residents in a 'snowball' manner to increase the overall community knowledge of CPTED.

- Additionally, the findings illuminated that darkness and a lack of controlled access and escape routes serve to increase perceptions of fear amongst the residents of

Merebank. The findings will thus contribute to the body of literature pertaining to perceptions of fear of crime in the context of Merebank and possibly other similarly previously disadvantaged areas within South Africa.

- The results of this study were corroborated by the theoretical underpinnings that framed it, and the postulates of the theoretical framework were identified by the participants as reflected in their responses. The findings highlight the simplicity of implementing the CPTED model at neighbourhood level and the participants, who agreed that they were enthused by the purpose of the study, may share their newly acquired knowledge with others. This means that this research will have achieved a degree of impact if renewed crime prevention strategies are implemented in Merebank, perhaps in the form or renewed enthusiasm for establishing and joining a neighbourhood watch.

- Moreover, this study adequately addressed the research problem as it highlighted the causes of property crime prevalent in this community. This information, when appropriately disseminated to the community and law enforcement, will contribute to improved crime prevention measures and may result in the alleviation of fear of crime. The findings corroborated media reports regarding escalating crime in the Merebank area.

6.4 Limitations that Impacted the Research

According to Neuman (2014), the limitations of a study are referred to as the characteristics of the methodology that influenced the research findings.

6.4.1 The impact of COVID-19 restrictions

The global COVID-19 pandemic that negatively impacted researchers universally also impacted this study, particularly as a larger and more representative sample could not be recruited. A larger sample may have contributed to a wider range of data. However, the sample of 15 was deemed sufficient for a qualitative study of this nature and it is argued that data were collected to the point of saturation within the purpose and scope of the study.

6.4.1.1 Time constraints

A significant limitation was the delay caused by the COVID-19 pandemic. South Africa was subjected to several lockdowns throughout 2020 and 2021 which affected the completion time of this study. These time constraints meant that the researcher had specified and limited times in which to complete the semi-structured interviews with the participants. Some participants hastened through their interviews as a result of fears related to COVID-19. Therefore, some interviews did not continue for half an hour and responses were swift.

6.4.1.2 Limited access to particpants

The researcher intended to conduct focus group research in addition to the semi-structured interviews that were conducted. However, COVID-19 restrictions and the subsequent reservations of the proposed participants led to the dissolution of the focus groups. Focus groups are relatively inexpensive to conduct and generally involve 9 to 15 participants per group who share ideas. The interactions that arise from the debates amongst participants in such a focus group provide meaningful and powerful research data (Maxfield and Babbie, 2015). Not conducting focus group discussions was a limitation as conducting focus group research in addition to semi-structured interviews would have provided the collection of richer data and incited valuable debates amongst the participants.

6.4.1.3 Sample presentation

While the 15 recruited participants were adequately interviewed, they were all initially reluctant and had to be offered additional personal protective equipment to ensure their safety. The researcher is of the opinion that fear incited as a result of COVID-19 resulted in four participants hastening through their interviews. This is a limitation as only 15 interviews were conducted which already did not lend favourably to the generalisability of this study. In terms of qualitative studies, the utilisation of a small data set indicates that the results are not generalisable to the larger population. Moreover, 22 residents initially agreed to participate in interviews, but 7 decided to forego this involvement due to fears surrounding COVID-19. A larger sample would have elicited a wider range of responses and contributed to the study by facilitating further and in-depth discussion of issues pertaining to its aim and objectives.

6.4.2 Participant bias

According to Maxwell and Babbie (2015), participant bias originates from participants who respond to questions in a manner that is deemed socially acceptable as opposed to voicing their genuine views. The researcher noted that several participants were particularly concerned when contributing their perceptions based on apartheid environmental design, as racial tensions might have emerged. This possibility resulted in reluctance amongst some participants to answer questions as honestly as possible.

6.5 Recommendations to Counteract the Limitations of the Study

The impact of a global pandemic cannot be negated. To counteract limited face-to-face interviews, Zoom or WhatsApp video calls could have been conducted. However, despite the benefits of the digital age, the majority of the participants did not have access to the Internet. In terms of negating the time constraints and limited access to participants, this could not have been avoided due to current circumstances.

Moreover, a quantitative or mixed-method study could have been conducted to avoid face-to-face interviews during COVID-19. However, the nature of this study was inherently qualitative. Furthermore, it was considered that the administration of more than 100 surveys or questionnaires (quantitative data collection) during a global pandemic would have been impossible as many Merebank residents do not have access to the Internet and many would possibly have expressed reluctance to handle hard copies of a questionnaire due to fears associated with COVID-19.

Participant bias is inherent. Other than assuring them of no right or wrong answers and encouraging them to speak freely, the researcher could not control whether the participants heeded this advice or reserved their authentic opinions in favour of sharing socially acceptable responses.

6.6 Recommendations pertaining to the findings of the study

6.6.1 Environmental design interventions to reduce crime causation

The primary concerns of the participants that pertained to the inadequately designed built environment were the presence of disorder and infrastructure that was in disrepair. Based on these concerns, the researcher elucidates the following recommendations:

- Within public spaces, adjacent buildings and surrounding spaces should be attractive, accessible, well designed and usable to the general population that inhabits the area. This creates accessible and safe spaces that members of the community are able to utilise without fear of criminality.

- Narrow indents, cul-de-sacs, and walls that are covered with foliage should be avoided. This is due to the simple fact that negative perceptions of passers-by could be heightened and the area could be deemed unsafe. Furthermore, these areas could be utilised by criminals as hiding places. Developments should avoid providing vulnerability by creating back gardens and/or alleyways that expose private yards that criminals could access.

6.6.2 Enhanced community cohesion

- If community leaders were to invest in research and evaluation by means of surveying residents to learn how they feel about their neighbourhoods, they can address the concerns of residents effectively. This could result in community leaders and community members working together to curb crime.

- Organising the community and encouraging volunteerism will increase community cohesion and the resolve to combat crime and promote safety. For instance, with the assistance of community initiatives and law enforcement, surveys could identify residents of poorly functioning neighbourhoods who care about the community and will volunteer to help improve it. Community members and service organisations could recruit these individuals and spearhead their efforts.

6.6.3 Improved SAPS involvement

- The participants raised the concern that a lack of police presence led to an increased perception of fear of crime. Residents should increasingly address queries to the ward councillor who should liaise with a representative of the SAPS. While it may not be possible to acquire the daily involvement of the SAPS in Merebank, perhaps the installation of a satellite police station will enhance SAPS contributions to the community of Merebank.

Should these recommendations be taken into account and implemented, life in Merebank will be improved immensely. Residents will benefit from effective natural surveillance and the community will avoid several issues such as petty crime and anti-social behaviour.

6.7 Suggestions for Future Research

6.7.1 Controlled access and movement of citizens

With reference to access control, the researcher posed the question: "Does the implementation of crime prevention strategies in South African neighbourhoods infringe upon the rights of citizens?" The participants attributed their increased perception of fear of crime to a lack of access control to the area and no monitoring of escape routes. However, all citizens have a constitutional right to freedom of movement. It has not been established how this freedom of movement may be controlled without violating the rights of South African citizens in general, but what is clear is that residents' right to live in a safe environment is compromised when vagrants and delinquents have free access to it. This causes law-abiding citizens to live in fear. Therefore, further research should be undertaken to explore policy surrounding this issue. Perhaps a study of a legal nature will be beneficial.

6.7.2 Public awareness of the practical implications of the CPTED model

It is reasonable to argue that many members of the public are unaware of CPTED measures and how to implement them. The participants mentioned two measures of CPTED and were

unaware of this crime prevention strategy prior to being interviewed. Further research should be conducted to establish the degree of awareness of residents in terms of implementing CPTED strategies, especially in previously disadvantaged communities that have been affected by inadequate apartheid environmental design. Quantitative research may suit a study of this nature as it will determine whether residents are aware of CPTED or not. Therefore collecting a large set of data by means of a survey will be appropriate.

6.8 Summary and Concluding Remarks

The inadequately designed built environment of Merebank was assessed in terms of its contribution to promoting criminality in relation to four factors: apartheid segregationist policies, crime prevention, community contributions to crime prevention, and perceptions of fear of crime. The findings indicated that disorder and a lack of social cohesion in the community under study resulted in increased criminality in the area. Moreover, crime prevention was primarily administered by private security companies as opposed to residents or the SAPS, which further corroborated the finding of a lack of social cohesion in the community. This lack of social cohesion was underpinned by the perception of fear that was experienced as a result of uncontrolled access and escape routes into and from the area. This indicated a cyclical connection between each of the objectives of this study, as one issue propagated another. Thus one issue cannot be solved without solving all the other issues.

In conclusion, the unfavourable impact of the inadequately designed apartheid built environment continues to affect South African communities to varying degrees. This is not a new phenomenon and is exacerbated by a lack of transformation in democratic South Africa. While policies such as the NCPS (1996) and the amended White Paper on Safety and Security (2016) aim to reduce crime through community cohesion and the implementation of CPTED strategies, these policies have not been successful. This is evidenced by the high rates of property crime that have plagued South Africa since 1994 to the present. To address this problem, each previously disadvantaged community must band together as one to work towards building strong bonds and implementing practical strategies such as those proposed by the CPTED model to alleviate fear and reduce criminality in South Africa.

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Appendix A

Questions for Semi -structured Interviews

1. As a resident of Merebank, are you of the opinion that Environmental Design contributes to crime causation within Merebank?

2. Are you of the opinion that disrepair, poor building design, poor lighting and the presence of industries has caused crime to be committed within Merebank?

3. Does walking through or passing by a particular area within Merebank incite feelings of fear within you? If yes, elaborate as to why this is the case?

4. What crime prevention efforts have been implemented in Merebank? If so, have these efforts been related to improving the Environmental Design within Merebank?

5. Would it be possible for residents to improve the safety of their neighbourhoods? If so, what course of action would you as a resident take to prevent crime causation?

6. In your opinion, would it be possible to prevent crime by implementing Crime Prevention Through Environmental Design measures within Merebank.

7. Would the assistance of local government be required so as to implement Environmental Design measures?

8. In your opinion, what are the most common types of crimes that occur in Merebank?

9. In your opinion, what are the differences in both crime and security prior to 1994 and post 1994?

10. How many years have you lived in Merebank for? When did you begin to feel fearful in relation to the years that you have lived in this area?

Appendix B

HSSREC Ethical Clearance Letter

20 October 2020

**Miss Tyla Naicker (212509720)
School Of Applied Human Sc
Howard College**

Dear Miss Naicker,

Protocol reference number: HSSREC/00002018/2020
Project title: An explorative study of Environmental design and crime: A case study of Merebank, Durban
Degree: Masters

Approval Notification – Expedited Application

This letter serves to notify you that your application received on 12 October 2020 in connection with the above, was reviewed by the Humanities and Social Sciences Research Ethics Committee (HSSREC) and the protocol has been granted **FULL APPROVAL** on the following condition:

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number. PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.

This approval is valid until 20 October 2021.
To ensure uninterrupted approval of this study beyond the approval expiry date, a progress report must be submitted to the Research Office on the appropriate form 2 - 3 months before the expiry date. A close-out report to be submitted when study is finished.

All research conducted during the COVID-19 period must adhere to the national and UKZN guidelines.

HSSREC is registered with the South African National Research Ethics Council (REC-040414-040).

Yours sincerely,
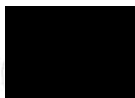
Professor Dipane Hlalele (Chair)

/dd

Appendix C

Gatekeepers Letter – Ward Councillor
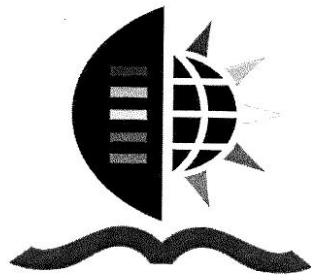
UNIVERSITY OF KWAZULU-NATAL

INYUVESI YAKWAZULU-NATALI

ACKNOWLEDGMENT OF PARTICIPATION IN RESEARCH

Masters Research:

An explorative study of Environmental Design and Crime: A case study of Merebank, Durban.

This hereby serves to confirm that Ms Tyla Naicker (212509720) was granted access and permission to conduct research within the specified area of Merebank.
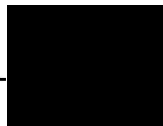
All questionnaires, interview schedules and other instruments were reviewed before commencing the data collection process. These instruments did not contain any inflammatory or overly sensitive material that would have put any participant/s at risk.
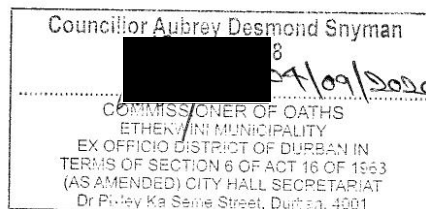
Organisation/Office/ Institution:

ETHEKWINI MUNICAPALITY (WARD 68).

Authorised by:

CLLR
A.D. SNYMAN.

Official stamp (If applicable):

> Councillor Aubrey Desmond Snyman
> 8
> ▮▮▮▮▮ 7/09/2020
> COMMISSIONER OF OATHS
> ETHEKWINI MUNICIPALITY
> EX OFFICIO DISTRICT OF DURBAN IN
> TERMS OF SECTION 6 OF ACT 16 OF 1963
> (AS AMENDED) CITY HALL SECRETARIAT
> Dr Pixley Ka Seme Street, Durban, 4001

Appendix D

Informed Consent

Dear Participant

INFORMED CONSENT LETTER

My name is Ms. Tyla Naicker. I am a Masters candidate studying at the University of KwaZulu-Natal, Howard College campus, South Africa.

To gather the information, I am interested in asking you some questions.

Please note that:
- Your confidentiality is guaranteed as your inputs will not be attributed to you in person, but reported only as a population member opinion.
- The interview may last for about 30 mins and may be split depending on your preference.
- Any information given by you cannot be used against you, and the collected data will be used for purposes of this research only.
- You have a choice to participate, not participate or stop participating in the research. You will not be penalised for taking such an action.
- Audio recording will occur during the participation.
- Names of the participants will remain anonymous and only code names or pseudo names will be used in the study to protect participants from stigmatisation.
- The research aims at determining whether poor environmental design influences crime causation within Merebank.
- Your involvement is purely for academic purposes only, and there are no financial benefits involved.
- If you are willing to be interviewed, please indicate (by ticking as applicable) whether or not you are willing to allow the interview to be recorded by the following equipment:

	Willing	Not willing
Audio equipment		

- If any psychological matters arise due to the topic at hand the researcher will refer the participants social worker up unit they has fully dealt with any stressful or event that may have uncounted due to school violence.

I can be contacted at:
Email: tyla.naicker@gmail.com
Cell: 082 898 2750

My Supervisor Dr. Nomakhosi Sibisi
School of Applied Human Sciences, Criminology Department,
Howard College campus of the University of KwaZulu-Natal.
Contact details: nomasibisi92@gmail.com or SibisiN@ukzn.ac.za

You may also contact the Research Office through:
P. Mohun
HSSREC Research Office,
Tel: 031 260 4557 E-mail: mohunp@ukzn.ac.za
Thank you for your contribution to this research.

Declaration Form

I……………………………………………………………………………………………

(full names of participants) hereby confirm that I understand the contents of this document and the

nature of the research project and I consent to participate in the research project.

I understand that I am at Liberty to Withdraw from the research project at any given time, should I

so desire. I understand the intention of the Study/Research. I hereby agree to participate in the

study.

I consent / I do not consent to have this interview recorded *(if applicable)*

SIGNATURE OF PARTICIPANTS   DATE

………………………………………………..
………………………………………………………

Appendix E

Debriefing Document

Information and debriefing form

Greetings to you all, my name is Tyla Naicker.

I am a student at the University of KwaZulu-Natal and I am conducting research on a topic entitled "An explorative study of Environmental Design and Crime: A case study of Merebank".

I would like you all to be part of my study, which will make you participants of the study.

During the course of the study, I would like you to share your perceptions on several questions that you will be asked.

- This will be done through semi – structured interviews and focus groups.

- What is discussed within the group and individually will remain confidential.

- What will be discussed within the group and individually will be recorded.

- NB: There are no risks or benefits associated with partaking in this research project.

Debriefing

As a researcher, it is important to encourage reflection now that the interview has concluded. If you have any questions or concerns, have felt that this study has affected you negatively in any form; kindly let me know at this juncture.

We will now discuss the data that was gathered during the course of your interview in detail.