

CHAPTER 6

EMPIRICAL FINDINGS AND THE HONC AGAINST CRIME MODEL

6.1 INTRODUCTION

The HONC against crime model has originated from the crime prevention management system that was developed for Woodlands Lifestyle Estate, located in the eastern suburbs of Pretoria, province of Gauteng (Jordaan & Coetzer 1999). It addresses the needs of the resident in a residential neighbourhood on different levels, namely their safety, healthy lifestyle, communication needs and is based on the principles of CPTED. The elements of this new theory were identified by Piet Jordaan and the theoretical framework thereof was compiled by Carina Coetzer, which is empirically tested by this research.

In order to meet the unique requirements of this new neighbourhood, the researcher assisted with the design of the new integrated model of crime prevention, integrating CPTED with recreational activities and environmental aesthetics to create a secure, and information-driven environment incorporating good surveillance (Coetzer 2001:165). Called the “HONC” against crime, it includes the following elements:

- H = Healthy lifestyle
- O = Online (information technology)
- N = Nature
- C = CPTED (Crime prevention through environmental design)

To determine if the applied HONC elements within a neighbourhood will result in a neighbourhood with a lower crime rate, a checklist and a telephone survey were used within three different neighbourhoods, which contain some of these elements to a certain degree. The checklist and the telephone survey could be matched with each other because of the physical address correlating with one another.

In this Chapter the crime statistics as gathered from the checklist and telephone interviews are compared and explained according to the elements of the HONC model. The elements of the HONC model will also be fully explained and explored.

6.2 DESCRIPTION OF ESTATES

Two enclosed neighbourhoods (Woodlands Lifestyle Estate and Prairie Estate) and one open neighbourhood (Glossa Estate) formed part of the research. The following information was obtained via the checklist about the physical characteristics of each and what commodities were situated within one kilometre of each estate that could have a possible influence on their individual security management systems.

This information should actually fall under the heading of CPTED in this Chapter but is placed in the beginning of the description of the HONC model and the corresponding empirical findings to serve as a background for the reader on how the three estates differ from or correlate with one another.

6.2.1 Prairie Estate

Prairie Estate is regarded as a more established area, older than three years. Situated within Garsfontein policing precinct it has one boomed off entrance where formal access control is done by a guard. No signs of security companies were sighted on the boundary wall of this estate. The inside of the estate is also patrolled by guards. The boundary walls of this estate consist of a solid brick wall with a electrical wire on top, which brings the total height of this fence to 2.6 metres (Questions 4 -26).

This estate is situated within one kilometre of a main supply road, a nature reserve, golf course, an open field, shops and building activity taking place. Within this radius there are no highways, informal settlements, parks, bus stops, taxi ranks, trains stations or railway lines (Questions 27-39).

6.2.2 Glossa Estate

This open neighbourhood has three roads leading to the inside of the estate, however as 36 premises form the boundary of this estate and can be reached by any main road leading from the bigger suburb, a multitude of entrances were marked at this particular point on the checklist. The fieldworkers also kept in mind that the boundary of the estate facing the Moreletaspruit was not a solid construction, therefore providing for numerous unaccounted for entrances to this neighbourhood. As this is an open neighbourhood, no formal access control is applied at the three roads leading into the neighbourhood. However, guards were employed at the time of the fieldwork to patrol the interior terrain of this estate.

There is no particular type of boundary wall, as this is naturally formed by the fences surrounding the houses located on the boundaries of the estate. Consequently the question about any signage on the

gate or the fence of the neighbourhood illustrating the usage of security companies was deemed not applicable.

Glossa Estate is situated right next to a nature reserve, informal settlement, an open field, main supply roads, shops and a park. Informal taxi drop-off points and a golf course also fall within a one kilometre radius of this Estate. There is no taxi rank, bus stop, railway or railway station within one kilometre of this neighbourhood.

6.2.3 Woodlands Lifestyle Estate

At the time of the survey Woodlands was less than three years old, considered a new extension of Morelettapark. It has two entrances, each supplied with formal access control in the form of a boom and guards manning these openings. No signage of any security company was on the gate or fence, depicting the use of a security company other than the name of the estate. Guards are also patrolling the interior terrain of the estate.

The type of fence used in the enclosure of Woodlands Estate differ in that three of the fences, namely the front, back and right side is made of a brick wall with electrical wires on top bringing the total height of the boundary wall to 2.6 metres. The fourth boundary fence, facing the Moreletaspruit is a steel palisade fence with electrical wires on top, allowing residents a view of the nature reserve lying next to the estate. The height of this fence correlated with the rest of the structure.

Right next to Woodlands Estate there are main supply roads, a nature reserve and an open field. Within a one kilometre radius of Woodlands Estate there is a golf course, informal settlement, shops, bus stops, informal taxi drop-off points and building activity. No parks, train stations, railway lines or highways are situated within one kilometre of this estate.

The descriptions of the commodities lying close to or right next to Woodlands and Glossa Estate will read the same as they are situated in a diagonal line across from one another.

6.2.4 Incidence of crime within the estates

Correlations between the different estates and the crimes that took place was done to determine if these neighbourhoods differed in terms of the incidence of crime and are described in the following paragraphs. The cross-tabulations between the crimes reported and the type of neighbourhood was done with the complete data set of 540 questionnaires.

Table 6.1 Estate versus residential burglaries

Residential burglaries	Name of estate		
	Woodlands	Prairie	Glossa
Yes	2 (2.44%)	3 (2.52%)	46 (38.02%)
No	80 (97.56%)	116 (97.48%)	75 (61.98%)
Total	82 (100%)	119 (100%)	121 (100%)

$$\chi^2 = 71.5261; \text{ Df} = 2; \text{ Prob.} = <0.0001$$

Glossa Estate, the open Estate, had the highest rate of residential burglary (46; 38.02%) of the three Estates. Prairie and Woodlands Estates had a much lower incidence of residential burglary measuring 3 (2.52%) and 2 (2.44%) respectively.

According to these findings it seems that people living in the enclosed neighbourhoods stand a smaller chance of becoming victims of residential burglary than those situated within an open neighbourhood. However, note must be taken of the fact that Glossa Estate is the older neighbourhood of the three, having a longer time frame wherein residential burglaries could occur. This possible reasoning is waylaid by the GIS maps as supplied in Chapter 1, where the reported cases of residential burglaries over a period of two years were mapped and the same trend was found. It is furthermore interesting to note that even though residents of gated communities may experience less crime, they are sometimes more traumatised than those living in open neighbourhoods as some of them specifically buy into these gated communities for the safety aspect (Smith 2001:3).

The two residential burglaries took place at the same address in Woodlands Lifestyle Estate, within a month of each other. This repeat victimisation concurs with Felson and Clarke's (1998:18) finding that a favourable target attracts multiple attacks. This incidence was further explained by Renier van Rensburg as he stated that this was one of the first houses to be built on the estate and that the burglars broke through the palisade fence on the left hand side of the neighbourhood. Senior Superintendent Redelinghuys of Security Advisory Services, SAPS (1998) reminds us of the fact that criminals also make use of surveillance during and before committing their criminal activities. In some instances a see-through fence will provide the criminal with the opportunity of observing the activities and routine of the persons inside the fence from a safe distance before deciding on their method of "attack". A lone standing house surrounded by building activity will be a more susceptible target for criminal activity than a house surrounded by other residential premises. (See the difference of a low

and high crime neighbourhood by Poyner as summarised in Table 5.1)

Taking all this information into account the three residential burglaries that took place in the established older neighbourhood, namely Prairy Estate must be regarded in a more serious light and as a reflection on the existing crime management system, more so than the two of Woodlands, which took place in the initial implementation stage of the whole estate.

Table 6.2 Estate versus attempted residential burglaries

Attempted residential burglaries	Name of estate		
	Woodlands	Prairie	Glossa
Yes	1 (1.22%)	0 (0%)	23 (19.01%)
No	81 (98.78%)	119 (100%)	98 (80.99%)
Total	82 (100%)	119 (100%)	121 (100%)

$$\chi^2 = 37.6242; \text{ Df} = 2; \text{ Prob.} = <0.0001$$

In Table 6.2 the rate of attempted burglaries are just about half of the residential burglaries that took place within the three neighbourhoods. Glossa Estate, once again, has the highest rate of attempted residential burglaries with a count of 23 (19.01%) incidences.

These findings correlate with that of residential burglaries, proving that residents of an enclosed neighbourhood are less susceptible to attempted burglary. However, the question can also be asked if everybody that were victims of an attempted burglary even realised it.

Table 6.3 Estate versus theft at premises

Theft at premises	Name of estate		
	Woodlands	Prairie	Glossa
Yes	2 (2.44%)	6 (5.04%)	14 (11.57%)
No	80 (97.56%)	113 (94.96%)	107 (88.43%)
Total	82 (100%)	119 (100%)	121 (100%)

$$\chi^2 = 7.3526; \quad Df = 2; \quad Prob. = <0.0253$$

Out of the 22 occurrences of theft at premises, more than half, namely 14 (63.64%), took place in Glossa. Six (27.27%) Prairie households participating in the telephone survey reported theft at their premises. Only two (9.09%) thefts were experienced at Woodlands Estate.

The incidence of theft at premises in Woodlands can be accorded to the high number of dwellings in the process of being built. One of the respondents said that she had thoughtlessly left her cell phone on the garden table and went inside her house. Building was taking place next door when the phone was stolen. She felt so safe in her environment that she acted carelessly.

Out of 322 respondents participating in the telephone survey only one respondent based in Glossa had a motor vehicle stolen from their premises and another suffered from theft out of a motor vehicle parked at their premises. In the gated communities the formal access control can be given as a reason for the safety of vehicles. The physical layout of the street scape in Woodlands and Prairie Estates also discourages parking on the sidewalks, forcing the residents and visitors to park in the driveways of the premises.

The theft off and theft out off or from motor vehicles at the premises itself in Glossa can not be adequately explained as most of the households in the premises forming the boundaries were not included in the telephone survey. The researcher had access to most of the telephone numbers of the residents situated on the inside of the neighbourhood as they formed part of the intended closure of Glossa Estate. Telephone numbers are no longer strictly area bound as people moving to other areas can “take” their old phone numbers with them to their new residence. Even in the Prairie Estate some of the telephone numbers were no longer relevant as the people who had previously lived there had taken their old number with them. Households which only make use of cell phones could also not be reached as they are not automatically listed in telephone books. Woodlands Estate’s telephone list was the most up to date list of the three estates.

Only one household, situated in Glossa Estate, reported a hijacking taking place at their premises. Although the telephone interviewers were told, more than once, that their neighbours had been hijacked. Unfortunately in many instances it was these specified neighbours whose telephone numbers were unavailable or just rang between the specified period of the telephonic interviews. Four hijackings took place within the bigger area of Garsfontein, two victims living in Woodlands and the other two living in Glossa and Prairie Estate respectively.

Distinction was made between hijackings taking place at place of residence or in the larger neighbourhood as the *modus operandi* of hijackers differ. Victims can be hijacked at red lights, off ramps or in their own drive ways. If a victim was hijacked in the larger area there is no connection between this incidence and the neighbourhood where the person lives. It is also assumed, but not proven, that a hijacking at a premises within a gated community will prove to be more difficult for a criminal than in an open neighbourhood where his getaway routes are not closed off. Napier *et al.* (1998:42) are also of the opinion that the sites of certain types of criminal events are often chosen beforehand by the offender according to escape routes. Offenders who hijack cars will often choose a location with a plan for quick escape in mind.

6.2.5 Image of estates

The image presented by a location can have an influence on the perception of safety within a neighbourhood as well as the experienced levels of crime within this environment. Respondents were therefore asked as to how safe they felt in their neighbourhoods during the day and at night. The following results were obtained:

Table 6.4 Estate versus feeling safe during the day

Feeling safe in estate during the day	Name of estate		
	Woodlands	Prairie	Glossa
Yes, indeed	58 (70.73%)	90 (75.63%)	31 (25.62%)
Yes, to a certain extent	14 (17.07%)	17 (14.29%)	47 (38.84%)
Sometimes yes, other times not	6 (7.32%)	8 (6.72%)	28 (23.14%)
No, not quite	4 (4.88%)	2 (1.68%)	12 (9.92%)
No, absolutely not	0 (0%)	2 (1.68%)	3 (2.48%)
Total	82 (100%)	119 (100%)	121 (100%)

$$\chi^2 = 73.2883; \text{ Df} = 8; \text{ Prob.} = <0.0001$$

Prairie Estate has the highest rate of residents (90; 75.63%) feeling safe within the neighbourhood during the day. Woodlands Estate followed a close second with 58 (70.73%) of the residents feeling safe in the neighbourhood. The biggest percentage of Glossa Estate's respondents, 47 (38.84%) felt safe to a certain extent within the neighbourhood.

Closed neighbourhoods apparently evoke a greater feeling of safety than an open neighbourhood as residents regard themselves as being safer than in an open neighbourhood. One of the Woodlands residents said that she didn't feel that safe in the neighbourhood during the day because of the building activity going on around her house. Taking the higher rate of crime experienced in Glossa Estate into account the feelings of safety experienced within the neighbourhood comes as a surprise. However, respondents said that they felt safer in the neighbourhood since there are armed guards on patrol during the day and at night. As the usage of the guards has since been discontinued within this neighbourhood, one does not know what the effect of this will be on the residents' feelings of safety.

Table 6.5 Estate versus feeling safe during the night

Feeling safe in estate during the night	Name of estate		
	Woodlands	Prairie	Glossa
Yes, indeed	54 (65.85%)	81 (68.07%)	13 (10.74%)
Yes, to a certain extent	19 (23.17%)	18 (15.13%)	36 (29.75%)
Sometimes yes, other times not	5 (6.10%)	12 (10.08%)	34 (28.10%)
No, not quite	3 (3.66%)	4 (3.36%)	28 (23.14%)
No, absolutely not	1 (1.22%)	4 (3.36%)	10 (8.26%)
Total	82 (100%)	119 (100%)	121 (100%)

$$\chi^2 = 109.6663; Df = 8; \text{ Prob.} = <0.0001$$

Prairie Estate has the highest rate of residents (81; 68.07%) feeling safe within the neighbourhood during the day. Woodlands Estate features second with 54 (65.85%) of the residents feeling safe in the neighbourhood. In Glossa Estate the feelings of safety span between safe to a certain extent (36; 29.75%) and sometimes feeling safe and other times not (34; 28.10%).

Residents living in a closed neighbourhood feel safer at night than those residing in an open neighbourhood. Feelings of safety is not cast in stone as a respondent who felt totally safe within her or his neighbourhood may become fearful because of a crime event that happened at another venue to someone close to them, or something that happened within the neighbourhood to them or a neighbour that they know of. On the other side of the coin, residents in a crime ridden neighbourhood may start to feel safer in their neighbourhood due to the employment of new security measures within the neighbourhood such as security guards patrolling the neighbourhood.

6.3 HEALTHY LIFESTYLE

The health and fitness aspect of the model incorporates a healthy lifestyle as indicated by the name "Woodlands Lifestyle Estate". Dr Tom Williamson (2003:5) makes the statement that there is evidence that gated community residents do not want to know their neighbours as they do not represent some form of communitarian living. Thus a gated community on its own will not ensure the principle of **know thy neighbour and be safe**. If a certain lifestyle is created for an enclosed neighbourhood, this aspect can be addressed through neighbours taking interest in one another because of sharing the same type of lifestyle - interests.

6.3.1 Social cohesion

A healthy lifestyle is regarded as more than physical fitness, as social cohesion amongst the residents are also regarded as necessary for a healthy lifestyle. To check for social cohesion amongst residents, participants in the telephone survey were asked if they and their neighbours watch out for each other. Interestingly enough the open neighbourhood, namely Glossa Estate had the most positive reaction in this question with 85.83 percent (103) of the 120 residents interviewed answering yes. Woodlands Estate came in second with 66 respondents (80.49%) indicating that they and their neighbours watch out for each other. Last, but still with a high rating, 93 (78.15%) of the respondents in Prairie Estate answered yes to the aforementioned question.

Glossa Estate is not your typical open neighbourhood as the high rate of crime has forced the formation of social cohesion within this neighbourhood, something which otherwise might never have happened.

At the time of the telephone survey this neighbourhood was in the process of closing itself in, the required study of the environmental impact of closure already completed. The telephone list received from Charles Lance consists mostly of the people who are prepared to pay towards the salary of the guards within the neighbourhood and who would pay the monthly fee of the closure. Thus the list consisted of residents willing to give their cooperation in the first instance.

The high rates of neighbourly concern in Woodlands Estate demonstrate that the formation of social cohesion, leading to a healthy lifestyle, is already taking place. These results are more impressive taken against the background of this estate, being a new neighbourhood less than two years old, under development containing open premises and half built houses. Only six respondents have been staying in this neighbourhood for two years or more, followed by 29 respondents living in this neighbourhood less than two years and more than one year.

Prairie Estate is regarded as a more established neighbourhood, one of the respondents have even lived in this neighbourhood for more than five years, followed by one living there for four years. When new people move into this neighbourhood there is an already established social community with its written and unwritten rules already sorted out and in place.

Cross-tabulations between neighbours watching out for each other and the crimes that happened were done to determine if social cohesion does have an influence on the occurrence of crime.

The elements of the HONC model are present within each of the three neighbourhood be it planned or accidental. Therefore the questions which are characteristic to each of the proposed elements of the

HONC model was correlated with the occurrence of crime.

Table 6.6 Social cohesion versus residential burglary

Residential burglary	Do you and neighbours watch out for each other?		
	Yes	No	Uncertain
Yes	42 (16.03%)	8 (15.69%)	1 (12.50%)
No	220 (83.97%)	43 (84.31%)	7 (12.50%)
Total	262 (100%)	51 (100%)	8 (100%)

$$\chi^2 = 9.636; \quad Df = 2; \quad Prob. = <0.9636$$

Where neighbours watch out for one another (220; 83.97%) they have experienced a lower incidence of residential burglary than those who do not watch out for one another (42; 16.03%). There is no correlation between social cohesion amongst neighbours and residential burglary.

This insignificance is the result of the small number of crimes experienced at the two enclosed neighbourhoods. It is ironic that the result of the HONC model, namely prevention of crime, has resulted in such a small number of crime taking place in the neighbourhoods. The small number of crimes in the data set makes the test for statistically significant differences impossible. Thus the possible correlation between social cohesion and residential burglary can only truly be tested if the same question is tested over a longer period of time.

Cross-tabulations done with the other crimes and social cohesion amongst the neighbours have led to the same result as with residential burglary. Out of the total 262 respondents that indicated that they and their neighbours watch out for each other only 22 (8.4%) have been victims of attempted residential burglary, 20 (7.63%) experienced theft from their premises, eight (3.05%) had a theft out of a motor vehicle at their premises. Interestingly enough the one case (0.38%) of motor vehicle theft reported, was experienced by one of the respondents that answered no at the above-mentioned question.

The cross-tabulation of the one hijacking is not included in this research results as every hijacking situation differs. It can also be very dangerous for a bystander wanting to help the victim if the offender, who is usually armed, turns on the bystander.

When people take notice of one another and start to care for the well-being of one another they will

notice when something is amiss at the dwelling next door eg. there is movement in the house but you know that the people are supposed to be away visiting the grandparents. It is also true that you will feel more compelled to react when the belongings of someone you look out for is in jeopardy than that of a stranger. These findings underscore the importance of creating a certain lifestyle within a neighbourhood that leads to the formation of social cohesion and the prevention of crime.

The trust that residents of the estates have in their security systems was also tested by asking if they informed the security guard when they were absent from their residence for more than 24 hours. It stands to reason that if the trust in the security system is not there, these rates will measure low.

Table 6.7 Estate versus informing the security guards

Inform the security guard when absent for more than 24 hours	Name of estate		
	Woodlands	Prairie	Glossa
Yes	46 (56.10%)	50 (42.02%)	8 (6.61%)
No	31 (37.80%)	55 (46.22%)	17 (14.05%)
Sometimes	5 (6.10%)	11 (9.24%)	0 (0%)
Not applicable in open neighbourhood	0 (0%)	3 (2.52%)	96 (79.34%)
Total	82 (100%)	119 (100%)	121 (100%)

$$\chi^2 = 222.7265; Df = 6; \text{ Prob.} = <0.0001$$

Woodlands Estate has a higher rate of respondents informing the security guard of their absence (46; 56.10%) than that of Prairie Estate (42.02%).

For the purpose of this question, namely testing the trust that residents have in their security systems, the results of Glossa Estate are ignored as this question should have only been asked to the two closed estates, which were developed with a security management system from the beginning of the existence of the neighbourhood.

Only half of the respondents in Woodlands Estate inform their security guard of their absence and $\pm 40\%$ of the Prairie Estate do the same. If there was no trust the informing rate would be much lower. It may be that residents feel so safe within these neighbourhoods that they see no need to inform the security guards or they inform their neighbours instead of their absence. The results of this question

need to be clarified with a further study, which asks the residents why they do or do not inform the security guards of their absence. The aspect of trust in the security management system in the estates was therefore not adequately addressed in the telephone survey.

6.3.2 Fitness

The provision of a central fitness centre inside the neighbourhood containing recreational areas such as a gym, squash court, aerobics area, tennis court and swimming pool will increase the possibility that the residents will exercise more frequently than otherwise. Add to this mix a jungle gym for the children to play at, a juice bar and seating arrangements for socialisation purposes after a strenuous workout and all the positive stimuli for a healthy lifestyle is present to entice the residents to come flocking to the recreational centre. Showers and lockers are also provided for the residents who want to do their workout before going to work early in the morning. Provision is also made for parents and the stay-at-home mom in the form of a child care centre for minding the children during the period that they want to exercise. This will ensure that the parents can maintain their fitness levels as well as come into contact with other members of their residential community. The stay-at-home mom will also have the added benefit of getting a much needed breather before returning to her daily duties of being a mom and a home provider.

Membership to the fully stocked gym (circuit, etc.) is included in the monthly levy paid by the residents and covers the whole of the family. The services of a personal trainer is provided to work out a fitness plan, suited to the needs of the individual. In Woodlands Estate 64 (42.1%) of the 152 respondents and/or members of their household do exercise at a gymnasium. Fifty-eight (90.62%) of these exercise at the gymnasium in the neighbourhood where they live. Cross-tabulation with the reported crime was not done as the other two estates do not have their own gymnasium facilities, making the data set too small for the purpose of cross-tabulations.

For those who prefer the outdoors, the tennis court, swimming pool and volley ball court will provide in some of their exercise needs. The walking and jogging enthusiast is provided with a large number of footpaths to choose from, which runs from the centralised fitness centre to the furthest reaches of the neighbourhood boundaries.

Providing opportunities for residents to improve their health and fitness in the neighbourhood where they reside will lead to the increased movement of people in this particular neighbourhood. This in itself will increase opportunities for passive surveillance. As residents move around in their own neighbourhood, they will also start to know one another, being able to distinguish strangers from

residents, advancing the principle of **know thy neighbour and be safe**. Territorial feelings will also increase. When the fieldworkers were busy conducting the checklist survey within Woodlands, during February 2003, the residents had no scruples in stopping the fieldworkers to ask them what they were busy with and from whom they got the permission to do so. Some of the residents even invited the fieldworkers into their homes for a much needed beverage during the hot summer days and a chat about the study. It must be taken into account that the checklist was designed in such a way that the entrance to a premises was not a prerequisite to the completion of the form. The fieldworker could fill out the whole checklist by observing the premises from the public street in front of the dwelling. Fieldworkers experienced the residents that were at home during the day as friendly and cooperative.

It is true that not all residents of a neighbourhood will be inclined to follow an exercise routine but a healthy lifestyle incorporates more than just mere physical exercise, an active social life also promotes a healthy lifestyle. A healthy body and mind presents a well rounded human being. The marketing strategy of the neighbourhood was also based on the principles as set out in the HONC theory, namely the provision of a gym, outdoor facilities, information technology and security, targeting a certain type of person in the general society. This means that the residents bought their premises in this particular neighbourhood with a particular lifestyle in mind.

In Woodlands Lifestyle Estate the particular lifestyle that is bought into is also determined by the income level of the potential buyer that ranges from upper middle income range to the high income sector as the prices of the premises are in this range.

When looking at the results of the question on participation of respondents and the members of their household in outdoor activities within their neighbourhood during the telephone survey, which 320 respondents of the participating three neighbourhoods answered, the following results were found:

Table 6.8 Estate versus participation in outdoor activities within estate

Participation in outdoor activities	Name of estate		
	Woodlands	Prairie	Glossa
Yes	64 (80%)	51 (42.86%)	32 (26.45%)
No	16 (20%)	68 (57.14%)	89 (73.55%)
Total*	80 (100%)	119 (100%)	121 (100%)

$\chi^2 = 56.3392$; Df = 2; Prob. = <0.0001 * 2 missing frequencies

Woodlands Estate has the highest number of people (64; 80%) that participate in outdoor activities within their own Estate. Prairie Estate has 51 (42.86%) respondents that participate in outdoor activities. Glossa has the least amount of respondents partaking in these type of activities (32; 26.45%).

The high rate of outdoor activities in Woodlands Estate has a dual explanation, namely that provision was made especially for outdoor activities inside the neighbourhood and that potential buyers knew that these facilities would be available for their usage. The type of activities possible in this Estate range from walking, jogging, running, bicycle riding, swimming, skate boarding, rollerblading, tennis, volleyball, mini rugby and mini cricket.

Prairie Estate was not specifically designed as an outdoor activity neighbourhood, only providing opportunity for swimming and social activities at the estate's clubhouse and swimming pool. Glossa Estate has also developed as the traditional open neighbourhood. Space was left for a park, but it has never been fully used and has fallen into disuse, being fenced off and permanently locked. Whereas children have the freedom of the specifically designed pedestrian routes within Woodlands to use for outdoor activities such as bicycle riding, rollerblading and skate boarding there are no pedestrian walkways within the other two estates.

Cross-tabulations between outdoor activities within an estate and the crimes that happened were done to determine if activity within the neighbourhood does have an influence on the occurrence of crime.

Table 6.9 Outdoor activities within estate versus residential burglary

Residential burglary	Do you or members of your household participate in any outdoor activities within your neighbourhood?	
	Yes	No
Yes	17 (11.56%)	34 (19.65%)
No	130 (88.44%)	139 (80.35%)
Total*	147 (100%)	173 (100%)

$\chi^2 = 3.8809$; Df = 1; Prob. = <0.0488 * Missing 2 frequencies

Out of the 147 respondents who participate in outdoor activities only 17 (11.56%) have been a victim of residential burglary. These findings represent a correlation between the participation in outdoor activities and the occurrence of residential burglary.

Cross-tabulations done with the other crimes and participation in any outdoor activity within the estates have led to the same result as with residential burglary but did not test statistically significant. The small number of crimes taking place in these neighbourhoods are blamed for this result. It is suggested that the same question be tested over a longer period of time to test for a possibility of correlation between the two factors. Out of the total of 147 respondents that participate in outdoor activities only nine (6.12%) have been victims of attempted residential burglary, nine (6.12%) experienced theft from their premises, four (0.74%) had a theft out of a motor vehicle at their premises.

According to the abovementioned findings, outdoor activities can have an influence in the decrease of residential burglaries.

6.4 ONLINE (INFORMATION TECHNOLOGY)

Residents who are informed about the events happening in their neighbourhood will feel safer. Communication between residents is also important in building the particular nature of the residential neighbourhood society. Information technology can be the gateway to communication and safety for the physically challenged in a neighbourhood, enabling them to communicate with the guard at the gates, the security company or even his neighbours (worldwide communication opportunities are also endless on the internet).

The corporate managing body of the neighbourhood can also utilise this tool in communicating important events and crime prevention hints to the residents. Residents can be forewarned of any

potential crime syndicates active in the neighbourhood and larger Garsfontein precinct. Crime prevention tips based on the newest crime trends for example hijacking, as well as their particular location experienced in Garsfontein can also be communicated to the residents on a regular basis. During February 2003, Woodlands Lifestyle Estate established a closed communication network via the computer lines that were laid within the neighbourhood. This included in the monthly levy paid by the residents. It ensures the private communication of information amongst residents and the Woodlands Home Owners Association. In order for residents to have access to this information they would need a computer as well as turning on this computer at regular intervals to check the information as sent by the corporation's body.

Online technology versus crime

As the special connection between the computers in Woodlands Estate was only established in February 2003 the effect thereof on the crime rates could not be tested. It could only be determined which of the estates had the most computers, with or without having an internet connection. Cross-tabulations with this information and the occurrence of crime would be purely accidental and is therefore not reflected in the following description. The empirical testing of this principle of the HONC model in the deterrence of crime is therefore advised in further studies on this model.

Table 6.10 Estate versus personal computers at home

Personal computer at home	Name of estate		
	Woodlands	Prairie	Glossa
Yes	76 (93.83%)	96 (81.36%)	102 (84.30%)
No	5 (6.17%)	22 (18.64%)	19 (15.70%)
Total	81 (100%)	118 (100%)	121 (100%)

$$\chi^2 = 6.3477; \quad Df = 2; \quad Prob. = <0.0418$$

Glossa Estate have 102 (84.30%) personal computers whereof 68 are connected to the internet. In Prairie Estate 96 (81.36%) of the households have a personal computer at home, 67 of these are connected to the internet. Woodlands Estate have 76 (93.83%) of the households with a personal computer whereof 73 are connected to the internet.

The high number of personal computers in each of the neighbourhoods can be ascribed to a number

of different factors. The high income rate of the households situated within in these neighbourhoods can play a role in the presence of computers in the households themselves. Residents conducting their businesses from home will also need personal computers, eg. doctors. At last it can also be that the new age of technology is the reason for computers being in the homes of these people. It is just interesting to note that in one instance a pensioner in Woodlands remarked that although he did not have a computer at the time of the survey he was definitely going to buy one as to make use of the closed connection between the computers of Woodlands.

Table 6.11 Estate versus knowledge of own website of estate

Does estate have its own website?	Name of estate		
	Woodlands	Prairie	Glossa
Yes	66 (81.48%)	1 (0.86%)	6 (4.96%)
No	6 (7.41%)	65 (56.03%)	88 (72.73%)
Uncertain	9 (11.11%)	43 (37.07%)	20 (16.53%)
Do not have personal computer or Internet	0 (0%)	7 (6.03%)	7 (5.79%)
Total	81 (100%)	116 (100%)	121 (100%)

$$\chi^2 = 227.5427; \text{Df} = 6; \text{Prob.} = <0.0001$$

In this model information technology spans wider than the internet and computer technology, it also includes the more traditional ways of communication such as meetings, information letters, telephone and interpersonal contact whereby the residents of a neighbourhood can communicate with one another. This ensures that residents without computers will also receive vital information about community activities and safeguarding against crime. Residents are also informed via the Woodward, a newsletter which is distributed free of charge on a monthly basis. Information placards can also be placed up at the central community centre. The Estate Manager of Woodlands also has an office within the Lifestyle Centre and can always be contacted on the office telephone or cell phone to answer any questions and needs of the residents. He also has the mandate to address problems as they arise. When the crossing of traffic from the feeding road namely De Villebois Mareuil into the main road Garsfontein became a death trap (for example six people losing their lives in one accident) without any proper signage to regulate the traffic, he was instrumental in the erection of a four-way robot system to address the problem after negotiations with the proper city council authorities.

In this day and age what we often forget about are common technology such as telephones and information notes. As the information communicated on the computer systems are dependant on the resident reading the information from the computer, thus being physically at home and the computer system switched on, urgent information distributed will not reach the resident in time. As the Estate Manager has the list of resident's telephone numbers and in many instances cell phone numbers, urgent information can be sent out by making use of sms messages. This concept is the same as that of an house alarm, which informs the security company as well as the house owner of a break in via the cell phone message system.

Verbal communication between residents is also beneficial for building a healthy lifestyle and a sense of community within the neighbourhood. Chances for verbal communication between residents are created at the lifestyle centre, the pedestrian routes running throughout the neighbourhood as well as the physical outlay of the streets. While conducting the checklist survey within the neighbourhood the researcher was informed by a resident living in one of the *cull-de sacs* that the neighbours living within this street were now so familiar with one another that they have conducted a street braai during December 2002 and that she not only knows the faces of the people living in the street but also of their visitors. This increases the safety of all the residents living in the street as strangers (such as the researcher) will be recognised immediately and questioned. The principle **know thy neighbour and be safe** is put in practise.

Another aspect of verbal communication and trust between neighbours was tested in the telephone survey by asking them if they informed their neighbours when leaving their premises for more than 24 -hours. This question did not test as statistically significant but the results are as follows. Eighty (40.91%) of the 196 respondents in Glossa Estate informed their neighbours if they are absent for more than 24 hours. Sixty-seven (34.89%) of the Prairie Estate feel free to inform their neighbours of their absence and 45 (29.61%) of Woodlands respondents do the same.

The residents of Glossa Estate show more trust in their neighbours than the other two neighbourhoods, but keep in mind that the other two neighbourhoods have official security systems in place where they can inform the security guards of absence from their premises, making the informing of neighbours unnecessary.

6.5 NATURE

South Africa is known as an outdoor country as it has pleasant weather most of the year, but with the

increase in crime some families have become prisoners in their own homes, stay-at-home moms are even too afraid to let their children play outside in the gardens of their own homes. In Woodlands the pedestrian routes are utilised by the children cycling on the paths during school holidays and in the afternoons after school. Moms even feel safe enough to stroll from their homes towards the lifestyle centre with their toddlers on scooters and the babies in prams.

Making use of indigenous plants that are suited to the physical environment will make an aesthetically pleasing and economically viable neighbourhood possible. The green patches will be used to lure reluctant residents outside again to make use of the beautiful weather conditions of South Africa and to build their sense of home ownership (territoriality) towards their neighbourhood. This will also ensure more eyes on the street, making it safer for women and children.

The usage of indigenous plants also makes their upkeep more economically viable as they are more suited to the climate in which they are planted. The indigenous wild life will also be attracted to the neighbourhood. The small kingfishers arrogantly claiming the numerous dams inside Woodlands serve as evidence of this fact.

Pets such as dogs, cats, birds and fish are allowed and the owners are also able to take the dogs for walks on the pedestrian walkways provided. As the walkways are lit up with ample lighting these walks can also be undertaken at night. The numerous green spaces connected by the pedestrian routes and the manmade rivers running alongside it also extend to the premises that are built next to it. Some of the homeowners even prefer not to erect fences around their dwellings when they are situated right next to these spaces.

The influence of the landscaping could not be tested directly, only the influence thereof in the particular estates by means of observation done by the fieldworkers whilst completing the checklists.

Movement within estate

To determine the flow of movement of people within the neighbourhoods three particular questions were asked on the checklist for the fieldworker to complete, namely the presence of loiters, normal activity in the streets and lastly the presence of people in the gardens of the dwellings. The first question pertaining to loiters was asked to determine the extend of negative movement within the neighbourhoods, as a person loitering might be a potential offender checking out potential targets. Therefore a low rate of loiters in a neighbourhood will be regarded as plus point for the security of the neighbourhood.

The last two questions asks about the presence of people who are busy with specific activities such as walking, strolling or being busy in the gardens of the dwellings. This type of movement is encouraged as it allows for more “eyes” on the street. In the studies on residential burglary it was also found that the physical presence of people can act as an deterrent of criminal events.

Table 6.12 Estate versus loiterers in streets

Presence of loiterers	Name of estate		
	Woodlands	Prairie	Glossa
Yes	3 (1.97%)	1 (0.19%)	16 (8.42%)
No	149 (98.03%)	186 (99.47%)	174 (91.58%)
Total*	152 (100%)	187 (100%)	190 (100%)

$$\chi^2 = 18.027; \quad Df = 2; \quad Prob. = <0.0001 \quad * 11 \text{ missing frequencies}$$

Glossa Estate had the highest rate of loiterers of the three neighbourhoods. According to Table 6.12 it is clear that an open neighbourhood is more likely to contain loiterers than gated neighbourhoods.

Most of the loiterers seen in Glossa Estate are situated on the outer edges of the neighbourhood, sitting on the corner of Wekker and De Villebois Mareuil Road, waiting for people to pick them up to work as day workers. Two street vendors were also busy selling sweets and food, the one situated across the entrance of the neighbourhood in Wekker Road and the other near the corner of De Villebois Mareuil and Wekker Road. The low rate of loiterers within Glossa Estate is as a result of the armed guards patrolling the inside of the neighbourhood at the time of the survey.

The formal access control being applied at the entrances of the gated communities discourages loitering as strangers needs a specific reason to enter such a neighbourhood. The three loiterers in Woodlands Estate consisted of workers from a building site being on a lunch break. In the Prairie Estate the only marked loiterer was a domestic worker walking out of the neighbourhood after work.

Table 6.13 Estate versus normal activity in streets

Activity in streets	Name of estate		
	Woodlands	Prairie	Glossa

	Woodlands	Prairie	Glossa
Yes	20 (13.16%)	8 (4.28%)	21 (11.05%)
No	132 (86.84%)	179 (95.72%)	169 (88.95%)
Total*	152 (100%)	187 (100%)	190 (100%)

$\chi^2 = 8.9964$; Df = 2; Prob. = <0.0111 * 11 missing frequencies

Normal activity in the streets consists of features such as walking, strolling, playing etc. Proportionally taken most of the activities took place in Woodlands followed by Glossa Estate and the Prairie Estate. Woodlands is statistically proven to have the most physical activity within its streets.

This correlation indicates that an estate specifically designed for an outdoor lifestyle (Woodlands), containing specific features, promotes activity in the street. This leads to more opportunity for informal surveillance on the streets. The rate of activity in Glossa Estate is explained according to people walking around distributing the free local newspaper and flyers. As the checklist was completed during the week, activities taking place within the neighbourhoods on weekends and during school holidays are not tested.

Table 6.14 Estate versus people in gardens

People in gardens	Name of estate		
	Woodlands	Prairie	Glossa

Yes	112 (73.68%)	81 (43.32%)	61 (32.28%)
No	40 (26.32%)	106 (56.68%)	128 (67.72%)
Total*	152 (100%)	187 (100%)	189 (100%)

$\chi^2 = 60.5281$; Df = 2; Prob. = <0.0001 * 12 missing frequencies

Woodlands Lifestyle Estate had more people within gardens than any of the other two neighbourhoods. Prairie Estate had the second highest rate of people within gardens.

The presence of people within an area also discourages potential offenders as they realise that any illegal activity might be seen and reported. Woodlands Estate collectively rated the highest with the presence of positive activities within a neighbourhood indicating the positive effect that landscaping has.

6.6 CPTED

The known principles of crime prevention through environmental design was used in the planning phase of the neighbourhood, thereby ensuring the most cost-effective way of securing an entire neighbourhood. In Table 6.15 the application of the CPTED principles in Woodlands Estate is summarised as follows (Coetzer 2001:163-165):

Table 6.15

Crime prevention model for Woodlands Lifestyle Estate*	
1. Location	
	Community in which neighbourhood is located is reasonably involved in the safeguarding of their environment.
	The Estate is situated among relatively well-off suburbs.
	Residents are within reach of a variety of shopping complexes and outside recreational areas.
	The Estate is within easy reach of educational and medical facilities.
2. Image	
	The Lifestyle Centre and other buildings are of sturdy construction, employing good quality material and with a durable finish.
	The neighbourhood's communal areas, for example the swimming pool and greenery, are clean, neat and kept in good order. (This projects an image of residents caring for their environment and willing to act if anything goes wrong to visitors.)
	The premises are maintained in line with current standards.
3. Access control	

Crime prevention model for Woodlands Lifestyle Estate*

- Only one access point to the neighbourhood will exist eventually.
- The two entrances to the neighbourhood are supplied with mechanised booms and electronic control measures.
- A security guard mans the guardhouse to see to it that only one vehicle enters the neighbourhood through the gate at a time and that visitors are checked in.
- The physical barriers ensure that all the traffic pass through the entrance gate.

4. Surveillance

4.1 Passive surveillance

- Neighbourhood is situated between two main roads providing a constant flow of traffic past it.
- The central part of the neighbourhood consist of the Lifestyle Centre which contains facilities which are open for leisure activities during the day and during a part of the early evening. This ensures a constant flow of residents through the area during specified times.
- Open areas like the green spaces and pedestrian routes provide an unobstructed view.
- Public streets, most of the open ground and pedestrian routes are sufficiently illuminated at night.
- Pedestrian routes within the neighbourhood prohibit unobtrusive movement of strangers.

4.2 Active surveillance

- Security officers patrol the neighbourhood on a regular and irregular basis. (This also serves as a physical barrier.)

5. Territoriality

5.1 Symbolic barriers

- The walls and fences equipped with electrical wires enclosing the neighbourhood act as a deterrent to would-be intruders.
- Access control at the entrance to the neighbourhood prohibits uncontrolled movement into the Estate.

5.2 Physical barriers / Target hardening

- The walls and fences equipped with electrical wires enclosing the Estate are of sufficient height and sturdiness to keep most intruders out.
- The culverts and drainage points are secured.
- Very little or no parking is provided outside the Estate's premises.
- Security personnel patrol the buildings and premises on a regular and irregular basis.

- The employment of a Marshall to oversee building activities during the initial stages of the project.
- Security measures taken to secure the Lifestyle Centre itself (as determined by the owners).
- Residents have to subscribe to the security measures prescribed by the developers.
- The layout of the inner streets and the employment of *cull-de-sacs* diminish the number of possible getaway routes.
- The main roads take twists and turns in order to calm the traffic.

This crime prevention model includes most of the tried and tested principles of CPTED. However, as Kruger *et al.* (1997:8) listed one of the criticisms against CPTED as being only able to reduce crime at a given locality, it must be kept in mind that the applications underneath each of the principles of CPTED are specifically meant for Woodlands. Applying this crime prevention model indiscriminately to other neighbourhoods might therefore not be feasible and adaptations to the CPTED crime prevention model may be needed to suit each individual neighbourhood.

In the description of the internal layout of the dwellings within each of the estates use will be made of the whole data set numbering 544 questionnaires. The checklists containing information about the built premises in Woodlands Estate are complete, adding up to 152 checklists. In Glossa Estate there are five checklists short, as entrance could not be gained to the particular street or the telephone numbers of these residents accessed only 190 checklists being completed. Prairie Estate has 11 telephone surveys without the accompanying checklists being completed as well as approximately three checklists that got lost on the last day of the fieldwork. Therefore there are only 187 checklists available for the analysis on built premises in Prairie Estate.

6.6.1 Location of dwellings

The physical location of the dwellings within each of the estates was also asked in the checklists and checked against the maps of each of the neighbourhoods.

Distance between main entrances and dwellings

Less than a quarter (23; 11.98%) of the dwellings located within Prairie Estate are within a 500 metre radius of the main entrance. Three quarters (169; 88.02%) of the dwellings are further than 500 metres away from the main entrances. As this is a more established gated community with less than five open premises and only one main entrance, this ratio is self explanatory.

Approximately two thirds (109; 71.71%) of the dwellings within Woodlands Estate are situated more than 500 metres from the two main entrances, leaving only a third (43; 28.29%) within easy reach of the main entrance. As the building of dwellings continue in this new neighbourhood the ratio of dwellings more than 500 metres from the main entrance will increase. Even more so when the second service entrance is closed off after the majority of dwellings have been built.

Glossa Estate has 89 (45.64%) dwellings within 500 metres of the main entrances and 106 (54.36%) dwellings further than 500 metres from the entrance. This more or less equal distribution between dwellings located within and further than 500 metres can be attributed to the neighbourhood having three main entrances and 63 (32.98%) dwellings forming part of the neighbourhood boundaries, accessible from the main street lying next to it, except for the 26 premisses facing the Morelettaspruit at the back of the Estate and the agricultural field on the eastern side.

The differences in the dwellings that are located 500 metres from the main entrances of the different neighbourhoods have been tested as statistically significant, indicating that a repeat study would deliver the same results. ($\chi^2 = 53.5302$; Df = 2; Prob. = <0.0001).

Dwellings forming part of estate boundaries

The physical implications for dwellings forming part of the boundaries of the estates are different for gated neighbourhoods and open neighbourhoods. Dwellings forming part of the boundary in a closed neighbourhood share a common fence, which is placed around the neighbourhood for security purposes whereas the fences of dwellings in an open neighbourhood differ in height, composition and the security measures that are placed on top. In Woodlands Estate the electrical fence are even divided into different zones, which when breached, specifically point to the guards the specific location of illegal entrance of the estate.

Dwellings forming the boundary in a closed neighbourhood are less susceptible for the incidence of crime although not totally free from it as the two mapped cases of residential burglary into boundary located dwellings in Prairie Estate in Chapter 1 demonstrate.

In Prairie Estate 65 dwellings (34.95%) form part of the boundary and the remaining 121 dwellings (65.05%) are located in the interior of this estate. Out of a total of 191 dwellings marked in the checklists for Glossa Estate 63 (32.98%) form part of the boundary and 128 (67.02%) are situated within the neighbourhood. Woodlands Estate has 54 (35.53%) built properties on the boundary of the estate and 98 (64.47) dwellings on the inside of the neighbourhood.

Table 6.16 Estate versus dwellings situated in *cull-de-sacs*

Located in <i>cull-de sac</i>	Name of estate		
	Woodlands	Prairie	Glossa

Yes	60 (39.47%)	18 (9.68%)	11 (5.76%)
No	92 (60.53%)	168 (90.32%)	180 (9.68%)
Total*	152 (100%)	186 (100%)	191 (100%)

$\chi^2 = 79.2224$; Df = 2; Prob. = <0.0001 * 11 missing frequencies

Woodlands Estate has the highest number of dwellings situated within a *cull-de-sac*, 60 (39.47%) dwellings out of a total of 152 are marked positive. Prairie and Glossa Estate has far less dwellings within a *cull-de-sac*, namely 18 (9.68%) and 11 (5.76%).

Woodlands Estate has been designed with eight *cull-de-sacs*, explaining the outcome of Table 6.16. Woodlands Estate was designed with so many *cull-de-sacs* as to enhance the formation of social cohesion within the neighbourhood, promoting the principle of **know thy neighbour and be safe**. As the building of dwellings continues within this neighbourhood the ratio between dwellings situated within a *cull-de-sac* and those in the two continuous roads, might drop. However, this ratio will always be higher than that of Prairie and Glossa Estate as they only contain two *cull-de-sacs* each.

Table 6.17 Estate versus dwellings totally surrounded

Dwelling totally surrounded	Name of estate		
	Woodlands	Prairie	Glossa
Yes	30 (19.74%)	164 (88.17%)	134 (70.34%)
No	122 (80.26%)	22 (11.83%)	57 (29.84%)
Total*	152 (100%)	186 (100%)	191 (100%)

$\chi^2 = 174.7150$; Df = 2; Prob. = <0.0001 * 11 missing frequencies

Prairie Estate has significantly more dwellings (164; 88.17%) that are surrounded by other built up areas than Woodlands Estate (30; 19.74%). Glossa Estate also has more than two thirds (134; 70.34%) of its dwellings bordered by other built up areas.

The low rate of dwellings totally surrounded by other dwellings or built up areas in Woodlands Estate

is to be expected as this is a new development where 239 of the available premises only 152 (63.59%) have been built on, excluding the premises earmarked for high-density development. Fortunately buyers of premises are forced to build their houses within two years of purchase. However, this high rate will also stay higher than the other two neighbourhoods as many of the dwellings lay right next to the pedestrian paths and green lungs (areas) specifically created for this Estate.

Prairie Estate has been developed with only one public area, 26 of the dwellings are situated right next to the front boundary wall and are not totally surrounded. As these premises are protected by a homogeneous boundary wall, they are less likely to fall victim to crime than those situated on the boundary of an open neighbourhood. There are three open premises within the neighbourhood where building is still taking place or are still left open. The discrepancy in the amount of dwellings totally surrounded (22) and that of dwellings situated next to the front boundary wall (26) is due to the interpretation of what a totally surrounded dwelling entails, by the different fieldworkers that were used.

Glossa Estate has the highest number of dwellings that are not totally surrounded by other built up areas as 28 dwellings are located right next to the Moreletaspruit and the open piece of land, fenced off in itself. A further 35 premises also face the main roads, Wekker and De Villaboiss.

6.6.2 Image of dwellings

The feeling of safety that residents have at their dwellings during the day was also tested, although the security measures taken by the households lies within the responsibility of the individual. The residents of the Woodlands Estate also have specific architectural guidelines to adhere to when applying these measures. The feelings of safety experienced in the larger neighbourhood may have an influence on the respondents perceiving their dwellings which are situated in this neighbourhood as safe or not.

Table 6.18 Estate versus feeling safe during the day at dwelling

Feeling safe in dwelling during the day	Name of estate		
	Woodlands	Prairie	Glossa
Yes, indeed	67 (81.71%)	102 (85.71%)	42 (34.71%)
Yes, to a certain extent	12 (14.63%)	14 (11.76%)	58 (47.93%)

Sometimes yes, other times not	2 (2.44%)	2 (1.68%)	13 (10.74%)
No, not quite	1 (1.22%)	1 (0.84%)	6 (4.96%)
No, absolutely not	0 (0%)	0 (0%)	2 (1.65%)
Total	82 (100%)	119 (100%)	196 (100%)

$$\chi^2 = 82.9731; \text{ Df} = 8; \text{ Prob.} = <0.0001$$

Prairie Estate has the highest rate of residents (102; 85.71%) feeling safe at their dwellings during the day. Woodlands Estate follows with 67 (81.71%) of the residents feeling safe in their dwellings. The biggest percentage of Glossa Estate respondents, 58 (47.93%) felt safe to a certain extent.

Apparently respondents feel safer at their dwellings situated in closed neighbourhoods than those situated within an open neighbourhood. The slightly lower rate experienced at Woodlands Estate can be explained according to a remark made by a respondent who said that she didn't feel that safe in the neighbourhood during the day because of the building activity going on around her house. This indicates that the perception of safety at the dwellings and within this Estate may increase as the construction of new dwellings are finished.

Table 6.19 Estate versus feeling safe during the night at dwellings

Feeling safe in dwelling during the night	Name of estate		
	Woodlands	Prairie	Glossa
Yes, indeed	69 (84.15%)	91 (76.47%)	23 (19.01%)
Yes, to a certain extent	11 (13.45%)	22 (18.49%)	45 (37.19%)

Sometimes yes, other times not	2 (2.44%)	6 (5.04%)	34 (28.10%)
No, not quite	0 (0%)	0 (0%)	16 (13.22%)
No, absolutely not	0 (0%)	0 (0%)	3 (2.48%)
Total	82 (100%)	119 (100%)	121 (100%)

$$\chi^2 = 128.7696; Df = 8; \text{ Prob.} = <0.0001$$

Prairie Estate has the highest rate of residents (91; 76.47%) feeling safe within their neighbourhood during the night. Woodlands Estate features second with 69 (84.15%) of the residents feeling safe in the neighbourhood. In Glossa Estate respondents feel safe to a certain extent (45; 37.19%) during the night.

The rates of feeling safe at the dwelling are higher than those measured for the feeling of safety experienced in the Estates. This is to be expected as the safeguarding of an individual home lies within the control of the house owner. A house also takes up smaller space than an entire neighbourhood and is therefore easier to protect and oversee.

6.6.3 Surveillance of dwellings

Fieldworkers had to see if they could see the front door of the dwelling from the pavement in front. This was done to see if opportunity for natural surveillance is present in each particular neighbourhood.

Table 6.20 Estate versus visibility of front door of dwellings

Front door of dwelling visible	Name of estate		
	Woodlands	Prairie	Glossa
Yes	138 (90.79%)	157 (86.26%)	127 (66.84%)
No	14 (9.21%)	25 (13.74%)	63 (33.16%)

Total*	152 (100%)	182 (100%)	190 (100%)
---------------	-----------------------	-----------------------	-----------------------

$\chi^2 = 36.7304$; Df = 2; Prob. = <0.0001 * 16 missing frequencies

In Woodlands Estate most of the front doors of the dwellings (138; 90.79%) are visible from the pavement in front of the dwelling. Prairie Estate has 186 dwellings whereof 157 (86.26%) front doors are visible. Glossa Estate has the lowest percentage of front doors visible of the three Estates.

Thus a closed neighbourhood will provide more opportunity for passive surveillance of the front doors of dwellings. This phenomenon also concurs with the architectural style of Woodlands Estate, which specifies the American picket fences style which encourages a porch in front of the house .

As the observations done by the fieldworkers of the physical activity in a particular estate were not deemed as representative of what the actual 24-hour physical activity of individual households are, the residents were specifically asked during the telephone interview if they or members of their household took walks within the neighbourhoods, further indicating on which days and time of the day. A “sometimes” leisure activity such as walking within a neighbourhood will also provide more opportunities for passive surveillance. The residents will get to know the faces of the people living within this neighbourhood. Walking also forms part of the creation of a healthy lifestyle for a community.

Table 6.21 Estate versus walking within the neighbourhood

Taking walks within the neighbourhood	Name of estate		
	Woodlands	Prairie	Glossa
Yes	77 (95.06%)	103 (87.29%)	65 (54.17%)
No	4 (4.94%)	11 (9.32%)	51 (42.50%)

Sometimes	0 (0%)	4 (3.39%)	4 (3.33%)
Total	81 (100%)	118 (100%)	120 (100%)

$$\chi^2 = 60.6081; \text{ Df} = 4; \text{ Prob.} = <0.0001$$

From the 81 households that answered this question at Woodlands Estate 77 (95.06%) take walks within the neighbourhood. Prairie Estate rates second with 103 (87.29%) of the respondents indicating that they and their families do walk in the neighbourhood. Slightly more than half (54.17%) of the participating households in Glossa Estate do take walks in their own neighbourhood.

The residents in closed neighbourhoods tend to take more walks in their neighbourhood than those in an open neighbourhood. Woodlands Estate was specifically designed with pedestrian routes among the houses and running throughout the interior terrain of the Estate. Although the physical outlay of Prairie Estate does not provide for the needs of pedestrians with specifically designed routes, the lower rate of traffic experienced in a closed neighbourhood and the safety of such a neighbourhood still allows for walks within the neighbourhood.

In Woodlands Estate, 24 households take walks in the mornings (05:01 - 12:00), 29 walk in the afternoons (12:01 - 18:00), 54 stroll at night (18:01 - 00:00) and only eight of them also walk late at night (00:01 - 05:00). This indicates that the whole duration of the day suits the residents for walking through the neighbourhood, the preferred time being from late afternoon till the evening.

The days of the week on which the residents of Woodlands Estate usually take their walks are spread more or less evenly over all of the days, Tuesday and Thursdays being the least chosen days with 34 (22.37%) and 39 (25.66%) respectively, the other days ranging between 44 (28.95%) and 47(30.92%).

In Prairie Estate, 24 households will take walks in the mornings (05:01 - 12:00), 46 walk in the afternoons (12:01 - 18:00), 62 stroll at night (18:01 - 00:00) and only seven of them also walk late at night (00:01 - 05:00). This indicates that the whole duration of the day suits the residents for walking through the neighbourhood, the preferred time being from late afternoon till the evening. As there are no sidewalks in this Estate residents will be forced to walk in the streets. During the night, this means that the street lights, intended for illumination of the road surface, will also light the way for the pedestrians.

The days of the week on which the residents of Prairie Estate usually take their walks are spread more or less evenly over all of the days, Tuesday, Thursdays and Fridays being the least chosen days with 39 (20.31%) ,40 (20.83%) and 51 (26.56%) respectively, the other days ranging between 52 (27.08%) and 57 (29.69%)

In Glossa Estate, nine households take walks in the mornings (05:01 - 12:00), 40 walk in the afternoons (12:01 - 18:00), 29 stroll at night (18:01 - 00:00) and only one of them also walks late at night (00:01 - 05:00). This indicates that the preferred time for walking is during the daylight hours, late afternoon and early evening. As there are no sidewalks in this Estate residents will be forced to walk in the streets. During the night, this means that the street lights, intended for illumination of the road surface, will also light the way for the pedestrians.

The days of the week on which the residents of Glossa Estate usually take their walks are spread more or less evenly over all of the days, Tuesday, Thursdays being the least chosen days with 15 (7.65%) and 16 (8.16%) respectively the other days ranging between 25 (12.76%) and 29 (14.80%).

The preferred time for walking in the closed neighbourhoods can be ascribed to the working hours of residents who work during the day and want to relax by walking through these neighbourhoods during the late afternoon until the evening. These residents feel safe enough in their neighbourhoods to take walks during the evening hours. The open neighbourhood showed a drop in the rate of people walking during the night whereas the closed neighbourhoods showed an increase in these rates. The drop in these rates may be due to residents not feeling safe enough to walk in the neighbourhood at night. However, the predominant age groups within the Estates were not tested eg. a neighbourhood filled with a large number of pensioners will have another time pattern in taking walks than that of families with small children and babies.

To determine the reason behind less interest in walking on Tuesdays and Thursday another study would have to be conducted, specifically asking people what they do differently on these days.

‘Walking in estates’ are cross-tabulated with variable ‘residential burglary’ to determine if they have an influence on one another.

Table 6.22 Walking in the estate versus residential burglary

Residential burglary	Do you and your family take walks in the estate	
	Yes	No

Yes	31 (12.25%)	20 (30.30%)
No	222 (87.75%)	46 (69.70%)
Total *	253 (100%)	66 (100%)

$\chi^2 = 12.6972$; Df = 2; Prob. = <0.0004 * 3 missing frequencies

More than three quarters (222; 87.75%) of individuals and their families that take walks within their own neighbourhood have not fallen victim to residential burglary. There is a correlation between taking walks in a neighbourhood and residential burglary. Taking walks in a neighbourhood provides opportunity for passive surveillance and the formation of social cohesion.

Cross-tabulations done with theft of motor vehicle and taking walks in the estates have led to the same result as with residential burglary and also test statistically significant. The one case (1.54%) of motor vehicle theft was also not experienced by these respondents that answered the above-mentioned question positively ($\chi^2 = 3.9046$; Df = 1.; Prob. = <0.0482). This interpretation must be taken with caution as the fault factor measures 50%.

Cross-tabulations done with the rest of the crimes did not test statistically significant. Out of the total of 245 respondents that indicated that they go for walks, 14 (5.71%) have been victims of attempted residential burglary, 15 (6.12%) experienced theft from their premises five (2.04%) had a theft out of a motor vehicle at their premises.

In order to notice anything amiss in one's own neighbourhood you need to have eyes on the street, what better way of providing for eyes on the street by means of walking in a leisurely fashion through the neighbourhood, looking at the other activities taking place in the estate.

6.6.4 Physical barriers and target hardening of dwellings

Information on the physical descriptions of the dwellings found in each of the three neighbourhoods were also collected for cross tabulation purposes and to determine the character of each of the neighbourhoods.

In Prairie Estate most of the dwellings (181; 98.37%) are houses built on separate stands or yards. This phenomenon is repeated in Glossa Estate where 183 (95.81%) are built on separate stands with

only two dwellings (1.05%) forming part of a simplex. Woodlands Estate has 128 dwellings (84.21%) built on separate stands or yards and 19 dwellings (12.5%) form part of a simplex. The number of houses forming part of a simplex or a triplex within Woodlands will increase as there are sites which will be developed by private developers in this manner. This was done to increase the density of the neighbourhood and is mostly done on the premises which form part of the neighbourhood's boundaries.

Table 6.23 Estate versus fencing around premises

Fencing around premises	Name of estate		
	Woodlands	Prairie	Glossa
Yes	24 (15.89%)	57 (30.65%)	177 (93.16%)
No	122 (84.11%)	129 (69.35%)	13 (6.84%)
Total*	151 (100%)	186 (100%)	190 (100%)

$$\chi^2 = 239.5619; Df = 2; \text{ Prob.} = <0.0001 \quad * 13 \text{ missing frequencies}$$

Glossa Estate has the highest number of premises surrounded by a fence (177; 93.16%). Prairie Estate rates second with 57 (30.65%) of the premises being fenced off. In Woodlands Estate only 24 (15.89%) of the premises are totally fenced off.

Taking into account that Glossa Estate is an open neighbourhood where each of the premises was developed by an individual building contractor and taking into account the high rate of crime the fencing of premises are to be expected. When the researcher did the pilot study within this open neighbourhood one of the houses situated on the corner of the street was not totally fenced off, two on the side being totally open. When the fieldwork started a couple of months later this particular dwelling was fenced by three metre high solid brick walls after suffering from repeat residential burglaries. The lower rate of fenced premises in Prairie Estate can be explained according to the estate's initial development as a closed neighbourhood making people feel safe in the first instance.

The high rate of premises not being fenced in Woodlands Estate can be ascribed to the architectural theme of the estate, which encourages openness and the pedestrian routes and green areas amongst the houses.

Even though the security measures taken at the dwellings are the full responsibility of each home owner, this information was marked off as it has an influence on the incidence of crime.

Table 6.24 Security measures of dwellings

Type of security measure		Woodlands	Prairie	Glossa
Dogs	Yes	10 (6.58%)	22 (11.89%)	81 (42.41%)
	No	141 (92.76%)	161 (87.03%)	109 (57.07%)
	Not visible	1 (0.66%)	2 (1.08%)	1 (0.52%)
	Total	152 (100%)	185 (100%)	191 (100%)
Intercom system	Yes	8 (5.26%)	7 (3.76%)	66 (34.92%)
	No	144 (94.62%)	176 (94.62%)	122 (64.55%)
	Not visible	0 (0%)	3 (1.61%)	1 (0.53%)
	Total	152 (100%)	186 (100%)	189 (100%)
Security or burglar bars on all windows	Yes	42 (27.63%)	79 (42.47%)	82 (42.93%)
	No	103 (67.76%)	98 (52.69%)	80 (41.88%)
	Not visible	3 (4.61)	9 (4.84%)	29 (15.18%)
	Total	152 (100%)	186 (100%)	191 (100%)
Security gate in front of all outer doors	Yes	4 (2.63%)	26 (14.05%)	79 (41.36%)
	No	137 (90.13%)	136 (73.51%)	58 (30.37%)
	Not visible	11 (7.24%)	23 (12.43%)	54 (28.27%)
	Total	152 (100%)	185 (100%)	191 (100%)
Surveillance cameras	Yes	3 (1.99%)	1 (0.54%)	4 (2.13%)
	No	148 (98.01%)	183 (98.39%)	181 (96.28%)
	Not visible	0 (0%)	2 (1.08%)	3 (1.6%)
	Total	151 (100%)	186 (100%)	188 (100%)

Glossa Estate has the highest number of dogs of the three estates as the presence of dogs were detected at 81 (42.41%) of the 91 dwellings that were marked on the checklists. Prairie Estate has the second highest presence of dogs with 22 (11.89%) and Woodlands Estate last with ten (6.58%). The presence of dogs within these neighbourhoods tests statistically significant ($\chi^2 = 80.1602$; Df = 2; Prob. = <0.0001).

Glossa Estate has suffered the highest rate of residential burglaries of the three neighbourhoods, explaining the presence of so many dogs. When the fieldworkers distributed the information notes to inform the residents of the study in their neighbourhood and the starting date of the telephone interviews

some of the fieldworkers had to attach these notes to the street lights in front of the premises rather than moving too close to the gates of the houses for fear of the dogs behind them. Some of these houses had more than one dog on their premises. In the Prairie Estate the only problem suffered with the dogs were the little dogs behind the front doors grabbing the information notes and shredding them as they were pushed under the doors for their owners to read. The dogs in Woodlands are also few and can be regarded as pets, rather than security measures.

Glossa Estate has by far the highest number of households (66; 34.92%) with intercom systems. Woodlands and Prairie Estate have far less intercom systems with eight (5.26%) and seven (3.76%) dwellings having a visible intercom system. These findings have also tested statistically significant ($\chi^2 = 89.5931$; Df = 4; Prob. = <0.0001)

Glossa Estate has 177 (93.16%) dwellings where the premises are totally surrounded by a fence, this makes the usage of intercoms much more practical in order to gain entry into a dwelling. The inaccessibility of the dwellings within this estate was one of the factors that forced the researcher to switch the survey from face-to-face interviews to that of telephone surveys.

The need for intercom systems in Prairie and Woodlands are much less as only 57 (30.65%) and 24 (15.89%) of the premises are totally fenced.

Glossa Estate (82; 42.93%) and Prairie Estate (79; 42.47%) have nearly the same amount of dwellings where all the windows as far as the eye can see have some form of burglar proofing on them. Just more than a quarter of the dwellings in Woodlands (42; 27.63%) have burglar proofing in front of all their windows. ($\chi^2 = 32.7708$; Df = 4; Prob. = <0.0001)

This is an indication that the residents of Woodlands Estate feel safer in their dwellings than the residents of the other two neighbourhoods.

Using surveillance cameras as a security measure did not really feature in any of the three chosen neighbourhoods. The installation and upkeep of surveillance cameras is a bit of an overkill in the safeguarding of a private dwelling and expensive. Effective use of a surveillance camera implies the usage of extra manpower in order to man such a security measure. An alarm or infra red system would be much more practical for a building which may be unoccupied for great lengths of time, eg both parents working during the day and the children at school with the domestic servant only working twice a week.

6.7 CONCLUSION

In this Chapter the HONC model and its' element was explained in full as well as the empirical data gathered by means of the questionnaires.

The three estates were described according to their physical characteristics and the commodities placed within one kilometre of them. Studying the spread of crime in the estates the highest rate of crime was within the open neighbourhood, namely Glossa Estate. Understandably the residents in the gated communities felt more safe in their neighbourhood during the day and night than in the case of the open neighbourhood.

The healthy lifestyle element of the HONC model does have an influence in the formation of social cohesion within a neighbourhood. The effects of social cohesion on the decreasing of criminal opportunities could not be tested. This is ascribed to the small amount of crime that took place in the three neighbourhoods making the test for statistical significance impossible. The trust of the security systems used in the closed neighbourhoods could not be adequately tested from the questionnaires. Although it must be kept in mind that this question falls outside the perimeters of the research.

Woodlands Estate has a higher rate of outdoor activities than the other two estates, thus proving that designing an estate for outdoor activities will encourage the neighbourhood residents to participate in such activities. It was statistically proven that the participation in outdoor activities has a decreasing effect on the occurrence of residential burglary.

The three estates have more or less the same number of personal computers at home. The influence of the closed communication network within Woodlands Estate can be tested when it has been in use for at least the period of one or two years to determine the influence thereof on the incidence of crime. In this Chapter the initial definition of the element of online technology as described in the conference paper on the concept (Coetzer 2001:163-165) was enlarged upon to include the more traditional means of communication such as verbal and written communication.

The nature aspect of the HONC model is used to entice people out of their homes and into the neighbourhood, improving the possibilities for passive surveillance and movement within the estate. In Woodlands Estate, where the landscaping forms a big part in the image of the neighbourhood, the presence of positive activity measured the highest of the three neighbourhoods, indicating that the nature aspect has a positive influence in supporting the principles of CPTED.

The crime prevention model of Woodlands Estate is described according to the known principles of

CPTED although the reader is warned that the detail of this plan will always differ according to the location in which it is applied. The empirical data is also described according to the principles as used in the model, some of the findings only confirming the physical differences between the three neighbourhoods namely that Woodlands has the highest number of *cull-de-sacs* .

Even though CPTED addresses crime on a social and physical level it represents only one of the many methods in the prevention of crime. The HONC model extends on the CPTED theory by adding a healthy lifestyle, information technology and nature in trying to make it more effective in the application thereof in residential neighbourhoods. In these times, marked by the changing in neighbourhood development, the crime prevention specialist's techniques should keep pace with these changes. The HONC model does not profess to be the perfect model for all levels of residential neighbourhoods but if it can have a positive influence on the quality of life of a few neighbourhoods and keep the levels of crime low in these particular neighbourhoods it has won us a battle in the war against crime.