

THE INFLUENCE OF RESIDENTS' CHARACTERISTICS ON THE INCIDENCE OF BURGLARY IN SINGLE FAMILY DETACHED DWELLING AREAS

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This study examines the influence of residents' characteristics with respect to household composition, life-style, attitudes, social cohesion, security measures and the personalization of their properties.

Although to varying degrees these factors influence the incidence of burglary it would appear that they are by and large secondary to factors such

as location, accessibility and site configuration.

In hierdie studie word die invloed van inwonerseienskappe met betrekking tot huishoudingsamestelling, leefstyl, houdinge, sosiale kohesie, veiligheidsmaatreëls en die verpersoonliking van

hul eiendomme, ondersoek.

Alhoewel hierdie tot 'n mate die voorkoms van huisbraak beïnvloed blyk dit dat die faktore, vergeleke met faktore soos ligging, toeganklikheid en terrein-konfiguratie, grootliks as sekondêr beskou kan word.

In a recent study (Welch, 1993) of burglary in single family detached dwelling areas in Stellenbosch the influence of the physical characteristics of an area on the incidence of burglary was examined. On the basis of these findings it would appear that poor location and specific site configuration characteristics are the primary factors which contribute to reduced environmental safety - in that these structural weaknesses increase the likelihood of burglary taking place.

Whilst the physical characteristics of township layout and site configuration can be regarded as one dimension of the problem a second dimension is that of the characteristics of the residents themselves and of their houses.

In order to explore the influence of the latter on the incidence of burglary a questionnaire survey based on a random sample of 120 non-burgled and 136 burgled properties, drawn from the 448 recorded cases of burglary in the six zones, examined in the aforementioned study, was undertaken. Data on burglaries from police records for the period 1983 to June 1991 were used. The six zones corresponding by and large to existing suburban subdivision are shown in Figure 1.

With regard to the cases classified as non-burgled it should be noted that these were residences which according to police records, had not, during the past eight and a half years, been

burgled. Thus if a house had been occupied for a lesser period than that under review, it does not mean that these houses may well have been burgled prior to the present inhabitants taking occupation i.e. burglaries of which they have no knowledge. The classification 'non-burgled', is therefore independent of the length of stay of those interviewed.

By the same token burgled properties included those cases where burglaries had taken place during the respondent's time of occupancy, i.e. incidents of which the respondent had knowledge. Those cases where, according to police records, burglaries had occurred, but which took place before the present resident took occupancy of the house, have been excluded.

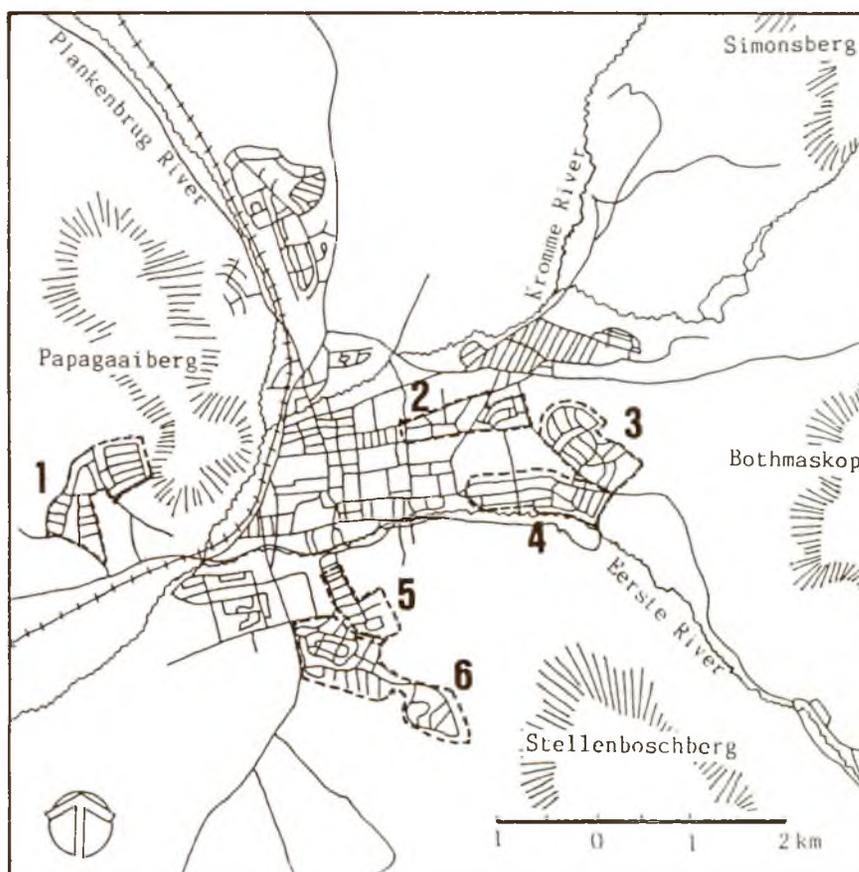


FIGURE 1: The location of the six zones used in the survey.

In each case the occupants of the house were interviewed using a semi-structured questionnaire.

DIMENSIONS EXAMINED IN QUESTIONNAIRE

In the formulation of the questionnaire the following hypotheses were addressed.

- The siting of houses and obscuring landscaping facilitate burglary.
- Personalization of the property and the use of clear territorial markings reduce burglary.
- Greater visual and social contact between neighbours reduces the incidence of burglary.

Pursuant to the above the questionnaire information was gathered on the following aspects or dimensions.

Time of burglary and nature of goods stolen

To examine whether time of burglary and the nature of goods stolen reflects a casual/opportunistic or a planned/orchestrated pattern.

Profile of resident's characteristics

To examine whether factors such as years of residence, family composition, the ages of adults and children, influence the incidence of burglaries.

Life-style patterns

To examine whether routine, predictable or variable life-styles with respect to the comings and goings of family members, and the presence of family members around the house, influence the incidence of burglaries.

Owner's attitudes

To examine whether residents feel that burglary is on the increase or that they feel as safe as before; whether they feel that the police should be doing more or that they, themselves, through for example participation in a neighbourhood watch programme, should become more involved and whether their 'life view' has changed, making them more aware of personal safety and the security of their property.

Relationships with neighbours

To examine the extent to which residents know their neighbours and the degree of contact they maintain through visiting one another; whether they are aware of others having been

burgled; whether they make arrangements with neighbours, the police and suppliers (to stop deliveries) when going on holiday, to protect their property.

Domestic help

To examine whether others employed as maids (daily or living-in) char, gardeners or casual labour, influence the incidence of burglary.

Protection of property

To examine whether burglar-proofing to windows, security gates to doors, electronic alarms, watch dogs, exterior lighting of the property and street lighting influence burglaries and whether the point where burglars gain entry is visible from the street and neighbouring properties i.e. passive surveillance.

Appearance of property

To examine whether the condition of the house and garden and whether the house is concealed by dense shrubbery influences the incidence of burglary.

ANALYSIS AND FINDINGS OF QUESTIONNAIRE

The analysis and interpretation of the data are presented under the 'dimensions' noted previously.

TIME AND NATURE OF BURGLARIES

Data pertaining to when burglaries took place for all zones are as follows:

Of the 136 cases in the sample of recorded burglaries, 36% occurred while the occupants were away on holiday.

Of the burglaries that took place while the occupants were temporarily out of the house 37% occurred during the day and 6% at night.

If one assumes that half of the cases where burglary occurred while on holiday, were committed during the

day the percentage of daytime burglaries is approximately 64 per cent.

Comparatively few burglaries took place while anyone was at home. Respondents' comments indicate that these burglaries largely occurred while the residents were in another part of the house and where access was gained through an open door. In no case was any occupant physically threatened

As approximately 80 per cent of burglaries occurred while nobody was at home and the majority of those which did occur when the occupants were at home, were committed without disturbing them, i.e. the occupants were in another part of the house, these burglaries can be described as 'opportunistic'. Opportunistic is used here in the sense that burglaries occur when conditions are right, where there is little chance of detection, where the target can be marked through 'casual surveillance' and where the opportunity arises. Whilst steps may be taken to 'test the water', for example by knocking on the door under some pretext or other to find out whether anyone is at home, they do not appear to be 'orchestrated' or reflect the work of organised crime rings. This is supported by the nature of goods stolen which include items readily to hand, food, alcoholic beverages, clothing, bed linen, portable radios, cameras, jewellery, money and the occasional TV set. In one instance a lawnmower and in another a motor scooter was taken. In these cases and in the few cases where firearms were stolen, theft occurred because these items were at hand.

PROFILE OF RESIDENTS' CHARACTERISTICS

- Duration of residence

Data pertaining to duration of residence is summarized in Table 2.

Table 1: Time of Burglary

	N	On Vac	Temp. Out		At Home	
			Day	Night	Day	Night
All Zones	136	49	51	8	12	16
		36%	37%	6%	9%	12%
			43%		21%	

Table 2: Duration of Residence

	N	Years in House		
		<5	5-10	>10
B	136	15 11%	19 14%	102 75%
N-B	120	41 34%	12 10%	67 56%

- B = Burgled
- N-B = Non-Burgled

Of the total sample of 136 burgled properties 89 per cent of the respondents had occupied the house for longer than 5 years and 11 per cent for less. Of the 120 non-burgled properties 66 per cent of the respondents had occupied the house for longer than five years and 34 per cent for less.

Both the burgled and non-burgled groups reflect comparatively stable residence patterns, particularly in the case of the burgled sample where 75 per cent of the respondents had lived in the house for more than ten years. In the case of the non-burgled sample 66 per cent had lived in the house for longer than ten years.

It is of interest to note that 34 per cent of the non-burgled sample had occupied the house for less than five years as against 11 per cent of the burgled sample over the same period.

As the samples include only cases where according to police records burglaries have occurred or where no record of burglary is noted, during the eight and a half years under review, the incidence of burglary or otherwise is not dependent on years of residence *per se*. Factors other than years of occupancy would appear to be at play: for example, a more frequent occupancy turnover rate with people of varying life-styles may reduce the chances of burglary; or a degree of carelessness becomes evident over time with respect to length of residence; or this may be related to the age and family composition of the occupants.

The fact that the percentage of non-burgled properties is comparatively high for the less than five year period of residence seems to point to some relationship which may exist between the age or family composition of the newcomers or occupancy turnover rate. Another possibility is that a degree of

Table 3: Adults' Age Distribution by Zone (Burgled and Non-Burgled Samples)

Zone		N	Years					
			<24	25-34	35-44	45-54	53-64	65+
1	Burgled	51	-	10 19,6%	25 49%	12 23,5%	4 7,8%	-
	Non-Burgled	60	1 1,7%	14 23,3%	27 45%	15 25%	2 3,3%	1 1,7%
2	Burgled	43	1 2,3%	7 16,2%	6 14%	10 23,2%	11 25,6%	8 18,6%
	Non-Burgled	25	-	4 16,0%	4 16,0%	1 4,0%	9 36,0%	7 28,0%
3	Burgled	23	-	1 4,3%	4 17,4%	12 52%	5 21,7%	1 4,3%
	Non-Burgled	20	-	8 40%	-	11 55%	1 5%	-
4	Burgled	55	-	6 11%	8 14,5%	14 25,5%	15 27,3%	12 21,8%
	Non-Burgled	61	-	8 13,1%	16 26,2%	14 23%	10 16,4%	13 21,3%
5	Burgled	31	-	4 13%	9 29%	5 16,1%	5 16,1%	8 25,8%
	Non-Burgled	33	-	2 6,06%	4 12,1%	9 27,3%	10 30,3%	8 24,2%
6	Burgled	41	-	-	18 44%	14 34,1%	4 9,8%	5 12,2%
	Non-Burgled	25	-	4 16%	11 44%	2 8%	5 20%	3 12%
All Zones	Burgled	244	1 0,4%	28 11,5%	70 28,7%	67 27,4%	44 18,0%	34 14,0%
	Non-Burgled	224	1 0,4%	40 17,8%	62 27,6%	52 23,2%	37 16,5%	32 14,3%
Combined Samples All Zones		468	2 0,4%	68 14,6%	132 28,0%	119 25,5%	81 17,4%	66 14,1%
			15%		53,5%		31,5%	
			85%					

laxness with respect to vigilance, may become evident over time, thereby increasing the vulnerability to burglary.

• **Adult's ages**

Summarized data pertaining to adult's age distribution by zone is reflected in Table 3.

The overall pattern with respect to the age structure of all respondents reflects a skewed distribution with 53,5 per cent falling into the two groups of 35-44 and 45-54 (i.e. between 35 and 54 years of age) 31,5 per cent falling into the 55-64 and over age groups and 15 per cent in the 25-34 and younger age categories.

The percentage of those older than 35 years is 85 per cent which reflects a mature to middle-aged population profile.

If the distributions of the percentages of the respective age groups per zone are compared, there are clearly quite marked differences both within and between zones.

Table 4: Rank Ordering of Zones according to Burglary Index

Rank Order of Zones from Worst to Best	Burglary Index*
2	2,50
5	3,16
4	3,50
3	4,30
6	4,50
1	5,90

* Determined on the basis of the number of houses in each zone divided by the number of burgled houses in each zone over the period of eight and a half years.

If these patterns are related to the burglary rankings of corresponding zones in terms of burglary index (Table 4) a general pattern of age structure to incidence of burglaries tends to emerge. For example, in zone 1 which has the best rating (i.e. a lower burglary index) there is a high proportion of young and early middle-aged adults, with very few over the age of 55 years. Although a slightly different distribution within the various categories is present in zone 6 and zone 3, these too emphasize a higher

proportion of younger to older age groups. In the case of zone 4, zone 5 and zone 2 (which has the highest burglary index), a comparatively higher proportion of residents fall into the 55 years and older category.

On the basis of these data it would appear that areas with younger, more robust and possibly more active residents are less prone to burglary than those areas with older residents.

Age structure, however, should only be seen as a possible contributory factor, as it should be noted that factors such as geographic location, accessibility, proximity to main through roads and the incidence of extraneous movement through a zone, (Welch, 1993) are also important and that the age of residents *per se* may only explain in part variations in the incidence of burglary.

For example, although zone 1, zone 6 and zone 3 display a younger population structure than zone 4, zone 5 and zone 2 they would also appear to be less prone to burglary because of their geographic location on the periphery and that less extraneous movement occurs through these areas. In the case of the latter three zones because they are geographically more centrally located, and hence experience greater exposure to through movement, the incidence of burglaries may be related to these physical factors or to the mature age of the residents or to a combination of all these factors.

A problem in the interpretation of these data results from the generally small number of cases and their distribution among the various age groups.

To offset these problems, only zone 1 and zone 4 which are similar in terms of the total number of cases, as well as in the number of burgled and non-burgled cases in each, was examined further.

It should be noted that zone 1 has the best ranking of all six zones in terms of the burglary index whilst zone 4's ranking is appreciably (worse) lower.

Furthermore, zone 1 has a younger age composition than zone 4 with few cases (6,3 per cent) in the age group 55 years and over, whilst in zone 4 this age group represents 43 per cent.

Although minor differences may be noted within the respective groups the percentage of burgled to non-burgled

properties within the respective age groups is similar. Whether burglaries occur or not does not appear to be significantly influenced by age of the occupants *per se* but rather by environmental opportunities or constraints as noted previously.

By and large areas with younger, more robust and active adults are less prone to burglary than those areas with older residents. Age, however, is probably not the only factor as the younger groups tend to be concentrated in those areas further away from the centre: locational and access factors tend to confound the picture, and may well be more significant.

• **Children's ages**

The pattern of children's ages correspond with that of the adult's ages in each zone. With respect to the generalised pattern for all zones there was found to be little difference between burgled and non-burgled cases within each age category and therefore details pertaining to this dimension are not presented here.

With respect to the generalised patterns one may note that in the case of zone 1 and zone 6, which have the best rankings with respect to low incidence of burglaries, the profile is skewed towards the younger groups. Zone 3 which is also relatively secure displays a structure favouring the older groups. In zone 2, which has the worst ranking, the pattern reflects almost equal percentages of younger and older children on either side of the 10-14 age group. Burglary patterns do not seem to be related to the ages of children and vary considerably from zone to zone. Variations in the incidence of burglary for the different zones would appear to be influenced by other factors as previously noted under adults' age distribution.

RELATIONSHIPS WITH NEIGHBOURS

• **Vacation Arrangements**

Virtually the same percentage of respondents in the burgled and non-burgled samples, for all zones, 79,4 per cent and 80 per cent respectively, indicated that they made arrangements with their neighbours to keep a watch over their house while on holiday.

As 92 per cent of the 49 cases - where burglary took place while residents

were away on holiday - took steps to ensure that neighbours kept an eye on the property, it appears that this precaution does not effectively deter burglars: nor for that matter does notification of the police, collecting post from the postbox nor stopping deliveries of newspapers.

- **Know whether neighbours have been burgled**

In all cases a higher percentage of those that had been burgled knew of burglaries in their neighbourhood: 54,4 per cent of the burgled and 35,8 per cent of the non-burgled samples.

It is of interest to note that where the incidence of burglary is low as in zone 1 knowledge of burglaries is correspondingly low: 34,4 per cent of burgled and 17,2 per cent of the non-burgled sample. In zone 2 with a high incidence of burglary 62,5 per cent of the burgled sample and 57 per cent of the non-burgled sample knew of other burglaries in the neighbourhood.

Residents' awareness as regards burglaries appears to increase commensurate with the incidence of burglaries in their neighbourhood.

- **Know neighbours**

The data pertaining to the number of neighbours the residents know for the sample as a whole is as follows:

Table 5: Know Neighbours - Summary of All Zones

	Burgled	Non-Burgled
Residents know one or none of their immediate neighbours	11%	13,3%
Residents know two neighbours	37,5%	40%
Residents know three neighbours	51,5%	46,7%

These data seem somewhat strange in that knowing few neighbours does not necessarily relate to a high incidence of burglary.

Although this pattern may in part be attributed to the differences in sample sizes and the presence of open space adjoining properties thereby reducing

the possible number of neighbours, these would appear to be minimal as the same conditions apply to both samples.

In zone 1 (lowest burglary incidence) a relatively large percentage (17,2 per cent) of those who knew one or no neighbours and 41,3 per cent who knew three neighbours had been burgled. Of the non-burgled sample the percentage (3,3 per cent) for those who knew one or no neighbours is particularly low, with 65,5 per cent of respondents knowing three neighbours.

In zone 2, with the highest burglary incidence, of those burgled 8,3 per cent knew one or no neighbours and 62,5 per cent knew three neighbours. In the non-burgled sample 14,3 per cent knew one or no neighbours and only 35,7 per cent knew three neighbours.

Although these data are somewhat inconclusive it would appear that knowing a number of one's neighbours does not substantially reduce the incidence of burglary.

A possible explanation as to why those who know one or none of their neighbours are not burgled, may be that by keeping more to themselves their life-style is less open, they may be more wary of others and may take more precautions to ensure their privacy from outsiders generally.

- **Visiting neighbours**

The data pertaining to neighbours visiting one another with respect to burgled and non-burgled cases for all zones are as follows:

Table 6: Visiting Neighbours - Summary of All Zones

	Burgled	Non-Burgled
Regularly	59,5%	53,3%
Rarely	33,1%	34,2%
Never	7,4%	12,5%

It would appear that those who have been burgled visit more, than those who have not been burgled. These data tend to follow the pattern noted previously with respect to the number of neighbours known.

It would appear that a pattern of regular visiting between neighbours holds

no advantage with respect to reducing burglary. In Greenberg and Rohe's study (1984:48-61) of the defensible space approach and the opportunity approach they found that although areas where control of access was present (i.e. fewer heavily trafficked roads or "movement generators" passing through the area) and those displaying homogeneous residential as opposed to mixed land use characteristics, reflected lower crime levels, it was access and the opportunity this affords rather than 'latent territorial control on the part of the residents', which had a stronger influence on the incidence of crime.

Although it is difficult to compare the influence of social cohesion, as reflected here in the extent of visiting between neighbours, with overseas studies, it is interesting to note that Reppetto (Poyner 1983:31) found that in areas with low social cohesion the average annual rate of burglary was 90 per 1 000 dwellings as against 28 and 16 per 1 000 in areas of medium and high levels of social cohesion.

In this study the generalized burglary rate is 30 per 1 000 households which tends to indicate that knowing one's neighbours and frequent visiting, should contribute to a reduction in burglary. However, social cohesion does not, in this study, seem to have a significant influence.

- **Owners' attitudes**

The owner's attitudes with respect to the noted dimensions for burgled and non-burgled properties are as presented in Table 7:

A comparison of the two groups shows that both groups feel that burglary is on the increase. Only 44 per cent of the burgled sample felt the area was as safe as before as against 60 per cent of the non-burgled sample. Both groups are strongly in favour of a neighbourhood watch system. Of those that have been burgled 50 per cent felt the police should do more as against 36 per cent of the non-burgled group. With respect to whether they are more alert than previously, 76 per cent of the burgled group were more so, as against 63 per cent of the non-burgled group.

On the whole the burgled sample does not feel as safe as before, it is in consequence more alert and feels the

police should do more.

Table 7: Summary of Data pertaining to Attitudes to Burglary

	Burgled	Non-Burgled
Burglary is on the increase	61%	62%
Area is as safe as before	44%	60%
Favour a Neighbourhood Watch	69%	73%
The Police should do more	50%	36%
Occupants are more alert than before	76%	63%

The non-burgled sample tends to feel as safe as before, it places more emphasis on community involvement in the form of a neighbourhood watch to safeguard its interests as opposed to feeling that the police should do more.

Having been burgled clearly modifies those residents' attitudes, negatively.

As Greenberg and Rohe's study suggests "the residents of high-crime areas were more likely to watch for suspicious-looking people or activities ..." and that this "may be a response to objectively higher crime levels rather than a strategy for maintaining safety" (1984:56).

• **Life-style patterns**

The data for all zones shows that 62 per cent of households in the combined samples follow a variable/non-routine life-style.

Of these households 30 per cent have been burgled and 32 per cent have not. By comparison, 23,5 per cent of those burgled and 14,5 per cent of non-burgled households follow a routine life-style pattern. Overall there seems to be little if any advantage in a variable life-style pattern as opposed to a routine one.

Contrary to what one might expect, it seems that following a variable/non-routine and unpredictable life-style, with respect to a household's comings and goings, holds only little advantage

i.e. a non-routine life-style is not in itself an effective deterrent. This once again reflects the opportunistic nature of burglaries.

Table 8: Summary of Data pertaining to Life-style Patterns

	Routine	Variable
Total Sample N = 256	97 38%	159 62%
Burgled N = 136 (53,1%)	60 23,5%	76 30%
Non-Burgled N = 120 (46,9%)	37 14,5%	83 32%

• **Family members around the house**

The data for the original four categories, Always, Regularly, Rarely and Never have been regrouped into Frequently and Seldom and are as follows:

Table 9: Summary of Data pertaining to Family Members around House

	Frequently	Seldom
Total Sample N = 256	205 80%	51 20%
Burgled N = 136	102 75%	34 25%
Non-Burgled N = 120	103 85,8%	17 14,2%

By far the majority of all the respondents (80%) noted that family members were frequently around the house.

However, with respect to the separate samples of those burgled and non-burgled, 75 per cent of the former and 86 per cent of the latter, indicated that family members were frequently busy around the house.

It appears that the presence of family members reduces the incidence of burglary, although its influence may not be as great as one might expect: for example, if the percentages for Frequently and Seldom in the burgled example were transposed, the advan-

tages of the presence of family members would be clear.

• **Neighbours active around their properties**

As in the above the data for the four categories, Always, Regularly, Rarely and Never have been regrouped into Frequently and Seldom and are as follows:

Table 10: Summary of Data pertaining to Neighbours Active around Property

	Frequently	Seldom
Total Sample N = 256	179 70%	77 30%
Burgled N = 136	92 67,6%	44 32,4%
Non-Burgled N = 120	87 72,5%	33 27,5%

The majority of respondents in the combined sample (70 per cent) indicated that neighbours were frequently active around their properties. However, of the burgled sample 67,7 per cent as against 72,5 per cent of the non-burgled sample noted that neighbours were frequently active about their properties.

This tends to indicate that the presence of neighbours as in the case of family members, reduces the incidence of burglary, although here too the influence is not as great as one might expect. This is probably due to the fact that private areas are generally well screened which reduces the chances of surveillance from one property to another, hence the presence of others is largely negated.

• **Domestic help**

Of the burgled sample all the respondents employed domestic help in one form or another as against 75 per cent of the non-burgled sample.

Overall it would appear that the employment of domestic help and gardeners tends to increase the chance of burglary. Whether this is purely fortuitous is not known. It is however of interest to note that domestic help was seldom at home when the burglary took place: i.e. burglars avoid any

form of possible detection.

The presence of domestic help may introduce an element of 'reduced vigilance', which might account in part for the increase in vulnerability.

SECURITY MEASURES

The data pertaining to this dimension are summarised as follows:

• Burglar proofing to windows and doors and electronic alarm systems

At the time of burglary only 44 per cent of the burgled sample had burglar proofing to opening windows, against 62 per cent of the non-burgled sample.

Whilst burglar proofing to opening windows has some advantage, it would appear that as this may at times be 'torn off' or another window broken to gain entry, its effectiveness is minimal: at best it acts as a deterrent to thieves gaining too easy access through open windows.

For burglar proofing to windows and other openings to be effective the whole wall opening needs to be protected: along the pattern of 'Spanish type bars' or 'roller shutters' as used in Europe.

By the same token security doors and a security 'eye' to a door only come into play where one wants to see who is at the door before opening it or in the case of security doors, on having opened the door to ensure that forced entry is not gained, or to allow one to leave doors open without exposing the house to unwanted entry.

As the pattern of burglary is not one of 'personal confrontation' the value of security doors is similar to that of burglar proofing to windows noted above.

Bearing in mind the general use of large picture windows associated with ranch style houses, with free access to gardens through sliding patio type doors etc. it would appear that electronic security systems are the only reasonable alternative. However, these are not commonly found and for a variety of reasons including for example, lack of compactness of house design, multiple points of entry - used by a variety of family members of varying levels of maturity - their being subject to activation by vibration or

temperature change or birds striking large window panes and the like, these are not always kept functional. In many instances it may well only be the warning sign of the manufacturer, that the house is fitted with an alarm system, that is functional.

• Dog-ownership

With respect to the presence of dogs, only a little over half the occupants in both samples had dogs with 26 per cent of the non-burgled group and 23 per cent of the burgled sample having watchdogs (as opposed to lapdogs). However, as only approximately half the dogs were on the premises at the time of burglary only effectively a quarter of the burgled sample can be regarded as having a dog. On this basis the presence of a dog in the non-burgled sample is appreciably higher than in the burgled sample and tends to indicate that dogs particularly watchdogs, on the premises, deter burglary but only if they have free access to all parts of the property and are trained as such. The usefulness of a large dog restricted to one part of the property is minimal and totally absent when the owner is on holiday and the dog is at the kennels.

Lapdogs, apart from barking and warning the occupants, are of little security value. In a number of cases when asked where the dog was at the time of the burglary owners would respond "... it was probably playing with the burglar".

• Lighting of the outside of the house and street lighting

The incidence of adequate lighting of the outside of the house, entrances and areas of the garden are similar (approx. 75 per cent) with a slightly higher percentage in the non-burgled sample (78 per cent). In the latter sample, the effectiveness of street lighting was evaluated as 57 per cent good and 26 per cent poor as against 50 per cent good and 29 per cent poor for the burgled sample. A higher percentage of the burgled sample was rated as average than in the non-burgled sample. Good quality lighting on the outside of the house and street lighting, with respect to its effectiveness in illuminating adjacent properties, seems to act as a deterrent to burglary.

However, it should be noted that few burglaries occur at night: burglary is

essentially a daytime phenomenon which is associated with the desire to minimize contact. Signs that the house is occupied i.e. lights burning inside the dwelling may therefore be more of a deterrent, than outside lighting *per se*. Outside lighting activated by sensors - body heat or movement - may be more effective than 'permanent' lighting in that it signals a change in conditions, due to the presence of intruders which increases vigilance on the owner's part and serves as a warning to the intruder.

• Visibility of point where burglars gained entry to the house

In less than a third of the cases (31 per cent) is the point of entry visible from the street and in less than a quarter of the cases (23 per cent) is the point visible from neighbouring properties.

Effective surveillance of burgled properties, from the street and by neighbours, is poor and this probably contributes to the incidence of burglary in that access to the house goes largely undetected.

EVALUATION OF THE APPEARANCE OF THE OUTSIDE OF THE PROPERTY

An evaluation of the condition of the house and garden on the basis of the criteria, good, fair and poor was made and is summarised as follows.

For the total sample of burgled and non-burgled properties, the percentages of both house and garden which were rated as good in the burgled group, was less than in the non-burgled group.

As to other signs of personalization of the house and property the two samples were the same (34 per cent).

Regarding the extent to which thick and dense shrubbery, plants and trees obscure the house and property, it was found that in 40 per cent of the burgled cases and 26 per cent of the non-burgled cases, visibility was reduced by planting.

Thus apart from the fact that burgled houses are rated lower than non-burgled houses with respect to appearance, the percentage of burgled houses, where visibility is obscured by dense planting, is considerably higher.

The poor appearance of the house and garden on the one hand and the pres-

ence of thick shrubbery and the like, which reduce visibility on the other, would seem to contribute to the incidence of burglary.

This tends to support the contention of Brown and Altman (1983:203) that "Environmental appearance and design ... may deter residential burglars". However, personalization of primary territories, in the form of nameplates, art objects and the like, are not commonly present and as these are found to the same extent in both burgled and non-burgled samples, seem to have little effect as an additional deterrent.

In the context of suburban development Brown and Altman note that "... the physical constraints of the setting (i.e. the distance between houses, a thick cover of foliage) sometimes renders casual surveillance and secondary territorial cohesiveness impossible" (1983:218). Although two forms of deterrent, as reflected in personalisation of the house through identity markers and visual contact with neighbouring houses i.e. shared secondary territoriality, occur, these are unlikely to co-exist. They speculate that communal and individualistic styles of territoriality are mutually contradictory concepts (1983:217).

It seems nevertheless possible to achieve a compromise through keeping the street front as open as possible and restricting access from the front to the rear of the house. This allows for visual surveillance of the properties by those who belong in the area and reduces access to these and private areas by unwanted elements (Welch, 1993:34).

CONCLUSIONS

The first hypothesis addressed in this study: the siting of houses and obscuring landscaping have an influence on the incidence of burglary are shown to be correct. This together with the form and physical configuration of township layouts would appear to be primary factors that need to be addressed in planning.

The second hypothesis relating to personalization of the property, in the use of clear marking (nameplates, art objects, etc.) with respect to a reduction in burglary is not substantiated. A more generalized personalization of the property in terms of appearance i.e. a positive evaluation of the house and

garden, may have some influence on reducing burglary although this may be confounded by other factors such as dense shrubbery which reduces visibility and thus renders the house vulnerable to burglary.

As regards the third hypothesis, that greater visual and social contact between neighbours reduces the incidence of crime, it would appear that the influence of social contact is marginal. This can probably be ascribed to a preoccupation with achieving privacy and the screening of these areas from view. In consequence the presence of neighbours is largely negated.

Furthermore the burglary pattern in Stellenbosch is essentially opportunistic in nature. Burglaries occur when conditions are right; where there is little chance of detection; where the target can be adapted to circumstances.

The nature of goods stolen does not reflect the work of organized crime rings and tends to include goods which are readily at hand and which can either be used by the burglar or are easily disposed of.

Burglary is, by the same token, essentially a daytime phenomenon with very little difference being evident between those households with a routine and those with a variable (non-routine) life-style: burglary occurs when the opportunity is there.

Although there is some indication that the dimensions noted in the discussion of Residents' Characteristics like duration of residence, age of adults and children, relationships with neighbours, owner's attitudes, life-style patterns, security measures and the appearance of the garden and house, influence the incidence of burglary, it would appear that these are by and large secondary. This does not mean that increased vigilance and more effective burglar proofing etc. will not help, but rather that more attention should be paid to primary factors such as location, accessibility and site configuration, as a first line of 'defense'.

As noted in Waller and Okihiro's study (Greenberg and Rohe 1984:50) "the ease of access ... proximity to public housing (possibly an indicator of a high concentration of offenders), and high income (i.e. having something

worth stealing) were the most important factors in distinguishing between burglarized and non-burglarized dwellings. The frequency and quality of interaction among neighbours were far less important in predicting high crime rates".

Two aspects of surveillance are relevant here: firstly as noted previously, Brown and Altman suggest that the two dimensions of territoriality namely, personalization and visual contact with neighbouring houses, tend to be mutually exclusive and secondly as noted by Baumgartner (1988) it is nonviolence, nonconfrontation and tolerance which characterises life in American suburbs. To a degree, this is also evident in this study. Because, what she refers to as "moral minimalism" that is, a reluctance to exercise any social control against one another, a lack of social integration and avoidance to becoming embroiled in the affairs of others, characterise suburban living, one can expect little control to be forthcoming from residents as it is precisely the opposite as reflected in their desire for privacy, that the suburban life-style affords. By and large therefore, amenity and privacy are gained at the expense of safety and defensibility.

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