

**The Nature and Prevention  
of Residential Burglary:**

**A Review of the  
International Literature with  
An Eye Toward Prevention in Denmark**

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Financed by and prepared for Denmark's Ministry of Justice.

May 9, 2003



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## **Executive Summary**

This paper concerns the nature of residential burglary and its reduction through situational crime prevention approaches.

### **Section 1: Introduction**

Section 1 considers burglary and the fear of burglary from both a Danish and international perspective, and introduces situational crime prevention as one approach to their reduction. Residential burglary (including attempts) represents 11%-13% of all Danish penal code violations as measured by both police data and the International Crime Victims Survey (ICVS). Among the 17 countries surveyed by the ICVS, Denmark's prevalence of residential burglary is second only to Australia. Yet compared to the average for ICVS respondents, less than half as many Danes report the use of burglary prevention measures in the home. Contrary to a general decline in the number of residential burglaries reported between 1996 and 2000 in EU member states, Denmark's level of burglary has remained remarkably stable. Danish burglary trends differ, however, by type of residential property. While the level of reported burglary against villas has recently increased, burglaries against all other forms of residential property have declined. Given high levels of home insurance in Denmark, the financial consequences of burglary are minimal. On the other hand, the emotional costs can be intense, and victims are not always satisfied with police response. One British study suggests that satisfaction could be enhanced enormously if the police would merely send out a letter apprising victims of the status of their case and/or making generic suggestions for reducing their risk of repeat victimization. Programs specifically designed to reduce repeat victimization should reduce not only the risk of future burglary, but levels of victim anxiety as well, while at the same increasing victim satisfaction with police response.

This paper focuses on situational crime prevention (SCP) approaches to burglary. SCP concerns the management, design and manipulation of the immediate physical and/or social environment with the aim of making crime appear more difficult, more risky, or less rewarding in the eyes of potential offenders. One of the hallmarks of the SCP approach is the degree of specificity used in connection with crime analysis. The most frequent substantive critique of SCP regards the potential for displacement. Evidence for and against displacement is considered throughout the current report.

### **Section 2: The Nature of Burglary**

Section 2 examines the nature of burglary, burglary victims, and burglars themselves. Given an absence of detailed Danish research and statistics, much of the information provided comes from UK and US. Knowledge of burglary stems from four primary sources: (1) Official data; (2) victimization surveys; (3) interviews with offenders; and (4) trade organizations. The vast majority of burglars are male, and tend to be young. Some burglars can be highly prolific. Interviewed burglars very often point to money and drugs as primary motivators for their crimes. The most common items stolen in the US and UK are cash and jewelry. Burglars dispose of their proceeds through pawnshops, taxi drivers, small store owners, and on the street. 1998 data from the BCS indicate that 61% of burglaries with entry involved the use of forced entry. "Burglars" tend to be generalists sporadically engaged in a broad spectrum of violent and non-violent offences. They also tend to be the most recidivistic of all property offenders. The largest proportion is

“amateurs” – a group that compared to “professionals” tends to be younger, less mobile, more easily deterred. Despite their amateur nature, most studies lean towards characterizing burglars as planners; very few characterize them as fully opportunistic.

Burglars avoid contact with residents. 56% of BCS burglary incidents occur at night. The percentage of incidents involving successful entry is highest during the afternoons and evenings - when houses are more likely to be unoccupied. Villas are enormously over-represented in Danish burglary data compared to other forms of property. Variation in the level of Danish burglaries clearly differs by month – with a peak in December and another sharp rise in July. Temporal variation reflects a combination of changes in occupancy, level of security (e.g., windows left open), and nocturnal cover. Five factors seem to underlie burglars’ target selection: Familiarity and convenience; occupancy; visibility; accessibility; vulnerability; and potential rewards. Household structure, socio-economic circumstances, location, and other household factors are heavily associated with the risk of burglary. The most important risk factors identified by the BCS include (1) a total lack of security devices, and (2) homes where the head of the household is young, ages 16-24. Homes characterized by either of these factors have estimated prevalence rates 2.7 times the national average for England and Wales. Homes located in economically deprived council housing estates, those in areas characterized by high levels of physical disorder (e.g., rubbish, vandalism, graffiti), and those headed by single parents all have estimated rates of victimization more than twice the national average.

### **Section 3: Situational Crime Prevention Approaches to Burglary Reduction**

Section 3 systematically examines ten situational crime prevention approaches to burglary reduction, and assesses the evidence to support their effectiveness. The techniques described are considered in light of the burglary patterns discussed in Section 2, and in terms of how they might affect the balance of perceived effort, risk, or reward.

**Burglar alarms:** It is surprising how few (well-conducted) studies have examined their effectiveness. The most convincing evidence comes from Budd’s (1999) multivariate analysis of BCS data, which shows that the probability of burglary among those “using no security devices” is 7.9 times higher than for those using two or more security devices. Note, however, that police response to false alarms represents a significant cost to society in terms of police response.

**Target hardening** refers to the physical reinforcement of potential points of entry such as doors and windows. Budd’s (1999) multivariate analysis of BCS data strongly suggests the effectiveness of “security measures,” despite the vague nature of that construct. Ironically, however, the effects of target hardening have proved difficult to evaluate on the basis of experimental research because target-hardening interventions rarely occur in the absence of additional interventions.

**Neighborhood Watch (NW)** programs involve the organized cooperation of residents for the purpose of keeping an eye on neighborhood homes and reporting suspicious activities to the police. Despite their popularity and intuitive appeal, there is little evidence that NW programs reduce burglary. Cocoon Watch is a more focused variant of the NW theme where residents keep an eye on homes immediately adjacent to one another. Yet as with so

many tactics, it is difficult to measure the specific effects of cocoon watch, since it is so often used as part of a multi-tactic approach.

Property marking involves the inscription of owner identification on valuable property such as jewelry and electronic equipment. Despite this report's inclusion of one convincing study, there is little evidence to support its effectiveness.

The use of Mock Occupancy Indicators (timers on lights, radio on, etc) may fool some offenders into believing that a home is occupied. There is plentiful evidence that burglars avoid occupied homes, but little evidence on the effectiveness of mock occupancy indicators themselves. Nonetheless, the use of Mock Occupancy Indicators may reduce the obvious signs of prolonged non-occupancy, and thereby reduce the probability burglary.

CCTV is designed to reduce burglary by increasing an offender's perception of risk, and by helping to identify and prosecute suspects. There is only one published study concerning CCTV effectiveness in a residential setting, but its results cannot be considered reliable.

Properties with low levels of night-time lighting, high solid fences, or thick trees or shrubbery provide cover to burglars – which is especially attractive when found near potential access points like doors or windows. The removal of such Visual Obstacles and the use of external lighting at may increase an offender's perception of the risk of being seen. Yet this author knows of no controlled studies of impact on residential burglary.

Access to the perimeter of a property can be restricted by the installation of fencing, the planting of hedges, and/or the blockage of pedestrian passageways. Multivariate analyses of BCS data indicate that the odds of burglary are 46% higher for flats than detached houses, when all other factors are held constant (Budd, 1999, 82). Ekblom (2002) reports a 53% drop in burglary following the use of alleygating in Stirchley Birmingham, England.

Creating cul-de-sacs and dead end streets by closing pedestrian and motor thoroughfares may reduce burglary in those areas. Yet the evidence is mixed. Pedestrian traffic access seems to increase risk (from the standpoint of target selection) but decrease risk (from the standpoint of natural surveillance) depending on whether that traffic is through traffic or local traffic.

Defensible space, CPTED and SBD are overlapping strategies that incorporate many of the target hardening and environmental modification techniques discussed above. They can be applied to new buildings prior to construction or to existing buildings through design modification. A very detailed review of 39 "key studies" describes their effects on burglary as mixed.

#### **Section 4: Targeting Crime Prevention Programs at Places, Demographic Communities and Prior Victims**

Section 4 provides guidelines for targeting burglary prevention programs at those geographic areas, demographic communities, or specific individuals that are most in need. Burglary is concentrated in geographic hot spots. Identifying the nature and breadth of a crime concentration has important implications for both understanding and combating a

particular crime problem. While skeptics see crime mapping as no more than a high-tech presentation of what they already know, the Home Office (2003) advocates electronic mapping for numerous reasons.

Burglary is also concentrated demographically. According to British Crime Survey (BCS) data, single parent households, low-income households, and urban households in England and Wales all have rates of burglary victimization far above the average. Focusing solely upon geographic concentrations of burglary risks ignoring at-risk households that lie outside of identified hot spots or hot areas. Furthermore, crime concentrations that appear to be geographic in nature may, in fact, represent concentrations of at-risk demographic communities. Demographic communities characterized by more than one risk factor should have still higher rates of victimization. Identifying and targeting multiple-risk-factor demographic communities in Denmark would seem likely to provide a highly cost-effective, objective basis for crime prevention allocation.

Criminal victimization is perhaps most highly concentrated among prior crime victims. BCS data indicate that less than 1% of burglary victims suffer over 20% of all reported burglary victimizations. Less than 2% report more than 38% of all burglary victimizations. Based on these data, the prevention of repeat victimization could be expected to produce staggering inroads on the prevention of crime overall. Repeat victimization appears to be heavily concentrated in the very same neighborhoods where initial victimization is highest. Two standard explanations are used to explain the RV phenomenon: *risk heterogeneity* and *event dependency* (otherwise known as “flag” and “boost accounts”). Risk heterogeneity refers to the fact that some people and/or properties are more susceptible to burglary than others, and that these differences in susceptibility remain relatively constant over time. Event dependency refers to the notion that an initial victimization increases the probability of a subsequent victimization. For example, offenders who have already burgled a property may return for goods they left behind, or for goods they expect residents to replace in the near future. It is important to note that while distinct, these explanations are not necessarily mutually exclusive. In terms of relative importance, however, offender accounts underscore the importance of event dependency/boot explanations. So does the timing of recurrence. When victimization recurs, it tends to do so quickly. In a pioneering study of official police data, Polvi et al. (1990) noted that among those recently burgled, the rate of new victimization during the first month alone was 12 times the expected average rate of victimization. Furthermore, 50% of the repeat burglaries occurring within the first month happened within seven days of the initial burglary. This pattern has also been demonstrated with in connection with repeat “school crime,” racial victimization, and domestic assault in the UK (Farrell and Pease, 1993). Malena Carlstedt, of the University of Stockholm, seems to be the only researcher to have examined the RV phenomenon in Scandinavia. According to her official record data, RV constitutes a major proportion of some Swedish crime categories, but she does not find nearly the degree of repeat residential burglary found elsewhere in the international literature. Despite the low rate of RV, nearly half of Swedish residential burglaries recur within the first month of an initial burglary. The scarcity of repeat residential burglary found in Carlstedt’s study *may* be due to a lower tendency for RV victims to report those crimes to the police. Alternatively, there may simply be less repeat residential burglary in Sweden than elsewhere. Yet according to ICVS data, about 24% of all burglaries reported by Swedish respondents in 1999 were repeats. The corresponding figure for Denmark, on the other hand, is very low,



at only 6%. Even in Denmark, the cost-effective reduction of this sub-portion of burglary would still seem worth the effort. Furthermore, the 6% figure applies to Denmark nationally. Some Danish communities – whether geographically or demographically defined – surely suffer far high rates of both initial and repeat victimization. The potential for linking electronic police reports and CPR registries would seem to offer a relatively easy means by which to identify and target these places and people. One of the qualities of RV-based programs is that they combine crime prevention with victim services. A study by Shaw (2001) suggests that the emotional trauma of repeated victimization can mimic bereavement.

### **Section 5: Anti-Repeat Victimization Project Case Studies**

Section 5 provides a detailed review of five anti-RV studies discussed in terms of both process and outcome. All of these projects aimed to reduce the overall rate of residential burglary by reducing the rate of RV. Despite the promise of RV theory as described in Section 4, three out of the five programs described here failed to meet their crime-reduction objectives. In most cases, this seems to have resulted from implementation failures and lack of victim compliance.

*The Kirkholt Burglary Prevention Project* was the first application of RV-theory to a concrete, crime prevention project. Like many UK public housing estates of the time, the Kirkholt apartments contained coin-operated gas and electric utility meters. The interventions used included: Removal of pre-payment meters; Target Hardening; Community Support Teams to visit burglary victims; Cocoon Watch; and Property Marking. The Kirkholt Intervention went into full swing in March 1987. By 1989, the incidence of reported residential burglary dropped by 72%, much more than in the control area. There was no evidence of spatial displacement. RV declined substantially, and there was a significant reduction in fear. Kirkholt is hailed as a primary example what can be accomplished through a focus on repeat victimization.

*Biting Back: The Burglary Reduction Project at Huddersfield* was another success. The purpose of Biting Back was to examine prospects for transferring an anti-RV strategy from a carefully monitored, research endeavor (as it was in Kirkholt) to a mechanized, day-to-day approach to policing in a large police division. The intensity of intervention was based on number of previous victimizations. “Bronze,” “silver,” and “gold” interventions were applied to victims of one, two or three previous burglaries, respectively (thus called, the “Olympic Model of Crime Prevention”). Interventions included: Bronze Responses: Victim letter with crime prevention advice; UV property-marking kit; Check with known informants and stolen goods outlets; Loan of temporary alarms; Cocoon watch; Target hardening; Rapid repairs. Silver Responses: Visit from a CPO; Search warrant; Loan of monitored, silent alarm; Police Watch visits twice weekly. Gold Responses: Visit from a CPO; Priority fingerprint search; Loan and installation of covert cameras; Police Watch visits daily. Chenery et al. (1997, 24) describe the data as showing a 30% decline in burglary at Huddersfield, far more than in the surrounding force (control). There was no evidence of spatial displacement. There was a decline in repeat victimization over time. No evidence was presented on fear of crime or burglary.

*The Residential Burglary Prevention Project in Cambridge* proceeded in three stages: (1) Identify hot spots and hot wards within the city; (2) select a study area, and collect data it;

(3) design and implement interventions on the bases of the data collected. The project failed to reduce burglary and RV as compared to control areas. Failure seems to be attributable to low victim involvement in the program. The interventions included: Cocoon watch; Alarm loan; Security survey to identify vulnerable entry points; Target hardening; Free installation (but not purchase price) of back and side alley fences and gates. In addition to these victim-focused interventions, there were interventions focused on others: Post Watch (enlisted local mail delivery personnel to keep an eye out for suspicious persons); Neighborhood Watch seminar; Community seminar; Community centers with free crime prevention advice and property marking kits; Targeted police patrols; and a Youth development project for youth at risk. Victim compliance with the program was miserably low: only 28 out of 171 total victims were actually visited by a crime prevention officer, and even fewer complied with their suggestions. Given the low number of victims treated, it should not be surprising that evaluation of the project suggested no effect when compared to various control areas. Effects on repeat victimization were also nil. No data were collected on fear of crime, fear of burglary, or police satisfaction.

*The Safer Towns and Cities Housebreaking Reduction Project*, like Huddersfield, also sought to examine whether a project-focused endeavor could be translated to a standard policing procedure. Police initiated the interventions themselves during crime scene investigations. The interventions, applied to victims, included: Security Audit to identify vulnerabilities in the dwelling; Canvas cards to neighbors (police distributed cards in neighbors mailboxes that informed them of the occurrence of a crime next door. This was designed to (a) increase general awareness of household security, and (b) solicit tips from neighbors in regard to the immediate burglary); Increased fingerprinting; Victim support package: including (1) a cover letter, (2) a crime prevention pamphlet, and (3) property identification stickers; Target hardening. Two additional services were provided to the community as a whole: Establishment of repeat offender units; Crime prevention mail package sent to all residents with (a) an introductory letter, (b) general advice on home security, and (c) crime prevention pamphlets. Outcomes were measured relevant to changes in burglary and RV in five control areas. While burglary declined in the target areas, the decline was equivalent or greater in three of the five control areas. These results underscore the importance of using controls to measure intervention effectiveness - without which, the interventions in this cases would almost certainly have been deemed a success. The target areas showed no change in RV. There was no evidence of displacement. No data were collected on fear of crime or burglary.

*The South Australian Residential Break and Enter Project* was a relatively low-budget project. Intervention consisted of a visit to victims by a crime prevention volunteer who provided the following services: Informal victim support; A security audit; Referral for property marking; Links to neighbors; Referrals to relevant agencies. In addition, victims from one of the two target areas were also offered free locks and installation up to a value of \$200 Australian dollars. Only 31.7% of burglary victims provided consent for a visit from a crime prevention volunteer, and only 26.6% of victims were actually visited. Burglary increased by 31.3%, but rose even higher than in the control areas. While the project did not reduce the rate of repeat burglary, it stabilized it relevant to growth in the control areas. No information was collected in regard to fear of crime or burglary.

## **Section 6: Where Next?**

Given the facts provided in Section 1, it would be hard to argue that burglary isn't a serious problem in Denmark. A better understanding of the patterns and correlates of *Danish* burglary would assist us in whatever steps we ultimately take to reduce its incidence – be it through criminal reformation, pro-active policing, or situational crime prevention. Given the general reputation Danes have for cooperation with authorities, RV programs might fare better in Denmark than they have in the UK and Australia. Before that, however, a better understanding of the nature and time-line of RV, disaggregated by sub-group, is needed in Denmark – a goal easily within our reach given the existence of electronically coded police files. Should an experiment in burglary reduction go forth, my reading of the literature suggests the following: (1) Programs should be designed to reduce – and therefore measure – not only burglary itself, but also the fear of burglary and the level of citizen satisfaction with police response; (2) Yet – due to selection and program effects - fear of crime is a tricky issue to measure in the context of crime prevention experiments; (3) Targeting areas characterized by extreme burglary problems may invite methodological invalidity due to “regression to the mean;” (4) The use of well-chosen control groups/areas is vital; (5) The best experiments will also account for spatial displacement; and (6) though initially expensive, the implementation of single-tactic interventions would pay dividends later when we could move ahead both confidently and cost-effectively with a set of crime prevention programs where each component was proven to work here in Denmark.



## **Section 1: Introduction**

This paper concerns the nature of residential burglary and its reduction through situational crime prevention approaches.

Section 1 considers burglary and the fear of burglary from both a Danish and international perspective, and introduces situational crime prevention as one approach to their reduction. Section 2 examines the nature of residential burglary by considering patterns in offending and victimization. Section 3 discusses ten situational crime prevention approaches to burglary reduction, and assesses the evidence to support their effectiveness. Section 4 provides some guidelines for targeting burglary prevention programs at those geographic areas, demographic communities, or specific individuals that are most in need. Special attention is given to prior burglary victims, since past research demonstrates a strong tendency towards repeat victimization. Section 5 presents detailed, case study evaluations of five crime prevention programs that were designed to reduce repeat victimization, and assesses their effects both individually and as a group. Such programs aim to reduce not only burglary, but also the fear of burglary among prior victims, and therefore offer potential benefits on two fronts. Section 6 concludes with some recommendations for research and experimentation in Denmark.

### **Residential Burglary in Denmark**

Residential burglary (including attempts) represents a sizable portion of all Danish penal code violations known to the police. Nationally in 2002, there were 28,540 burglaries against villas, 7,017 against flats/rooms, 10,255 against garages/cellars, 7,322 against free-time houses, and 638 against “other” residential properties. Collectively, these numbers add to 53,772 residential burglaries, or 11% of the 491,026 total penal code violations registered by Danish police in 2002 (Rigspolitiet, 2003).

The fact that burglary makes up a large proportion of all crime in Denmark is also supported by interviews with crime victims. 3,007 adult Danish respondents interviewed by the International Crime Victims Survey (ICVS) reported 1,101 collective victimizations during 1999 in 11 major crime categories. Thirteen percent of these incidents were residential burglaries or attempts (Kesteren et al., 2000, 190). While ICVS victims indicated having reported 88% of successful burglaries (with entry and loss) to Danish police, they said they reported only 25% of attempts (Kesteren et al., 2000, 194).

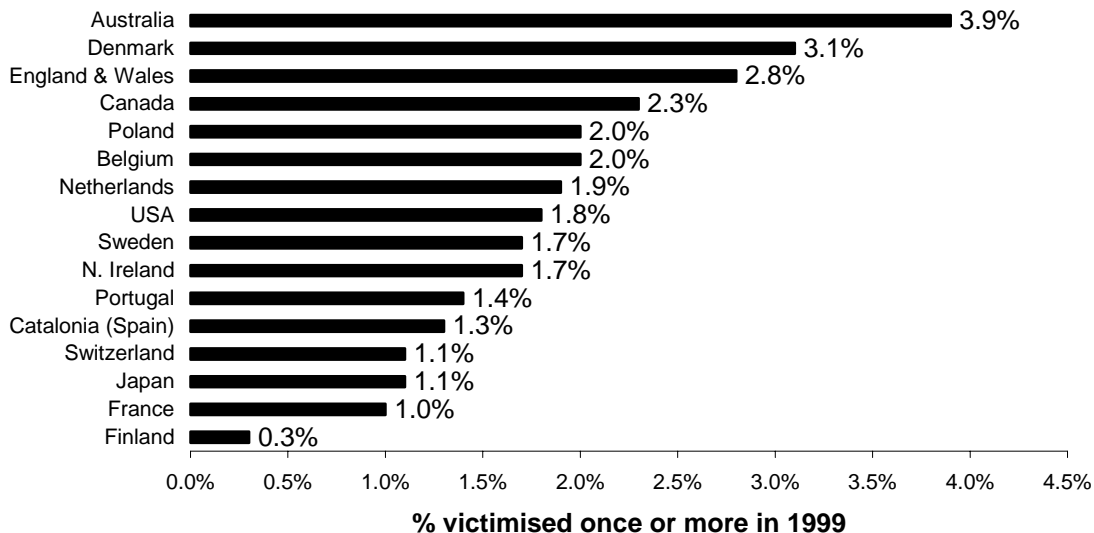
Among those burglaries reported to Danish authorities in 2001, police data indicate that a suspect was cited in approximately 7.7% of these cases. The citation rate was somewhat higher for burglaries against villas, flats and rooms (8.9%) than for burglaries against the other three types of properties (5.5%) (Danmarks Statistik, 2002, 49).

### **Danish Burglary in an International Perspective**

Denmark’s level of residential burglary is surprisingly high when compared to other industrialized countries. Figure 1.1 provides comparative prevalence rates for burglary victimization (excluding attempts) among residents of 17 western, industrialized countries participating in the most recent wave of the ICVS (Kesteren et al., 2000, 178). 3.1% of Danish respondents reported being the victim of a burglary (i.e., someone getting into their residence without permission and stealing something) at some point during 1999. Among

the 17 countries surveyed, Denmark's prevalence of residential burglary was second only to Australia.<sup>1</sup>

Figure 1.1: Prevalence of Residential Burglary Victimization in 17 Industrialized Countries



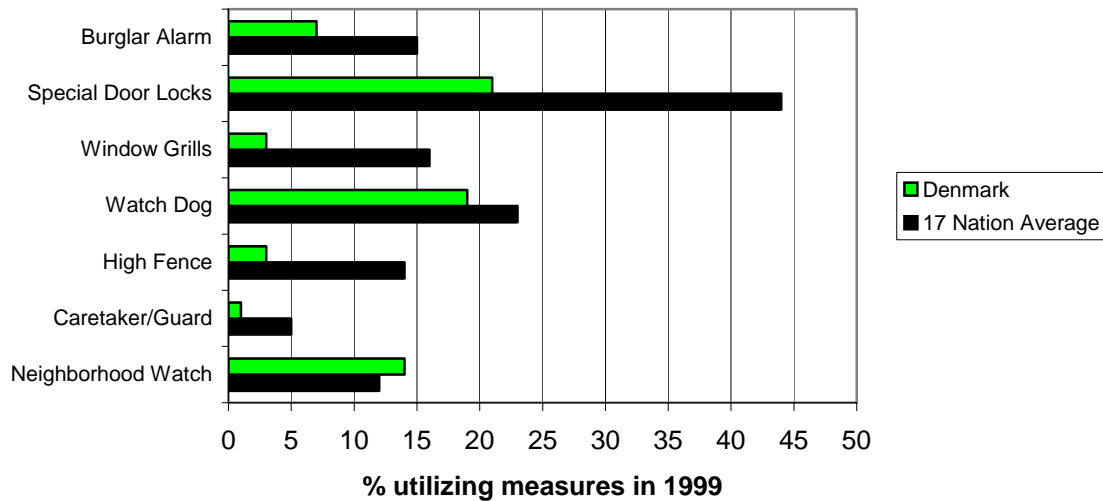
Source: Adapted from Kersteren et al. (2000, 178-179). Excludes attempts.

Contrary to completed burglaries with entry, Denmark ranks only ninth out of the 17 ICVS countries listed above in terms of attempted burglaries (data not shown), and fourth when completed and attempted burglaries are lumped together (after Australia, England & Wales, and Canada; data not shown). The fact that the ratio of completed to attempted burglaries is particularly high in Denmark suggests that Danish burglars are either especially determined or – more likely – that Danish homes are relatively less protected. ICVS data suggest the latter. Figure 1.2 compares the proportion of Danish respondents taking specific measures against burglary as compared to the ICVS average overall. It

<sup>1</sup> The ICVS questionnaire on burglary specifically excludes thefts from “garages, sheds and lockups” as well as those from “second houses,” but includes thefts from cellars (Kersteren et al., 2000, 138). Flemming Balvig has noted that Denmark’s high ICVS ranking on burglary may reflect a relatively unique architectural characteristic in Denmark – the fact that both older and newer Danish apartment buildings tend to have storage rooms in cellars and lofts, and that these unguarded facilities are undoubtedly at high risk for burglary (Balvig, 2001, 272-273). As Balvig himself notes, this contention is supported by the fact that Danish respondents to the ICVS reported their burglary victimizations as being the least serious of those reported by any national sample other than the Swiss. While clearly an important point to keep in mind, one could argue that every country is likely to have its own unique vulnerabilities since there are numerous differences in climate, architecture and behavior that might affect cross-national comparisons. For example, while Danes may have more cellars, their homes are probably less vulnerable to entry than those in southern Europe. Given Denmark’s national wealth and cold climate, most Danish residences are equipped with relatively sturdy, double-paned glass windows – an architectural feature associated with lower rates of burglary in the international literature (see Section 2). Residents of southern Europe, on the other hand, are also more likely to leave doors and windows open more often than residents of the North. Meanwhile, the wooden shutters used by the French and the firearms kept by the Swiss may reduce the probability of burglary in those countries – all else being equal.

shows that Danish respondents report using five out of the seven measures only half as frequently as the average ICVS respondent. The one burglary prevention measure that Danes do use more frequently than the ICVS average is neighborhood watch – a tactic that British and American evaluation studies have found lacking in terms of effect (as discussed in Section 3).

Figure 1.2: Measures Taken against Residential Burglary in 17 Industrialized Countries



Source: Adapted from Kesteren et al. (2000, 216-217).

Since Denmark only joined the ICVS in 1999, victimization trends are not available over time. Comparative trends in burglary can be assessed, however, on the basis of official police statistics. While police statistics are unsuitable for comparing the volume of crime cross-nationally (due to differences in penal law, criminal justice administration and police enforcement), they do provide some degree of evidence concerning temporal trends *within countries*. Table 1.1 (following page) indicates that contrary to a general decline in the number of residential burglaries reported among other EU member states, Denmark’s level of burglary remained remarkably stable between 1996 and 2000 (Barclay and Tavares, 2002). Denmark thus seems to have lagged behind strides made in burglary reduction by twelve member states.

Table 1.1: Crimes Recorded by the Police: Domestic Burglary\* in EU Member States, 1996 -2000 (Index 1996=100)

Country	1996	1997	1998	1999	2000	% Change 1996-2000**
Austria	100	93	85	73	96	-4%
Belgium	NA	NA	100	98	120	20%
Denmark	100	103	94	102	100	0%
Finland	100	101	100	95	90	-10%
France	100	90	88	81	79	-21%
Germany	100	93	85	76	72	-28%
Greece**	100	103	101	86	74	-26%
Ireland (Eire)	100	96	90	81	76	-24%
Italy	100	103	107	102	90	-10%
Luxembourg	100	77	84	66	NA	-34%
Netherlands	100	94	87	88	88	-12%
Portugal	100	106	94	97	93	-7%
Spain**	NA	100	98	104	98	-2%
Sweden****	100	109	104	100	104	4%
UK*****	100	86	82	77	70	-30%

Source: Adapted from Barclay and Tavares (2002, 13).

\* Domestic burglary defined as “gaining access to a dwelling by use of force to steal goods.”

\*\* In countries with missing data, change is based on available years.

\*\*\* Greece, Spain: Includes non-domestic burglary (e.g., shops, garages, hotels).

\*\*\*\* Sweden: Includes attempts, preparation, and conspiracy to commit an offense.

\*\*\*\*\* UK includes England and Wales, Northern Ireland, and Scotland. Data for England and Wales is based on financial year (1 April - 31 March). Data for Northern Ireland is based on financial year from 1997 onwards.

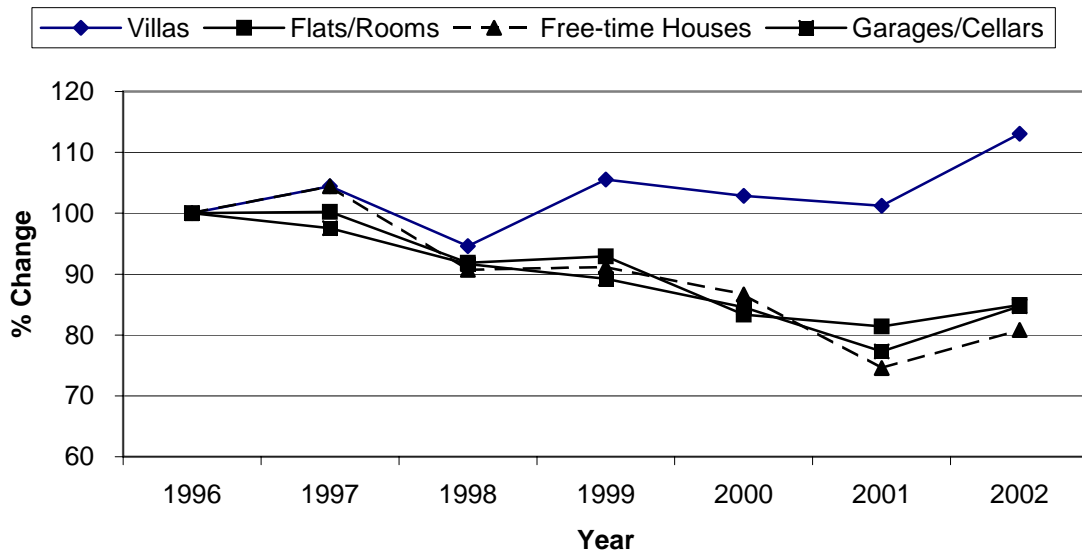
My own analyses of data from Rigspolitiet (1995-2002) suggest that the picture for Denmark differs by type of residential property. Figure 1.3 shows indexed changes in the number of residential burglaries (including attempts) by year and property type.<sup>2</sup> Note that while the level of reported burglary against villas has recently increased, burglaries against all other forms of residential property have declined. Since more than 50% of all burglaries occurring in Denmark each year are in villas, a failure to disaggregate this data would lead to the inaccurate conclusion that burglary rates have remained totally constant during the past six years. This simple disaggregation demonstrates the importance of problem-specific crime analysis – a topic stressed over and over in the crime prevention literature.<sup>3</sup>

<sup>2</sup> This figure excludes “other residential properties,” since burglaries against those targets comprise only 1% of all reported residential burglaries in Denmark each year. Also note that published, Danish crime statistics do not distinguish between completed and attempted crimes. This may make some sense from a legal standpoint, but is unfortunate from a research perspective. This said, all official Danish burglary statistics reported herein include both completed and attempted crimes.

<sup>3</sup> The analysis above does not account for changes that may have occurred between 1995 and 2002 in the comparative number of different forms of residential properties in Denmark. It is, therefore, possible that the increase in burglaries against villas is simply a function of more people living in villas today than in 1995.



Figure 1.3: Changes in Residential Burglaries Known to the Danish Police, by Year and Type of Property (Index 1995=100)



Source: Rigspolitiet (2003), obtained through Britta Kyvsgaard, Ministry of Justice, DK. Includes attempts.

The vast majority of Danes are insured against burglary and other economic loss in the home (*familieforsikring*). Therefore, the financial consequences to the immediate victim are minimal. On the other hand, the emotional costs of burglary can be intense. At least one British study suggests that the emotional consequences of burglary mimic those experienced by robbery victims – despite burglary’s absence of contact with an offender and the objectively lower risk involved (Hough and Mayhew, 1985, as cited by Shover, 1991, 96). This high degree of emotional trauma presumably stems from the deeply personal nature of having one’s home invaded. Sixty-six percent of British Crime Survey respondents reported having been either affected “very much” (37%) or “quite a lot” (28%) by burglaries with entry experienced in 1997. The most common reactions were anger (70%), shock (44%), fear (34%) and difficulty sleeping (32%) (Budd, 1999, 66-67). In almost two-thirds of these cases, victims said they would have liked to have received some kind of help or advice, most notably in three regards: 28% would have liked information from the police about the progress of their cases; 24% would have liked advice about security or crime prevention; and 23% would have just liked someone to talk to for moral support. Yet as far as actual advice rendered, most of it came from family, friends, relatives, or neighbors. Only nine percent reported having received help from the police (other than that directly in relation to the investigation), though 21% did receive help from some sort of victim support scheme (Budd, 1999, 70). Despite all of this, 76% of ICVS respondents who say they reported a burglary with entry to the police in England and Wales in 1999 said they were satisfied with the police’s response (Kesteren, 2000, 202). This apparent discrepancy may be due to a rather low expectation on the part of British citizens when it comes to police response. The comparative Danish figure was 87% satisfied, but it is hard to know whether this reflects better performance on the part of Danish police officers, or lower expectations on the part of Danish victims. One British study suggests that satisfaction could be enhanced enormously if the police would merely send out a letter apprising victims of the status of their case and/or making generic

suggestions for reducing their risk of repeat victimization (Maguire, 1980, as cited by Shover, 1991, 96). Programs specifically designed to reduce repeat victimization should kill two – and maybe even three - birds with one stone. This is because they aim to reduce not only the risk of future burglary, but level of victim anxiety as well, while at the same increasing victim satisfaction with police response. The extent to which they actually do so is the subject of Section 5.

In sum, residential burglary represents a sizable portion of all Danish penal code violations known to the police, and is likely to generate feelings of insecurity among those who experience it. The prevalence of burglary in Denmark is high when compared cross-nationally among Western industrialized countries, while the use of burglary prevention measures is relatively low. Official police statistics suggest little success in curbing the overall volume of residential burglary in Denmark - especially burglaries against villas - despite successes in a number of other EU member states. In short, it seems there is much work to be done.

### **Approaches to Burglary Reduction**

There are three basic approaches to burglary reduction, although the boundaries between them are not always sharp: (1) reducing underlying motivations for crime, (2) pro-active/problem-oriented policing, and (3) situational crime prevention. This paper is concerned with the last of these three.

This paper does *not* focus on reducing the underlying motivations for burglary, even though they might be reduced through the targeted provision of better educational, vocational, or rehabilitative opportunities for those in need. For example, an American ethnography quotes a sizeable proportion of unemployed, economically motivated burglars as saying they would give up burglary if someone offered them a “good job” (Wright and Decker, 1994, 49-50). The well-known connection between drug addiction and burglary also suggests avenues for burglary reduction through the systematic rehabilitation of drug-addicted offenders (Kleiman, 1988). In terms of motivational deterrence, there is little evidence that increasing the punishment for burglary has any effect on the underlying motivation for burglary or the frequency with which burglary is committed (Decker et al., 1993, as cited by Weisel, 2002, 39).

*Nor* does this paper focus on pro-active or problem-oriented policing, even though changes in law enforcement procedure and technology offer promising inroads toward the detection, apprehension, and incapacitation of residential burglars. Theory and some degree of evaluative research suggests the benefits of improving police response time and follow-up, targeting repeat offenders, profiling offenders, and disrupting markets for stolen goods (see, for example, Coupe and Griffiths, 1996; Sutton et al., 2001; and Stockdale and Gresham, 1995).

This paper *does* focus on situational crime prevention, which concerns the management, design and manipulation of the immediate physical and/or social environment with the aim of making crime appear more difficult, more risky, or less rewarding in the eyes of potential offenders (Clarke, 1997, 4). This is generally attempted through some combination of target hardening (e.g., fortifying structures, modifying territories) and increased surveillance (e.g., alarms, removing visual obstructions, neighborhood watch).

Clarke (1997, 2-44) provides a very thorough description of the theoretical bases, methodological procedures, action-oriented successes, and ethical implications of situational crime prevention. Nonetheless, a brief overview seems appropriate here.

### **Situational Crime Prevention**

Situational crime prevention (hereafter SCP) is the action-oriented outgrowth of rational choice and routine activities theories. Rational choice theory (Cornish and Clarke, 1986) takes the neo-Classical position that the decision to commit a specific crime results from a rational calculation of the *perceived* costs and benefits of doing so in a specific context. Routine activities theory (Cohen and Felson, 1979) compliments rational choice theory by specifying the factors necessary for crime to occur. Crime, it says, requires the interaction of a motivated offender, a suitable target, and the absence of a capable guardian. Since motivated offenders are everywhere – and therefore taken for granted - routine activity theorists argue that the occurrence of any specific crime is wholly dependent on an offender’s cost-benefit perceptions of target suitability and availability, and on the level of guardianship protecting that target. The simple, though arguably effective, implication of these positions is that removing and/or hardening specific targets can prevent specific crimes. While such approaches have sometimes been criticized as little more than “common sense,” it is surprising how few people employ common sense systematically.

One of the hallmarks of the SCP approach is the degree of specificity used in connection with crime analysis. Since SCP is focused on the factors that contribute to the occurrence of specific crimes in specific contexts, the analysis of those factors should be as concrete and localized as possible. Thus, SCP analysts focus not only upon specific kinds of burglary (e.g., residential as opposed to commercial), but even more closely upon specific sub-types of burglary that share important commonalities (for example, in regard to items most often stolen, the kinds of buildings targeted, the times when targets are hit, and/or the socio-geographic character of the surrounding community). The point is to analyze a given crime problem as specifically and as thoroughly as possible and then attack the specific contributory factors identified. A similar approach is used in connection with problem-oriented policing, a pro-active policing strategy with close ties to the field of SCP.

SCP has been criticized on a number of ethical grounds. First off, choices about where to apply preventive techniques inevitably lead to some communities being covered while others are left out. Given the financial costs of electronic surveillance and home fortification, the wealthier segments of society are likely to be in the best position to afford these protections. The poor – who may need them most – often go unprotected. Second, the installation of CCTV surveillance devices and the construction of defensible space conjure up images of an Orwellian, fortress society that some find offensive. Clarke (1997, 37-39) discusses these charges in some detail and, while agreeing with some and disagreeing with others, concludes that ethical guidelines are an important next step in the SCP policy debate.

#### *Displacement*

The most frequent substantive critique of SCP regards the potential for displacement. Critics generally assume that the prevention of crime in one context will simply shift, or displace, those crimes to other, less guarded, contexts or targets. If correct, SCP would have no effect on the overall volume of crime, but merely displace crime to other locations.

Displacement need not be spatial, however, as crimes can also be displaced in terms of time, tactic, targets or types (Hakim and Rengert, 1981). Temporal displacement occurs when SCP measures encourage the postponement of an offence to a later time. Tactical displacement occurs when SCP measures encourage a switch in modus operandi (e.g., from merely opening an unlocked door to forcibly opening a locked door). Target displacement occurs when SCP measures encourage a switch from one target to another within the same general location (e.g., to the house next door). This is distinguishable from spatial displacement, which occurs when SCP measures encourage a switch from one neighborhood or definable locale to another. Finally, type - or functional - displacement occurs when SCP measures encourage a switch from one type of crime to another (e.g., burglary to pick-pocketing). Given all of its potential forms, displacement is exceedingly difficult, if not impossible, to falsify.

Despite this, analyses of spatial displacement – and to a lesser extent, functional displacement – has become increasingly routine in connection with the quasi-experimental evaluation of SCP programs. For example, spatial displacement can be assessed where SCP programs designed to reduce burglary in specific communities utilize both non-adjacent and adjacent control areas. For example, assuming comparable control areas, displacement would be suggested by the combined presence of (1) a post-intervention decline of burglary in the target area (2) coupled with no change in the non-adjacent control area and (3) an increase in the adjacent control area. Hesseling (1994) examined 55 published articles on crime prevention in which evidence for displacement was formally evaluated and found that 22 (40%) revealed no sign of displacement – and in some cases even a *diffusion of benefits* (a situation where, for example, the benefits of a SCP measure extended beyond the target area and into an adjacent control area). Hesseling's sample may be somewhat selective – if for no other reason, because “successful” experiments (where crime is reduced and no displacement is observed) are presumably more likely to be published than studies concerning “unsuccessful” experiments. Nonetheless, Hesseling (1993, 219) summarizes his findings by stating, “The main conclusion from the above analysis is that displacement is a possible, but not inevitable, consequence of crime prevention.” Furthermore, he add, “if displacement occurs, it will be limited in scope” (Hesseling, 1993, 197). Evidence for and against displacement is considered in connection with the anti-repeat victimization programs evaluated in Section 5.

## Section 2: The Nature of Burglary

This section examines the nature of burglary, burglary victims, and burglars themselves. Information of this type is clearly useful for the rational formation of crime prevention programs. Given an absence of detailed Danish research and statistics on many of the topics covered, much of the information provided here in comes from UK and US. Emphasis is placed on patterns from the UK given that country's closer geo-cultural proximity to Denmark. The patterns described are primarily national, and may therefore mask important variation at the local level. Crime prevention programs should always be tailored to specific problems in a local context.

Following an overview of the sources of information on burglary, this section examines characteristics of burglars in terms of demography, modus operandi, motivation, and level of professionalism. The discussion then turns to temporal patterns of offending, characteristics of residences and residents most highly at risk, and a brief introduction to repeat victimization. More extensive treatment of these issues is found in Budd (1999), Mawby (2001), Shover (1991), and Weisel (2002). Much of this section is, in fact, based on data from these four sources.

### Sources of Burglary Data

Knowledge of burglary stems from four primary sources: (1) Official data from police, courts, and other government authorities; (2) victimization surveys; (3) interviews and ethnographies conducted with offenders; and (4) information from trade organizations such as insurance companies and retailers of burglary prevention equipment (Shover, 1991, 75).

- *Official data:* Official data from police and the courts provide plentiful, routine information on the characteristics of offences, offenders, dispositions, and victims. However, official police data provide a very poor indication of the actual volume of crime, since these data reflect not only changes in the level of crime itself, but also changes in police and political policy, as well as in the public's tendency to report crime. Furthermore, the very low clearance rate for residential burglary compromises the extent to which researchers can assume that apprehended offenders are representative of the broader spectrum of offenders. In Denmark, published data on the demographic characteristics of burglars are only available for the small fraction of charged offenders who received a decision from the police or the courts. Thus, for example, while there were 48,896 residential burglaries recorded by Danish police in 2001, demographic information is publicly available for only 856 burglars (Danmarks Statistik, 2002, 49; 98).<sup>4</sup> This sub-sample of

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<sup>4</sup> Figures include burglaries against villas, flats/rooms, garages/cellars, free-time houses, and "other" residential property. In recent publications, Danmarks Statistik has aggregated these five categories into two broad headings: (1) burglary in households (indbrud i beboelse), which includes those in villas and flats/rooms, and (2) burglary in uninhabited buildings (indbrud i ubeboede bebyggelser), which includes the remaining three categories. It is unclear to this author why free-time houses should be considered "uninhabited," especially if the burglary in question occurs during the summer months of occupancy. Yet Danmarks Statistik's distinction seems to be based solely on the basis of property type, and not on the basis of whether or not the property was occupied at the time of the crime.

“unlucky” burglars is likely to be younger, less professional, and different in other important respects from the universe of all Danish burglars.

- *Victimization surveys:* Victimization surveys are generally thought to provide a more valid measure of the overall volume of burglary and the characteristics of its victims. This is because they are unbiased by factors affecting the public’s tendency to report crime or the political circumstances that drive crime policy. Victimization surveys also provide demographic, attitudinal and other worthwhile information on victims that are not routinely collected by the police (e.g., fear of revictimization). On the down side, surveys involving extensive recall periods may suffer from a respondent’s failure to recall relevant events (recall bias) or the inappropriate inclusion of events that occurred prior to the period in reference (telescoping bias). Furthermore, they provide next to no reliable information on the characteristics of offenders. Despite these problems, victimization surveys represent an invaluable source of information. While they may well exist, this author has not identified any victimization surveys in Denmark (apart from the ICVS) specific to residential burglary.<sup>5</sup> Much of the knowledge reviewed herein, therefore, stems from data collected by the British Crime Survey (hereafter, BCS).<sup>6</sup>
- *Reports from burglars:* What we know about burglars themselves comes largely from interviews with (both captive and active) offenders, and participant observation ethnographies. These sources provide otherwise unobtainable information on offender demography, underlying motivation, decision-making, and modus operandi. When conducted with active burglars on the street, the results are unencumbered by the biases inherent in generalizing from apprehended populations. New biases arise, however, unless special care is taken in the methods by which samples are recruited. The vast majority of offender surveys and ethnographies seem to have been conducted in the USA, some of which are cited below.
- *Information from trade organizations:* Trade groups, such as insurance companies and retailers of security services and devices, keep records on actuarial risk and consumer behavior. These sources are not utilized in the current report. Shover (1991, 77-78) argues trade group data have not received the attention they deserve in academic and applied burglary research.

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<sup>5</sup> Although Balvig (2001, 73) has published some information on the fear of burglary in Denmark.

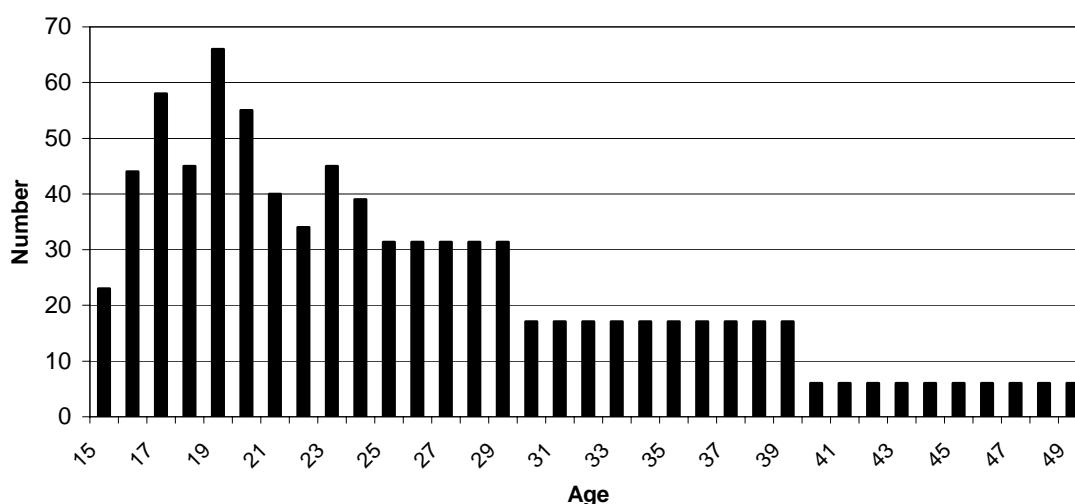
<sup>6</sup> The British Crime Survey (BCS) collects interview data on victimization, socio-demographic characteristics, and attitudes toward crime and the justice system. Beginning in 1982, the most recent wave of data collection (2002) covered a representative sample of 40,000 residents of England and Wales age 16 or older. The BCS is administered by the British Home Office. Response rates run on the order of 80% (Budd, 1999, 88).

## Burglars

### *Age and gender*

The vast majority of burglars are male, and tend to be young. Of the 856 Danish burglars that received a decision concerning a residential burglary in 2001, 94% were male, 52% were under age 25, and 71% were under age 30 (Danmarks Statistik, 2002, 98-99). Figure 2.1 graphically demonstrates the youth of this sample by showing the 837 persons age 15-49 receiving burglary decisions by age (those age 50+ are excluded). As just mentioned, however, inexperienced, younger burglars are probably over-represented in this sample of apprehended offenders.

Figure 2.1: Number of Danes Ages 15-49 Receiving a Burglary Decision in 2001, by Age



Source: Danmarks Statistik (2002, Table 4.2A, 99). Based on n=837 persons age 15-49 receiving decisions for all forms of residential burglary (occupied and unoccupied buildings). Data for persons ages 25-29, 30-39, and 40-49 are based on aggregated averages. Nineteen persons age 50+ who received decisions not shown.

### *Level of activity*

Estimates of the number of burglaries committed by active offenders each year can only be obtained through offender interviews. The majority of such studies come from the US, where patterns may be somewhat different from those found in Denmark. Furthermore, their results are highly dependent on the sampling techniques used to identify subjects. This said, Wright and Decker (1994) conducted interviews with 105 active burglars recruited from the streets of Saint Louis, Missouri, USA, by means of snowball sampling.<sup>7</sup> Of their 105 offenders, 33% reported having committed fewer than five burglaries during the previous year, while another 33% reported five to ten. Of the remainder, 28% reported committing between 11 and 29 burglaries per year, while 7% reported over 50 (Wright and Decker, 1994, 14). Some burglars can be highly prolific. One of Wright and Decker's

<sup>7</sup> Snowball sampling involves the identification of subjects suitable for research and then asking those initial subjects to refer the researcher to additional subjects.

subjects reported committing approximately 50 burglaries per month, or 700 per year. While this level of activity is hard to imagine, the arrest of one prolific burglar can sometimes reduce a local burglary problem substantially. In Wright and Decker's study (1994, 214-218), subjects with no prior arrests for burglary reported having committed approximately twice as many burglaries during the last year than those with a previous arrest.

#### *Motivation and items targeted*

Interviewed burglars very often indicate the desire for money and drugs as primary motivators for their crimes. Weisel (2002, 17) notes that some – especially young burglars – are motivated by thrill. She adds that a small percentage may be motivated by a desire to seek revenge against an ex-girlfriend or previous employer. Many burglaries are committed to fund drug use. In the US, the use of heroin is especially common among burglary offenders, though marijuana and heroin users appear to approach burglary more cautiously than cocaine users, who seem particularly oblivious to the risk of apprehension (Weisel, 2002, 17).

Both US and British studies indicate that the most common items stolen are cash and jewelry. Electronic equipment (TVs, stereos, computers, etc.) and guns (in the US) are also commonly targeted (Budd, 1999, 25-26; Weisel, 2002, 13). Cash and jewelry are, of course, easiest to carry away on foot. Burglars dispose of their proceeds through pawnshops, taxi drivers, small store owners, and on the street in exchange for drugs or money. They generally get relatively little in terms of reward (Weisel, 2002, 14).

#### *Methods of entry*

1998 data from the BCS indicate that 61% of burglaries with entry involved the use of forced entry, where locks on doors or windows were forced open (37%) or the door or window was simply smashed in (24%). In 22% of cases, entry was gained through an open door or window. Six percent of burglars entered with a key, 5% pushed past a person who opened the door, and another 6% entered on false pretences by distracting the (usually elderly) resident. The remaining 6% gained entry through "other" means (Budd, 1999, 60). Not surprisingly, forced entries are more common during the winter than in the summer (Curtin et al., 2001, iv).

#### *Specialization, professionalism, and planning*

As is generally the case with property offenders, "burglars" tend to be generalists sporadically engaged in a broad spectrum of violent and non-violent offences (Shover, 1991, 87-88; Wright and Decker, 1994, 14-15). In the US (and perhaps elsewhere), they also tend to be the most recidivistic of all property offenders by whatever measure of recidivism one uses (re-arrest, prosecution, re-conviction) (Shover, 1991, 97-98).

Researchers have long speculated over the level of amateurism versus professionalism among burglars. Weisel's review of the literature concludes that the largest proportion are "amateurs" – a group that compared to "professionals" tends to be younger, less mobile, more easily deterred by dogs, locks and alarms, and less successful in terms of take, resale, and avoiding the police (Weisel, 2002, 16). Professionals, she reports, tend to be older, more mobile in their search for targets, less deterred by impediments, and more successful at disposing of property. A chief distinction between amateurs and professionals appears



to be the extent to which they have established markets to dispose of their proceeds. While amateurs are forced to seek out buyers, professionals tend to have well-established customers set up (Weisel, 2002, 16).

The fact that the majority of burglars are amateurish does not necessarily imply that their crimes are fully opportunistic. Mawby (2001, 73) cites a series of studies that classify burglars as either “opportunists,” “searchers” (who decide to commit a burglar, then look for an opportunity), or “planners.” He reports that most studies lean towards characterizing burglars as planners, and that very few characterize them as fully opportunistic. Wright and Decker (1994, 99-100) come to a similar conclusion in regard to their own sample of 105 Missouri burglars.

## **Temporal Patterns**

### *Time of day/day of week*

Burglars avoid contact with residents. Prior to the mass entry of women into the workforce, residential burglary tended to be a nocturnal affair. Yet the proportion of daytime burglaries has risen sharply with the rate of female employment since many more homes are now fully unoccupied during the day. Weisel (2002, 4) cites a study by Rengert and Wasilchick (2000) estimating that the proportion of daytime burglaries in the US has risen from 16% in 1961 to 40% in 1995 to the current FBI estimate of 60%. In contrast to the US, estimates from the BCS presented in Figure 2.1 suggest that only 40% of British burglaries occur during daylight hours, while 56% occur during hours of darkness. While the reasons for this cross-national difference are unclear, the lower proportion of nighttime burglaries in the US may reflect a greater effort on the part of US burglars to avoid contact with their victims. After all, the percentage of homes possessed of a firearm is approximately ten times higher in the US (48%) than in England and Wales (4.7%) (Killias, 1993).

Despite the tendency to avoid occupied homes, BCS burglary victims report having been home during 50% of all burglaries in 1998. In half of these cases, respondents said they were aware that something was happening, while in the other half they were unaware. Not surprisingly, the percentage of all incidents in which victims were aware is somewhat higher for attempts than for burglaries with entry (Budd, 1999, 23-24).

Estimates on the timing of burglaries can be obtained by combining relatively precise information from those who were *home and aware* with rougher estimates from those *home and unaware* and those who were *not home*. Table 2.1 (following page) presents data on burglaries where BCS respondents had some idea concerning the day or time at which they were burgled. While estimates are not available by day of the week, the BCS suggests no significant difference in the percentage of burglaries occurring during the weekday as opposed to on weekends. As already mentioned, BCS respondents reported that 40% of burglary incidents occurred during daylight hours, while 56% occurred during hours of darkness. More precise temporal estimates were available on 944 incidents for which the day was broken down into four, six-hour segments. While burglaries overall were still most common during the evening and night, the percentage of incidents involving successful entry is highest during the afternoons and evenings - when houses are more likely to be unoccupied. Night-time burglaries, on the other hand, are far more likely

to be failed attempts – presumably interrupted by victims who rose from their beds and scared burglars off.

Table 2.1. Estimated Times and Days when British Burglaries Occurred in 1998

<b>TIME</b>	<b>All Burglaries n=938-953</b>	<b>Burglary with Entry** n=496-505</b>	<b>Attempted Burglary *** n=445-448</b>
<b>Weekday versus Weekend (n=953)</b>			
During the week	71%	73%	67%
During the weekend (18:00 F - 6:00 M)	30	27	33
Dawn/dusk	4	4	3
<b>Time of Day (n=944)</b>			
Morning (6:00-12:00)	8%	10%	6%
Afternoon (12:00-18:00)	21	26	15
Morning/afternoon	10	9	12
Evening (18:00-24:00)	32	32	31
Night (24:00-6:00)	23	17	30
Evening/night	6	7	6
<b>Daylight versus Darkness (n=938)</b>			
Daylight	40%	45%	34%
Dark	56	51	63
Dawn/dusk	4	4	3

Source: Adapted from Budd, 1999, Table A4.1, p56. Based on 1998 British Crime Survey data.

\* Excludes “don’t know.”

\*\* Burglaries with entry are those where entry was gained regardless of whether anything was stolen.

\*\*\* Attempted burglaries are those where there was an unsuccessful attempt to break in.

### *Monthly and seasonal variation in Danish burglary*

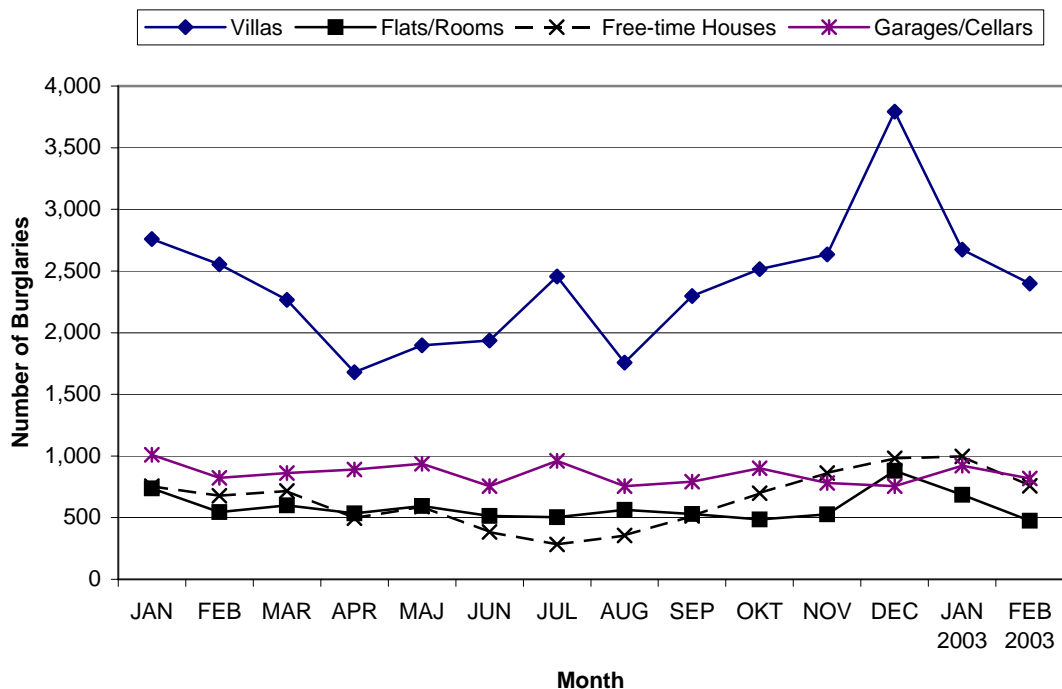
The BCS data cited above – and again later below – focus on domestic burglary, and thereby distinguish it from the very different phenomenon of commercial burglary. Yet even this distinction is rather gross, as the BCS defines a domestic dwelling as “houses, flats and domestic outhouses [i.e., sheds] or garages directly linked to a dwelling via a connecting door” (Budd, 1999, 1). Thus, not only does it include villas and flats, but seems to include primary as well as secondary, free-time residences. Not surprising, these diverse property types differ in terms of their attractiveness to burglars and risk of victimization, the methods by which they are burglarized, and the temporal patterns with which burglaries occur.

Figure 2.2 shows raw numbers of residential burglaries (including attempts) known to Danish police by month for all of 2002 plus the first two months of 2003. The first two months in 2003 are included in order to judge the extent to which the rise in some categories seen at December 2002 represents a period-specific spike during Christmas, as opposed to an on-going, upward trend. The data suggest the former. These raw data demonstrate the enormous over-representation of villas among all types of residential burglary known to the police. Keep in mind, however, that while this may represent their

greater appeal to burglars, it may – alternatively or additionally - represent (a) an over-representation of villas as forms of property in Denmark, or (b) a greater tendency for residents of villas, as compared to other properties, to report burglaries.

Monthly variation in the level of burglaries recorded against villas clearly differs by month – with a peak in December and another sharp rise in July. These two sharp peaks in villa burglaries are likely to represent periods of non-occupancy during Christmas and the Danish industrial holidays. The overall decline in burglaries against villas seen between January and April may represent the declining cover of dark hours during those months, while the reverse may be true of the overall increase seen between August and December. The small increases noted in May and June may well reflect the rising tendency of residents to leave doors and windows open as the weather gets warmer. In other words, in terms of burglaries against villas, seasonal patterns in occupancy, daylight hours, and temperature are all very likely explanations of the patterns observed. These explanations correspond to offender’s own self-reports concerning the factors they consider when deciding what properties to burgle and when to hit them (Wright and Decker, 1994, 120). Alcohol consumption may also play a role in December, since intoxication may increase the incidence of opportunistic offending, and decrease victims’ tendencies to lock doors and windows.

Figure 2.2: Number of Burglaries Known to the Danish Police, by Month and Property Type (Jan-Dec 2002, plus Jan and Feb 2003)



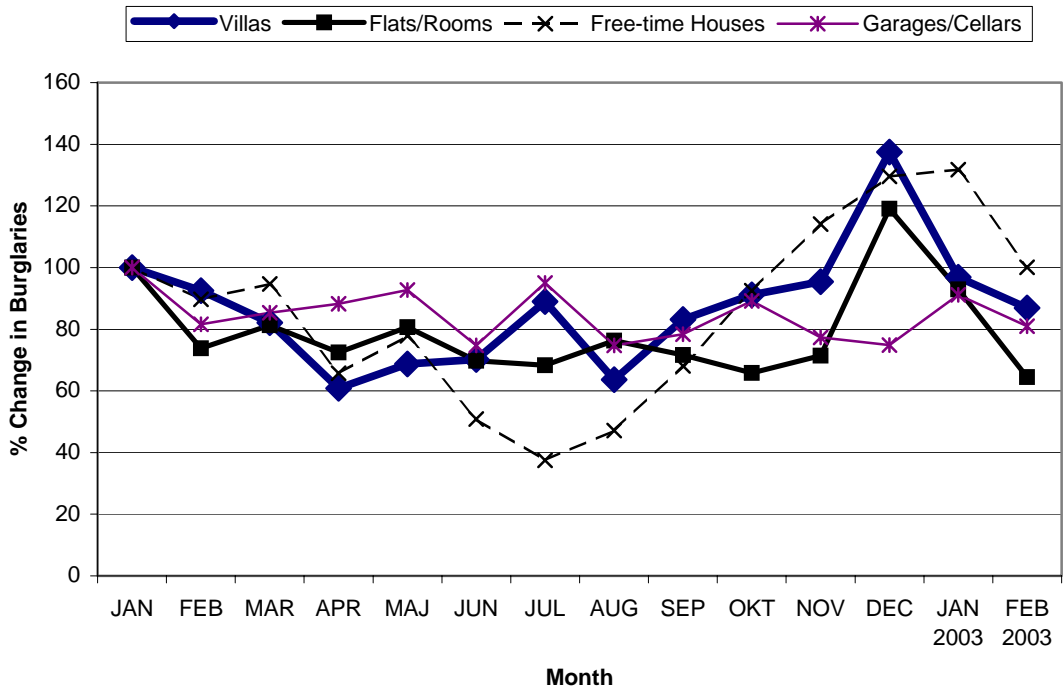
Source: Rigspolitiet (2003). Includes attempts.

Due to the enormous over-representation of villas in the data above, monthly variation in victimization among other types of properties appears flat. Yet this is an illusion of scale. A better comparison can be obtained by indexing the volume of burglary for each property

type at its January 2002 level and thereby viewing percent change. This is accomplished in Figure 2.3, where the trend lines for villas and flats/rooms are highlighted in order to ease their comparison with trends for other properties.

Beginning with the most obvious similarities and differences across properties, Figure 2.3 shows that while the spike for villas corresponding to the Industrial Holiday in July is also evident for garages and cellars, it is not evident for flats/rooms. This may represent financial differences in the average residents of these properties, if residents of flats and rooms are less able to afford an industrial holiday or less likely to own a summerhouse. Note also the very sensible finding that the volume of burglaries against free-time houses drops sharply during the same July period when burglaries against villas increase. This is clearly related to occupancy. Directly contrary to the situation in July, burglaries against both villas and flats/rooms peak sharply in December (presumably due to non-occupancy around Christmas), while there is no significant rise for garages/cellars, and while the rise in burglaries against free-time houses appears more seasonal in nature than specific to Christmas.

Figure 2.3: Indexed Change in Burglaries Known to the Danish Police, by Month and Property Type (Jan-Dec 2002, plus Jan and Feb 2003. Index Jan 2002=100)



Source: Rigspolitiet (2003). Includes attempts.

Temporal variations in risk of burglary – by time, day, or month – largely reflect a combination of time-specific changes in occupancy, level of security (e.g., windows left open), and nocturnal cover. While all of these factors are theoretically amenable to prevention (stay home, close windows, increase outdoor lighting), it is particularly difficult to convince people to change lifestyles. Nonetheless, examination of temporal trends in burglary can aid in the diagnosis of specific crime problems – especially when considered

in a specific context. First off, they can provide insight on crime prevention approaches that those motivated to make such changes can utilize. Second, they can aid in the identification of underlying local problems contributing to the incidence of burglary. For instance, as Weisel (2002, 5) points out, if a rash of burglaries are identified as occurring during the mid-morning hours and attributed to juveniles, a local community may have a problem with school truancy. Likewise, if these juvenile burglaries are occurring in the late afternoon, a community might want to consider providing after school activities for otherwise idle youth.

### **Target Selection**

According to the ICVS victimization statistics cited in Section 1, 3.1% of Danish residents were victims of completed burglaries in 1999, while 1.5% were victims of attempts. Yet this gross measure says little about the actual risk of victimization to any given individual. This is because the risk of residential burglary is highly dependent upon the location and physical features of the home and surrounding area, as well as socio-demographic and lifestyle characteristics of residents.

Based on a thorough review of research from the UK and US, Weisel (2002, 5-13) identifies the following factors as primary to offender target selection in regards to detached single-family houses:

- *Familiarity with the target and convenience of location:* Burglars, especially young ones, tend to offend close to home, and target houses along their regular routes between home, work, and school. This means that houses located near large concentrations of potential offenders (e.g., concentrations of youth, drug addicts) are more highly at risk. The same goes for properties located on major pedestrian or motor vehicle routes, since they will receive the greatest attention and surveillance from passing offenders. Houses on side streets, cul-de-sacs, and dead end roads, on the other hand, are usually at lower risk since they fall outside the regular route of those passing through. Strangers are also more easily noticed in such areas (Weisel, 2002, 5-6). People who associate with offenders place their homes at greater risk, since it is not unusual for burglars to victimize their own acquaintances – especially when they are familiar with those acquaintances schedules (Weisel, 2002, 17). As discussed later in Section 4, properties previously victimized are at much higher risk of subsequent victimization than those never victimized. There are various explanations of this phenomenon - discussed later in detail, but one concerns the familiarity that burglars have with properties they have already burgled.
- *Occupancy:* Burglars try to avoid confrontations with residents. They look for signs of occupancy (noises, lights, car in front) and ring doorbells to confirm their impression if they think a house is empty. Even occupancy by neighbors can reduce the risk of victimization. Residences characterized by low occupancy (dual-working couples; single working parent; students) are at particularly high risk. Burglars tend to avoid houses with dogs almost as much as those occupied by people (Weisel, 2002, 8-9).

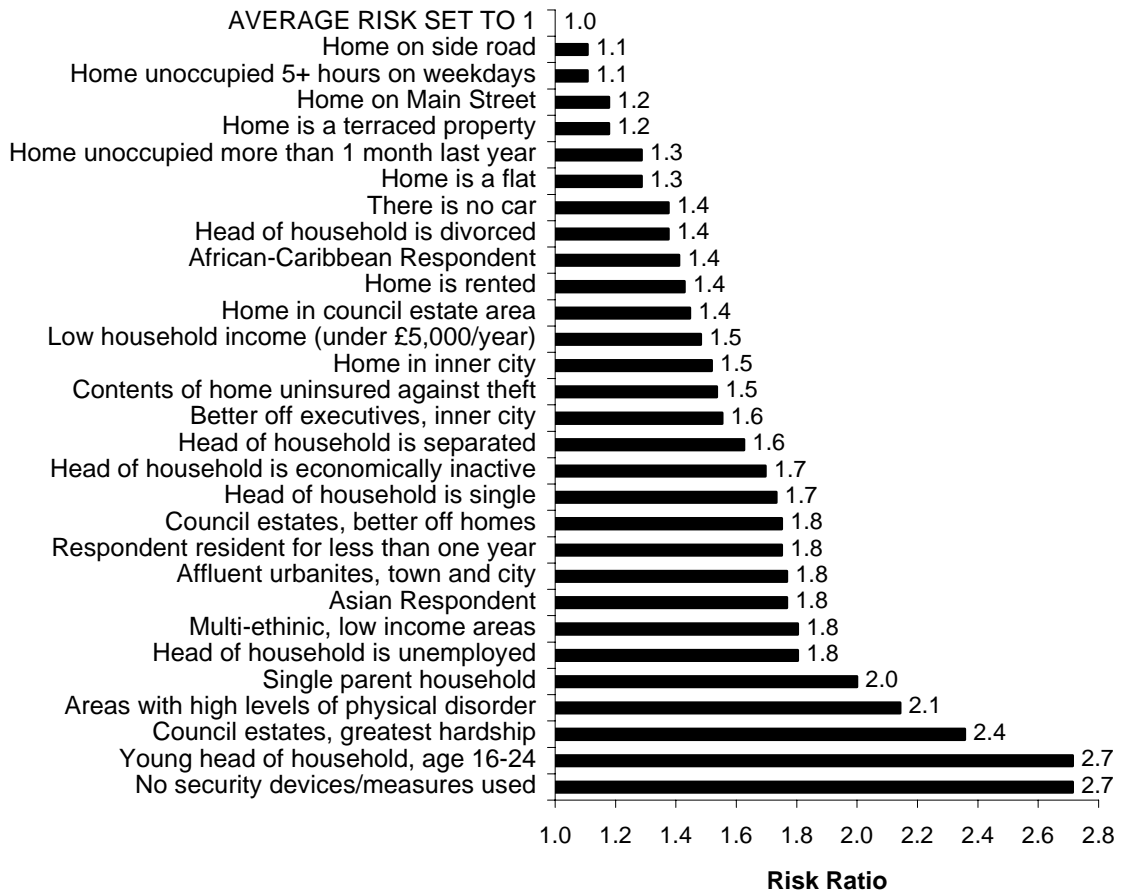
- *Visibility or surveillability:* Burglars avoid targets easily observed by neighbors or passers-by. Therefore houses in isolated areas, those set back from the road, and those on large plots of land next to parks or other non-residential areas are more highly at risk. Properties characterized by low levels of night-time lighting, high fences, or thick trees or shrubbery provide cover – which is especially attractive when found near potential access points like doors or windows. Corner houses are at higher risk since their sides may lie farther from neighbors than non-corner houses. Furthermore, they are more noticeable to passing offenders and easier to survey while offenders walk or drive by (Weisel, 2002, 9-11).
- *Accessibility:* Detached houses in the US are most commonly accessed by burglars through side or back entrances. Thus, houses where these entry points are easily accessible are attractive to burglars. The same goes for houses located on alleys, which provide both access and escape routes (Weisel, 2002, 11-12). The collective influence of accessibility, visibility and surveillability cannot be understated. Mawby (2001, 26) cites a Home Office study by Jackson and Winchester (1982) that looked at the risk of (reported) burglary based on “14 measures of access and surveillance” (e.g., set back from the road; big distance to the next house, access from both sides, etc.). Mawby reports that, “While the average burglary risk was 1 in 99, those scoring a 0 on the index had a risk of 1 in 1,845 and – at the other extreme – those scoring 9 or more a risk of 1 in 13!”
- *Vulnerability or security:* Houses with entry points consisting of decrepit or flimsy materials (rotten wood, cheap locks, etc.) are perceived as easy targets and are thus at higher risk. The same goes for houses where occupants routinely leave windows or doors open during the warmer months, and those with few or no security devices (Weisel, 2002, 12-13). Budd (1999, 11) shows that the BCS estimate for the risk of burglary are nearly three times higher than the average in England & Wales for properties with no security devices. Even those with only window locks and deadbolts are at considerably lower risk (Budd, 1999, 13). This holds true under multivariate analyses as well, where household income and other factors predictive of security installation are controlled (Budd, 1999, 84-86). Even if security devices fail to deter offenders from attempting to gain entry, their presence may slow burglars down and thereby increase the probability of their apprehension and/or reduce the size of their take (Weisel, 2002, 13).
- *Potential rewards:* Burglars estimate the potential rewards of a burglary by assessing the size and condition of houses, yards, and cars parked in garages. Therefore, conspicuous evidence of wealth puts a property at higher risk of victimization. There is, however, some evidence that the most expensive looking houses are spared for fear that they are more likely to utilize security devices or be occupied by household staff (Weisel, 2002, 13).

### **Predicting Risk: Bivariate Risk Factors Identified by the BCS**

Figure 2.4 provides a look at factors measured by the BCS that have been identified as increasing a household’s risk of burglary. Budd (1999, 10-12) classifies this long list of factors under four general categories: household structure; socio-economic circumstances; locality; and other household factors (e.g., security, occupancy patterns, and type of

property). The overall household prevalence of burglary (% of households victimized) - including attempts - in England and Wales was 5.6% in 1997. Figure 2.4 uses this overall figure as a base rate by which to compare increased risk. Thus - looking at the first row - homes on a side road were 1.1 times (10%) more likely to have been victimized than the overall average for England and Wales that year.

Figure 2.4: Bivariate Risk: Risk Factors Increasing the Estimated Household Prevalence of Residential Burglary in England and Wales (Index Overall Household Prevalence=1)



Source: 1998 British Crime Survey data adapted from Budd (1999 10-12). These estimates include risk of attempts.

The most important two risk factors identified by the BCS were (1) a total lack of security devices, including electronic security and hardened doors/windows, and (2) homes where the head of the household was young, ages 16-24. Homes characterized by either of these factors had estimated prevalence rates of 15.2%, which is 2.7 times higher than the national average. Homes located in economically deprived council housing estates, those in areas characterized by high levels of physical disorder (e.g., rubbish, vandalism, graffiti), and those headed by single parents all had estimated rates of victimization more than twice the national average.

Perusing the other risk factors, the reader will notice that many reflect characteristics important to target selection as identified earlier in this section. The astute reader will also note that a number of the target selection factors identified in the previous section are not included as risk factors in the BCS data presented below. This should not be interpreted as a sign of their lack of importance. The BCS is a broad-brush instrument in no way specific to burglary. Therefore, the absence from BCS estimates of certain characteristics thought to drive burglar decision-making (e.g., presence of high trees or fences that provide burglars cover) should not be interpreted as meaning that the BCS survey has found them irrelevant. They have merely failed to measure them.

### **Explaining Risk: Multivariate Risk Factors Identified by the BCS**

While the estimated prevalence rates cited above tell us which *kinds* of households are most likely to be victimized, they say nothing definitive about *why* these households are at higher risk. For example, does the absence of security devices *really* increase the risk of burglary? Or is the observed correlation merely attributable to the fact that those least able to afford such devices live in poorer neighborhoods where burglary is more common? In order to answer these kinds of questions, Budd (1999, 13-15, 81-86) examines the risk factors cited above in a multivariate context using logistic regression. Multivariate analysis allows one to determine the independent effects of each risk factor when all other risk factors are held constant.<sup>8</sup> As in the bivariate analysis, a number of factors identified by past research as relevant to burglary risk are excluded from the multivariate analysis described below due to their absence from the BCS questionnaire. Furthermore, an additional group of factors that *were* measured in the BCS is excluded from the multivariate analysis for reasons explained by Budd (1999, 84).<sup>9</sup> Also note that a number

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<sup>8</sup> Statisticians use (binomial, as opposed to multinomial) logistic regression models when the dependent variable is dichotomous (not burgled/burgled) and the independent variables are continuous, categorical, or both. The *dependent variable* of interest here is dichotomous, as the model seeks to explain why some households were burgled and others were not. The risk factors used to explain burglary in the current model are the *independent variables*, all of which are measured categorically (e.g., type of property; level of security device usage, etc.). In the current model, these independent variables are entered as “indicator,” or “dummy” variables, which means that their independent effects are calculated in reference to some relevant reference category. Therefore, for example, the effects of living in a flat are calculated in reference to the effects of living in a detached house. Logistic regression produces output in log odds, which are not intuitively interpretable. Log odds, however, can be easily converted through exponentiation to *odds ratios* (more formally known as exponentiated odds ratios or adjusted odds ratios), which *are* intuitively interpretable, as discussed in the main text. All regression models assume that all causally relevant predictors of a given outcome have been included in the model. Violation of this assumption is especially problematic if the excluded, causally relevant variable(s) is/are correlated with one or more of the other predictor variables *and* the dependent variable. Thus, models utilizing “number of storks” to predict birth rates will yield invalid estimates for that predictor if level of rurality - which is correlated with both stork populations and birth rate - is excluded from the model. Since we can never be sure that all causally relevant variables have been included in the model, we can never assume that our models are fully unbiased. (If we knew all the relevant factors we wouldn’t need to run the models anyway, right?). For this reason, multivariate statistical techniques do not provide definitive evidence of causality. They do, however, provide far better evidence of causality than the simple bivariate BCS statistics cited in the previous section.

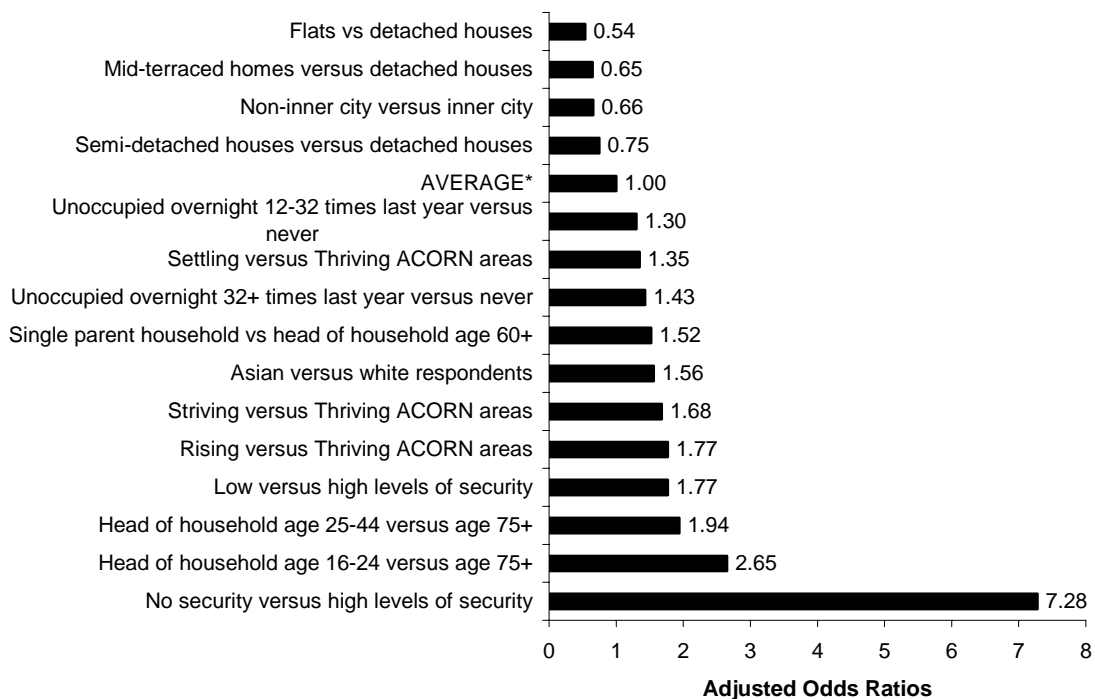
<sup>9</sup> “Some variables examined in the bivariate analysis were not included. Road type, weekday occupation and physical disorder were excluded because they were only measured in the 1998 BCS [the multivariate analyses are based on combined data from the 1996 and 1998 sweeps]. Council area and insurance were excluded as they were highly correlated with variables already included. Region was excluded because of the high level of aggregation. It was felt ACORN provided a better measure of area type” Budd (1999, 84).



of the BCS risk factors identified above *are* included in the multivariate analysis, but not shown here because they failed to reach the  $p < 0.05$  level of statistical significance. Factors fully controlled, but not shown below include marital and employment status, income, rent vs. owned, having a car, and length of residency.

The results of this analysis are presented in Figure 2.5 as adjusted odds ratios (all estimates are statistically significant at  $p < 0.05$ ).<sup>10</sup> An adjusted odds ratio greater than 1 indicates that the estimated odds of burglary victimization are higher for houses characterized by that risk factor than for those characterized by the reference to which it is compared – when the influence of all other factors in the model are held constant. In other words, if two homes were exactly alike in every respect but one (the risk factor), the odds ratio associated with that risk factor would tell you the estimated difference in the odds of burglary victimization between those two homes.

Figure 2.5: Multivariate Risk: Odds Ratios for Risk Factors Analyzed by Logistic Regression.



Source: 1996 and 1998 British Crime Survey data analyzed by and adapted from Budd (1999, 82). The outcome variable (burglary) includes attempts. All individual estimates are significant at  $p < 0.05$ .  $N = 15,640$ ; Model Chi square = 608.16,  $p < 0.05$ . Model controls for marital and employment status, income, rent vs. owned, having a car, and length of residency, as well as other categories of the risk factors shown (e.g., household head age 45-64; 65-74; etc).

The results of Budd’s analysis are quite interesting. First off, recall that the estimated prevalence of burglary (cited in Figure 2.4 above) was 2.7 times higher for houses entirely lacking in security as compared to the average for England and Wales. As suggested earlier, however, this *could* have been due to a correlation between security use and socio-

<sup>10</sup> Budd (1999) did not provide exact p-values.

economic status - if poorer people were both more likely to lack those devices *and* to live in neighborhoods where burglary was more common. Yet the multivariate results presented in Figure 2.5 suggest that the predicted odds of burglary against homes lacking any security devices are 7.28 times higher than for homes characterized by high security measures – this, after accounting for socio-economic characteristics of both households and the neighborhoods in which they lie. No other risk factor examined in this model exhibits an effect even close to that of level of security. On the matter of security, Budd (1999, iv) states, “Evidence from the BCS suggests that even the most common security devices, deadlocks and window locks, greatly reduce the risk of being burgled. Those who additionally have burglar alarms, security lights or window grilles reduce their risks further.” Assuming that Budd’s models have been properly estimated, this finding provides very strong evidence that target hardening and electronic security systems significantly reduce the risk of victimization.

While not nearly as influential as level of security, the age of household heads remains significantly related to the risk of victimization (as it was in the bivariate data, Figure 2.4) when other factors in the model are held constant. The predicted odds of burglary in homes headed by youth age 16-24 are 2.65 times higher than for homes headed by adults age 75+. Likewise, the predicted odds of victimization in homes headed by young to middle-aged adults are 1.95 times higher than those headed by adults age 75+. While age-specific differences in occupancy patterns (nights out on the town), economic status and locality would seem likely explanations of this age effect in the bivariate data, all of these factors have been controlled in the current analysis. The causal connection between age of household head and burglary risk is thus not entirely clear.

Without going through the whole list of results, a few interesting facts deserve mention. Regarding type of property, recall that the *bivariate* estimated prevalence of burglary against flats is higher than the national average for England and Wales. While this may be true, the *multivariate* analysis suggests that their increased risk, as compared to detached houses, is largely attributable to a higher tendency for flats to be located in inner city areas and occupied by residents of below-average socio-economic status. When socio-demographic and other factors are held constant, flats actually appear less vulnerable to burglary than their detached house counterparts. This makes sense, of course, since flats have fewer points of entry than the average detached house, especially when considering flats above ground level. In fact, the multivariate data suggest that - all else being equal - detached houses have higher odds of burglary than any other type of primary residential property.

Regarding location, the odds of burglary are 34% lower for homes outside the inner city than for those lying within. And this holds true after controlling for the socio-economic status of their residents as well as overall socio-demographic characteristics of the neighborhood. These additional characteristics are captured by the ACORN classification system, which groups neighborhoods into one of six broad types – three of which were significantly related to the odds of burglary reported in Figure 2.5.<sup>11</sup> Not surprisingly then,

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<sup>11</sup> ACORN stands for “A Classification of Residential Neighbourhoods,” and “classifies households according to the demographic, employment and housing characteristics of the surrounding neighbourhood” (Budd, 1999, 93). The ACORN classification system was developed by CACI Ltd, through cluster analysis of the 1991 Census (Budd, 1999, 93). While ACORN classifies neighborhoods into one of 54 categories,

the neighborhood in which one lives influences the risk of burglary victimization even when all other household factors are held constant. Household income was controlled in this analysis, but failed to reach statistical significance at  $p < 0.05$  and is therefore not shown in Figure 2.5. Its non-significance is, however, surprising, since prior research has consistently shown that while the poorest inner city neighborhoods have high risks of burglary, risk is highest for the wealthiest houses within the poor areas (Smith and Jarjoura, 1989). This is presumably due to offenders' anticipation of a lucrative payoff.

Regarding occupancy, there should be no surprise that houses left unoccupied for 12-32, and 32+ nights per year have higher odds of victimization than those that are never left empty overnight. Occupancy, after all, is one of the primary factors that burglars consider in target selection (Weisel, 2002, 8-9).

Multivariate examination of the independent effects of risk factors is interesting in that it allows one to estimate the influence of, say, security devices, while all other factors are held equal. As discussed above, increased security seems to reduce the odds of victimization even after controlling for household economy – which is itself correlated with the probability of having such measures installed. In the real world, however, risk factors are not independent of each other, but tend to cluster. Thus, households headed by young, low income persons are not only more likely to lack good security, but are also more likely to be located in poorer, inner city areas, and to be left unoccupied more frequently while their young residents are at school, work, or out on the town. Thus, some demographic communities are at considerably higher risk of burglary than others. Section 4 discusses methods by which to identify demographic and other communities most highly at-risk and target those people and places effectively.

### **Repeat Victimization**

The category of persons at highest risk for burglary victimization has not even been mentioned yet in the previous pages: prior burglary victims. While approximately 6% of the 1998 BCS sample reported having been the victim of burglary (including attempts), 94% of these victims experienced just one burglary event. However, 21% of victims (a mere 1% of the overall BCS sample) experienced multiple victimizations that collectively accounted for 40% of all BCS burglary victimizations reported in the survey (Budd, 1999, 16). Furthermore, the proportion of burglaries that are repeats tends to be highest among the very same demographic communities and neighborhoods at greatest risk for initial victimization (Budd, 1999, 16; Kleemans, 2001, 62). These facts have tremendous significance for crime prevention, a topic reserved for detailed discussion in Section 4.

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these 54 categories can be broken down into six general types of areas, as described by Simmons (2002, 59): “(1) Thriving: affluent home-owning areas, suburban and rural, commuters and older people; (2) Expanding: affluent working couples and families with mortgages, plus home-owners; (3) Rising: well-off professionals, students and single people, living in town and city areas; (4) Settling: established communities, home owners, skilled workers; (5) Aspiring: mature communities, some new home owners and multi-ethnic areas; (6) Striving: council estates with elderly, lone parent or unemployed residents.”

## **Section 3: Situational Crime Prevention Approaches to Burglary Reduction**

Prior to the establishment of any crime prevention program, three questions must be answered: *What* to do, *where* to do it, and *whom* to do it to. This section explores the first of these questions by examining situational crime prevention approaches relevant to the reduction of residential burglary. Exploration of the equally relevant, second and third questions – *where* to do it and *whom* to do it to – is deferred to Section 4.

Situational crime prevention (SCP) concerns the management, design or manipulation of the immediate physical and/or social environment with the aim of making crime appear more difficult, more risky, or less rewarding in the eyes of potential offenders (Clarke, 1997, 4). According to the International Crime Victims Survey (ICVS; Kesteren et al., 2000, 216-217), the use of SCP measures to repel burglary is far less prevalent in Denmark than in the 17 industrialized nations surveyed overall. Only residents of Japan, Poland, and (just barely) Portugal reported less frequent use of SCP measures in general. Most of the approaches outlined below are designed to work by hardening targets, controlling access to targets, or increasing the natural or electronic surveillance of targets. The techniques described are considered in light of the burglary patterns discussed in Section 2, and in terms of how they might affect the balance of perceived effort, risk, or reward. In many cases they affect both effort and risk, as increased effort slows the burglary process and thereby increases the risk of detection and apprehension. While ten separate approaches are outlined, special attention is paid to the best-known, and most widely utilized techniques, namely, installation of burglar alarms, target hardening, neighborhood watch and property marking. The section concludes with a table summarizing the mechanisms by which the techniques described are designed to reduce burglary, and the evidence *available in this report* to support their effectiveness.

### **Burglar Alarms**

- *Description and Function:* Burglar alarms can be audible or silent. When silent, they are connected directly to the police or other security agencies. Burglar alarms are designed to reduce the successful completion of burglary in one of three ways. First, when clearly visible or advertised on door stickers, the presence of alarms should increase an offender's perception of the risks inherent in - and/or efforts required for - burglarizing a particular target. Second, even if an offender decides to tackle an alarm system, activation of an audible alarm will generally force the burglar to leave the scene either empty-handed, or with fewer goods than he or she might have otherwise stolen. Third, audible alarms increase burglar apprehension since they alert homeowners and neighbors to the presence of a burglar and encourage them to notify the police and/or confront the burglar on their own. Likewise, silent alarms increase apprehension by giving police a head start on burglaries in process. In 1999, 7% of Danes reported the use of burglar alarms compared to 15% average use among the 17 ICVS nations surveyed (Kesteren et al., 2000, 216-217).

- *Evidence:* Given the intuitive appeal and relatively widespread use of burglar alarms, it is surprising how few (well-conducted) studies have examined their effectiveness. None of the major reviews consulted by this author provided citations for controlled evaluations of alarm use.<sup>12</sup> The British Crime Survey data described in Section 2, however, did provide some evidence, since it showed that the estimated prevalence of burglary in homes “with no security measures” is 2.7 times higher than the national average for England and Wales (Budd, 1999, 11). Yet this finding is undoubtedly affected by selection mechanisms, since low income houses are both least likely to be able to afford security measures and most likely to be situated in high-rate burglary areas. Furthermore, Budd (1999, 38) defines “security devices” as including burglar alarms, security lights, deadlocks, window locks, and window bars or grills. It is therefore impossible to determine the precise contribution of burglar alarms to the overall effect observed. While Budd (1999, 39-41) does provide some disaggregated data specific to alarms, these analyses suffer from the potential selection effects just mentioned in regard to income. Far more convincing than any of this is Budd’s multivariate analysis (discussed in Section 2) indicating the enormous burglary prevention effects of a high use of “security measures” when all other variables, including income, are held constant. Yet while this finding indicates the overall importance of enhanced security, there is once again no way to determine the specific contribution of burglar alarms to the effect observed. In short, there appear to be few if any well-conducted evaluations of the effectiveness of burglar alarms on residential burglary. This, however, should not be interpreted as evidence against their effectiveness, but merely as a lack of available research.
- *False Alarms:* While the purchasers of home burglar alarms are the sole beneficiaries of their (potential) crime prevention advantages, society as a whole shoulders the costs – which are not insignificant. In a major review of false alarm problems, Sampson (2002, 1) states that US police responded to over 34 million burglar alarms in 1998, 94%-98% of which were false alarms. These false alarms cost US taxpayers approximately US\$ 1.5 billion (billion) just in terms of police response time (two officers at 20 minutes each per incident) (Sampson, 2002, 6). A recent article from the Associated Press reports that the Los Angeles Police Department plans to join nine other major US police departments that will not respond to burglar alarms unless they are independently verified by a security company, a CCTV camera, or a resident (Wilborn, April 14, 2003).

## Target Hardening

- *Description and Function:* Target hardening refers to the physical reinforcement of potential points of entry such as doors and windows. Common examples include

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<sup>12</sup> Sherman et al.’s (1997) highly regarded Maryland Report to the US Congress on *What Works* includes absolutely no discussion of the effectiveness of domestic burglar alarms. Nor does Poyner’s (1993) systematic review of 61 studies concerning the effects of 27 different crime prevention techniques relevant to residential burglary. Nor does Mawby’s (2001) recent book, titled, *Burglary*. Weisel (2002, 26) cites a study by Hakim and Buck (1991) demonstrating a lower estimated prevalence for burglary among houses with, as opposed to without, alarm systems, but she warns that “research limitations” may preclude generalization of this finding to all jurisdictions.

the installation of deadbolt locks on doors, the reinforcement of doors themselves, the installation of locks on windows, and the use of double-pane window glass (which is both more difficult and noisier to break). Target hardening is designed to deter burglary by increasing an offender's perception of the effort required to enter a given household. Since increased effort means increased time, it may also increase an offender's perception of risk. Recall that 1998 data from the BCS indicate that 61% of burglaries with entry involved the use of forced entry, where locks on doors or windows were forced open (37%) or doors or windows were simply smashed in (24%) (Budd, 1999, 60). Target hardening is designed to make forced entry more difficult. Since a chain is only as strong as its weakest link, no potential points of entry should be left vulnerable. High quality locks on poor quality materials will provide little effect, merely resulting in the smashing in of doors and windows. Target hardening will have no impact on burglaries committed via entry through unlocked doors or windows (22% in BCS), which are disproportionately common during the summer months (Budd, 1999, 60; Curtin et al., 2001, iv). In 1999, 21% of Danes reported the use of "special door locks" compared to 44% average use among the 17 ICVS nations surveyed. Three percent of Danes reported the use of "window grills" compared to 16% average usage among the 17 ICVS nations surveyed (Kesteren et al., 2000, 216-217).

- *Evidence:* Target hardening is one of the oldest, most intuitive, and most researched areas of crime prevention. Budd's (1999) multivariate analysis of BCS data strongly suggests the effectiveness of "security measures," despite the vague nature of that construct. Ironically, however, the effects of target hardening have proved difficult to evaluate on the basis of experimental research. This is because large-scale target hardening interventions rarely occur in the absence of additional, complimentary interventions. Most target hardening programs send "home security survey" teams door-to-door to evaluate target vulnerability and provide necessary upgrades. The idea is to get every house in a target area up to some minimum standard of hardness. This is important both to researchers for evaluation purposes, and to the municipalities (who pay the costs) from a standpoint of distributive equality. Since these home security survey teams are already on the payroll, municipalities will often be tempted to add low-cost, additional crime prevention packages to the program. Thus, home security teams might just as well distribute kits for property marking, or encourage the establishment of neighborhood watch programs. From a purely economical, crime prevention perspective, this makes great sense. From a research perspective, it is a catastrophe, since it becomes impossible to disentangle the specific effectiveness of any one of these respective approaches. I outline this methodological problem in detail here since it is an unfortunate obstacle to the evaluation of many of the techniques discussed in this report.

This said, there is a reasonable body of evidence to suggest that target hardening works to reduce residential burglary. For example, Tilley and Webb (1994, 49-50) describe a project involving the installation of peepholes, door chains, and reinforced front and rear doors in the Plains Farm Housing Estate of Sunderland, England. In this project, no additional interventions were tacked on. Compared with the pre-intervention period, burglaries in the target area dropped 28% in the

first 12 months, and 35% in the second 12 months. In the adjacent control area, burglaries increased during the first 12 months, and decreased during the second (figures not specified). In the non-adjacent, sub-divisional control area, burglaries increased by 16% and 57%, respectively, over the two-year period. The program was therefore considered a success. Additional examples of target hardening projects are given later in Section 5, where detailed evaluations of anti-repeat victimization programs are outlined.

### **Neighborhood Watch**

- *Description and Function:* Neighborhood Watch (NW) programs involve the organized cooperation of residents for the purpose of keeping an eye on neighborhood homes and reporting suspicious activities to the police. Such programs are typically accompanied by the presence of prominently placed signs indicating the active existence of a NW program in the community. NW is designed to both deter burglary, by increasing an offender's perception of associated risk, and to aid in the detection and apprehension of suspicious persons. Neighborhood watch programs were founded in the United States in the early 1970s, moved to the UK in the early 1980s, and are now in use throughout the world. In 1999, 14% of Danes reported involvement in some form of "watch program" compared to 12% involvement among the 17 ICVS nations surveyed overall. Involvement in such programs was, in fact, the single burglary reduction technique utilized by more Danes than the ICVS average (Kesteren et al., 2000, 216-217).
- *Evidence:* Despite its popularity and intuitive appeal, there is little evidence that NW programs reduce burglary. The evidence that does support its effectiveness is generally based on non-randomized "experiments" that fail to control for social organization in the community. To understand the problem with this, note that the establishment of NW programs requires some degree of initiation and commitment on the part of community residents. Thus, NW programs are more likely to flourish in well-organized communities characterized by high-income residents – which generally have very low burglary rates to begin with. Randomized experiments, on the other hand, have found little support for NW programs. The prestigious Maryland Report on *What Works* sums up the evidence as follows: "One of the most consistent findings in the literature is also the least well-known to policymakers and the public. The oldest and best-known community policing program, Neighborhood Watch, is ineffective at preventing crime" (Sherman et al., 1997, Ch.8).

This said, Laycock and Tilley (1995) believe the news of NW's death is premature. In their very thorough review, they provide examples of both successful and unsuccessful NW programs and examine important differences in implementation and context. They point out that the apparent failure of NW stems more from a failure of implementation than of theory. NW should work, they argue, if residents can only be motivated to cooperate (Laycock and Tilley, 1995, 7; 11). Second, they point out that NW may offer numerous benefits beyond mere crime reduction, specifically, reduced fear of crime, improved police-community relations, and the

development of community spirit (Laycock and Tilley, 1995, 34-37). Third, they argue that in order to be “effective,” NW programs should be tailored specifically to the type of community they are organized in. They propose slightly different programs for low, medium and high crime areas, designations that tend to overlap with levels of social organization and income (Laycock and Tilley, 1995, 12-18). “Effective” is in quotes above, because Laycock and Tilley argue that expectations of the level and type of effectiveness for NW should differ depending on the type of community in which programs are established. Finally, they (1995, 38-40) consider the potential negative consequences of NW, one of which, ironically, may be that a committed effort towards crime reduction increases awareness and therefore a sense of vulnerability to crime.<sup>13</sup>

- *Cocoon Watch*: “Cocoon watch” is a more recent and more focused variant of the NW theme. Like NW, cocoon watch involves organizing residents to keep an eye out for suspicious persons and activities. However, while NW involves keeping an eye on the community at large – or at least one’s local piece of it – cocoon watch involves the organized monitoring of those homes immediately adjacent to one another. Cocoon watches enjoy higher rates of resident participation than NW programs, since they are generally organized after the occurrence of a specific incident – a burglary – in one of the cocoon member’s homes. They are designed to both reduce crime by increasing local surveillance and to nourish social networks between neighbors - ties that often outlive the projects that initially encouraged them (e.g., Forrester et al., 1990). Many of the studies reviewed in Section 5 make use of cocoon watches. Yet like so many other studies, it is difficult to determine their specific effect since they are in all cases used as part of a multi-tactic approach.

## Property Marking

- *Description and Function*: Property marking involves the inscription of owner identification on valuable property such as jewelry and electronic equipment. It is sometimes referred to as “post coding” in the UK, since British residents are encouraged to inscribe their postal codes on property (e.g., 1216 Kbh K). Inscriptions are made with indelible markers, etching devices, or invisible ink that shows up under ultraviolet light. Theoretically, property marking could reduce burglary through one or more of six mechanisms. First, it assists police in identifying the owners of recovered stolen property. Second, it assists in the prosecution of burglars and/or their buyers by providing concrete proof of their possession of a stolen item. It therefore, third, also increases an offender’s perceptions of the risks associated with stealing marked property. Fourth, since

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<sup>13</sup> This raises an interesting methodological issue in regard to the measurement of the effects of intervention programs on fear of burglary. The best experiments will conduct surveys of citizen fear both before and after the implementation of an intervention program. Yet the very experience of having been consciously subject to a crime reducing intervention may increase the fear of victimization simply because it underscores the presence of a local “crime problem.” As if this wasn’t bad enough, there is also evidence that volunteer participants in community policing activities (e.g., NW) express higher degrees of fear to begin with than similarly situated persons who do not volunteer for participation in such programs (Zhao et al., 2002). Measurement of program impact on fear levels is therefore a very tricky business.



buyers of stolen property are weary of purchasing marked goods, it reduces an offender's anticipation of the potential rewards for those items. Fifth, even if an offender is willing to take those risks, it increases his or her perceptions of the effort required to dispose of those items on the stolen goods market. Sixth, when door and window stickers identify homes as property marking participants, it may deter burglary altogether given the combined implications of increased effort, risk, and decreased reward.

- *Effectiveness*: Evaluation of property marking is hindered by three factors. First, it is designed to reduce burglary and/or its costs via numerous mechanisms (i.e., (a) recover and return stolen property, (b) prosecute offenders, (c) deter theft of specific items, and (d) deter burglary of specific houses). Thus, evaluation of its "effect" depends on which specific effect one is interested in. Second, there are few, if any, evaluations of property marking programs in the absence of additional interventions. For example, while five of the 13 burglary prevention programs evaluated by Tilley and Webb (1994) included property-marking initiatives, none of these programs utilized property marking on its own. Third, property-marking initiatives generally suffer from low levels of participation (Laycock and Tilley, 1995, 33), and people who agree to participate may differ in important ways from those who decline.

Laycock (1985, 1-2) reviews a series of property marking evaluations beginning with an early, nationwide meta-analysis of property marking programs in the US. She reports Heller et al's (1975) findings regarding the average US program as follows: (1) participants suffered slightly fewer burglaries than they had before joining the program, though (2) there was no evidence of a citywide reduction in burglary rates. (3) Nor was there any evidence that property marking hindered burglars' abilities to sell stolen property, (4) nor any evidence that marking increased the rate at which burglars were apprehended or convicted, (5) nor evidence that marking increased the recovery of stolen items. All in all then, the only positive finding was in regard to a slight reduction in post-intervention victimizations of study participants, yet even this effect may have been simply the result of participant selection effects.

Knutsson (1984, as cited by Laycock, 1985, 2) examined the effects of property marking in a Stockholm suburb over a four-year period. Evaluation was hampered by the fact that participation never rose above the 30% level, yet Knutsson concluded that the project had had no effect on burglary rates. Furthermore, apprehended burglars interviewed by Knutsson indicated that they paid little attention to window stickers indicating participation in the property-marking program.

The most commonly cited evidence in support of property marking comes from Laycock (1985; 1991) who evaluated its effects in an isolated area of Caerphilly, South Wales. Program participation was extraordinarily high at 70%, aided by a massive media and door-to-door campaign that aimed not only to promote participation, but also to serve notice to potential burglars. Subsequent evaluation indicated that the overall household prevalence of burglary had dropped 41%

(n=115 to 68 burglaries) during the 12 months since the beginning of the project as compared to the 12 months before its initiation. During the same period, individual prevalence rates dropped 62% (n=91 to 35 burglaries) for program participants while increasing 2% (n=37 to 39 burglaries) for non-participant (Laycock, 1985, 8). It thus seems that the program worked to reduce burglary, and did it without displacing victimization to non-program participants. While the program did not increase the rate at which stolen property was returned to its owners, Laycock (1985, 10) attributes this to the very low rate of victimization among program participants. This study seems relatively convincing since it compares changes in individual rates of victimization for both participants and non-participants. While selection effects would be expected to influence post intervention differences between these two groups, they should not have influenced within-group changes across the study period. The reader should note, however, that there was an extremely high degree of publicity associated with this study. Police not only went door-to-door recruiting participants, but also sent letters to participants three months after the start of the study to encourage continued participation, and revisited participants once again door-to-door six months post initiation. Being citizens themselves, of course, burglars were among those visited, and were thus very much aware of the program's existence. It is therefore unclear whether the drop in burglary observed is best attributed to the property-marking program itself, or the media coverage it received.

### **Mock Occupancy Indicators**

- *Description and Function:* Burglars avoid contact with residents and work hard to determine whether a property is occupied before attempting to enter it. While residents cannot be home at all times, the use of mock occupancy indicators may fool some offenders into believing that a home is occupied. Mock occupancy indicators are designed to deter burglary by increasing an offender's perception of risk. Common mock occupancy indicators include leaving lights on or TVs and radios playing; using timers to turn lights/TVs/radios on and off at appropriate times; leaving a car parked outside a house or in the garage; and closing curtains. When away for longer periods of time, mock occupancy can be enhanced by having someone periodically mow the front lawn (if applicable), remove mail, advertising and newspapers from the front doorstep or mailbox, or simply stop the delivery of these items. Weisel (2002, 29) notes that the audible presence of dogs will deter offenders nearly as much as the presence of human occupants. Much research confirms this belief, including Wright and Decker's (1994, 208-209) ethnography of 105 American burglars. No ICVS data is available on the use of mock occupancy indicators in Denmark. However, in 1999, 19% of Danish respondents reported having a "watch dog" compared to 23% overall among the 17 ICVS nations surveyed (Kesteren, 2000, 216-217).
- *Effectiveness:* While this author knows of no direct evidence to support the effectiveness of mock occupancy indicators, there is plentiful evidence that burglars avoid occupied homes. For example, the BCS data discussed in Section 2 (Figure 2.5) suggest that, all else being equal, homes unoccupied 12 to 32 nights per year have 30% greater odds of burglary than those never unoccupied overnight.

When homes unoccupied 32 nights or more are compared to those never unoccupied, the predicted odds of burglary for the former are 43% higher than for the latter. Offender ethnographies paint the same picture. Almost 90% of the 105 active American burglars interviewed by Wright and Decker (1994, 110) said they “*always* avoided breaking into a residence when they knew or suspected that someone was at home” (emphasis in original). They avoided occupied homes not only because of the increased risk of being assaulted or killed by angry, potentially armed residents, but also because of the increased legal penalties they would face themselves if apprehended after having been forced to assault or kill a resident in self-defense (Wright and Decker, 1994, 112). The “vast majority” of Wright and Decker’s burglars reported knocking on doors, ringing doorbells, or telephoning residences to check for occupancy even if they were reasonably certain that no one was home (Wright and Decker, 1994, 110-116, especially 113).

While all of this suggests the extent to which burglars avoid occupied homes, it says nothing about the actual effectiveness of *mock* occupancy indicators. Burglars are, of course, well aware of the use of mock indicators, and may be quite adept at distinguishing mock occupancy from real occupancy. Furthermore, they can ring doorbells to confirm their impressions. Nonetheless, the use of such techniques may reduce the obvious signs of prolonged non-occupancy, and thereby reduce the probability of a home being noticed by an opportunistic burglar.

### **Closed Circuit Television (CCTV)**

- *Description and Function:* CCTV is designed to reduce burglary (and other crimes) in two ways: First, by increasing an offender’s perception of risk, and second by helping to identify and prosecute suspects. CCTV can also be used to verify burglar alarms. The financial costs of CCTV installation and monitoring are beyond the means of most private homeowners. Therefore, the vast majority of CCTV installations are found in either public spaces or apartment complexes (Weisel, 2002, 27).
- *Effectiveness:* Unknown. While CCTV is found in many apartment complexes in the United States (and perhaps in the UK), there is only one published study concerning its effectiveness in a residential setting. Chatterton and Frenz (1994) found that CCTV installation increased the arrest rate (25%-33%) for burglaries committed against residents of elderly housing in Merseyside, UK, and seemed to encourage offender confessions. Yet the number of arrests made was so small that the study cannot be considered reliable.

There have been a number of studies of CCTV use in public spaces in the UK that utilized burglary as an outcome measure, but all of those identified concerned burglary against shops, and thus lie outside the scope of this report. Armitage (2002) reviews relevant studies. Brown’s (1995) study of CCTV use in public space is particularly convincing given his use of pre/post measures and control groups.

## Removing Obstacles and Improving Visibility

- *Description and Function:* Burglars avoid targets easily observed by neighbors or passers-by. Therefore, properties with low levels of night-time lighting, high solid fences, or thick trees or shrubbery provide cover to burglars – which is especially attractive when found near potential access points like doors or windows (Weisel, 2002, 9-10). The removal of such visual obstacles and the use of external lighting at night should increase an offender’s perception of the risk of being seen. In regard to night lighting, Weisel (2002, 30) points out that it may encourage pedestrian traffic, and thereby both increase natural surveillance and decrease fear of crime.
- *Effectiveness:* Unknown. While a number of studies have evaluated the effects of high-intensity street lighting on burglary and other crimes (with mixed results), this author knows of no controlled studies of the impact of exterior home lighting on residential burglary victimization. Likewise, no studies of the effects of crime preventive landscaping or increased visibility have been identified. Obstacle removal and visibility improvement are, however, integral parts of the Secured by Design (SBD) programs evaluated relatively positively later in this document. Exterior lighting, of course, has no effect on daytime burglaries, which constituted 40% of all UK burglaries in 1997 (Budd, 1999, 56).

## Restricting Access to Residential Perimeters

- *Description and Function:* Access to the perimeter of a property can be restricted by the installation of fencing (in front and/or back yards), the planting of hedges, and – in the case of apartment complexes – the blockage of pedestrian passageways. In the present context, “restricted access” is meant to imply a reduction in the *convenience* of access, not the erection of impenetrable barriers. Furthermore, such barriers should impede visibility as little as possible for reasons discussed directly above. Restricting access to the perimeter of a property could be expected to reduce the risk of burglary in four distinct ways. First, it increases an offender’s perceptions of the effort required to access the property itself. Second, it increases an offender’s perception of the risk of being noticed, since residents will be more likely to recognize the presence of strangers in limited-access areas. Third, it increases an offender’s perception of the risks and/or effort necessary to flee from a property if flight becomes necessary. Fourth, depending on context, it increases an offender’s perceptions of the efforts required to carry large items off the premises.
- *Effectiveness:* As discussed in Section 2, multivariate analyses of BCS data indicate that the odds of burglary are 46% higher for flats than detached houses, when all other factors are held constant (Budd, 1999, 82). This presumably reflects fact that houses have more numerous and less restricted points of access than multi-story apartment buildings. In the US, detached houses are most commonly accessed through side or back entrances. When unfenced, alleys behind houses provide both access and escape routes (Weisel, 2002, 11-12).

Ekblom (2002) reports on the results of an alleygating project in Stirchley Birmingham, England. The target area was characterized by numerous alleyways providing entrance and escape routes to housing blocks, which were burgled through back entrances in 80% of all cases. The prevention program involved the installation of 62 alleygates (protecting circa 583 houses), 420 meters of steel palisade fencing (protecting 90 houses), the distribution of 400 ultraviolet property marking kits complete with window stickers (which 200 homes actually used), and a newsletter to each of the 400 households. Evaluation after one year indicated a 53% drop in residential burglary in the target area compared to a 7% drop in the adjacent control area, and a 25% drop in the wider geographical area used to indicate general background trends. This well-conducted evaluation suggests effectiveness of alleygating as a means of restricting perimeter access. As often the case, however, the inclusion of the 400 property marking kits makes it impossible to determine whether the observed effect can be solely attributable to the alleygating program. Johnson and Loxley (2001) have written on the potential benefits of alleygating, and are currently working on a major, single-intervention evaluation of the technique. The results of their evaluation, however, are not yet available.

Oscar Newman (1996), the architect of “defensible space,” examined the effects of restricting pedestrian movement within the Clason Point public housing project in the South Bronx, New York. The blockage of inter-connecting passageways divided the complex into distinct areas where access was both limited to outsiders, and insiders felt more comfortable in making personalized use of immediate public space. Lighting was also improved. Newman reports a 62% decline in the rate of serious crime (burglary, robbery and assault). The results are non-definitive, however, since no control group was used.

### **Modifying Pedestrian and Motor Traffic**

- *Description and Function:* Familiarity and convenience are prime factors dictating target selection for burglars. Burglars tend to select targets along their routine routes between work, school, or home since they’ve noticed these targets and had some opportunity to survey them (Weisel, 2002, 5-6). Creating cul-de-sacs and dead end streets by closing pedestrian and motor thoroughfares may reduce burglary in those areas by reducing familiarity and/or increasing offenders’ perceptions of the efforts required for surveillance. Such modifications should also increase offenders’ perceptions of risk, since neighborhood residents are more likely to notice strangers on dead end roads, and offenders may feel they have fewer escape routes.
- *Effectiveness:* Some studies have found lower rates of burglary on cul-de-sacs and dead end roads than main thoroughfares. Yet the evidence is mixed. Budd (1999, 51) reports that BCS households located on side roads were burglarized 10% more often than the 1998 average for England and Wales, while those located on cul-de-sacs were burglarized 24% less often than the national average (includes attempts). While these bivariate data suggest a crime preventive effect for cul-de-sacs, it could

be that the effect is attributable to neighborhood characteristics, since cul-de-sacs tend to be most common in newer, higher income, homeowner areas. The crime preventive effect of street design is also influenced by the surrounding context. In an American study, Buck et al. (1993) found that cul-de-sacs adjacent to non-residential areas (e.g., forests, railroad tracks) are targeted relatively frequently, since such areas provide easy access and escape routes, as well as cover.

Despite this, Sherman et al.'s (1997) Maryland Report on *What Works* identifies "street closure" as a "promising" technique for crime prevention in public spaces. This classification is based on five relatively well-conducted studies, four out of five of which concerned prostitution, drug dealing, or drive-by shootings. One study, however, examined the effects of street closure on residential burglary. Following the closing off of 67 streets in Miami Shores, Florida, Atlas and LeBlanc (1994) found an 8% decrease in reported burglaries as compared to that found in the surrounding county (Miami Dade), which served as a control area. Atlas and LeBlanc suspect that the street closures increased the sense neighborhood territoriality and community spirit, and reduced fear of crime – which resulted in increased pedestrian traffic, and thus heightened natural surveillance. Pedestrian traffic access thus seems to increase risk (from the standpoint of target selection) or decrease risk (from the standpoint of natural surveillance) depending on whether that traffic is through traffic or local traffic.

### **Defensible Space, Crime Prevention Through Environmental Design (CPTED) and Secured by Design (SBD)**

- *Description and Function:* Defensible space, CPTED and SBD are overlapping strategies that incorporate many of the target hardening and environmental modification techniques discussed above. They can be applied to new buildings prior to construction or to existing buildings through design modification. Coined by Oscar Newman in 1973, "defensible space" refers to the idea that crime can be reduced and community spirit improved through modifications to the physical environment that increase (a) natural *surveillance*, (b) residents' feelings of *territoriality*, and (c) *symbolic barriers* to trespassing by outsiders. Increased surveillance can be formal or informal, but Newman focuses on environmental modifications that enhance informal surveillance by residents going about their daily activities (i.e., maximize visibility in corridors, stairwells, and parking areas). Breaking a residential area into smaller components is designed to increase residents' feelings of territoriality, and thus personal responsibility, thereby motivating them to watch over these areas more carefully. Symbolic barriers include flowerbeds, post boxes, lawn chairs or anything that implies to an outsider that a given space is cared for and likely to be defended. Crime Prevention Through Environmental Design (CPTED; Jeffery, 1971) is a practical application of Newman's ideas that incorporates the defensible space concept and adds access control and target hardening to it. "Secured by Design" (SBD), on the other hand, is a trademarked, British strategy - endorsed by the Home Office - that allows realtors to advertise housing as "SBD" subsequent to Housing Department certification that it incorporates a minimum level of CPTED design features. These three overlapping concepts and techniques are designed to reduce both crime and

the fear of crime, and to increase residential sense of community. They are designed to reduce crime by increasing an offender's perceptions of risk.

- Effectiveness: The Home Office' site on SBD (crime reduction.gov.uk, 2003) hails its achievements by stating that, "Recent research carried out by Huddersfield University shows that residents living on Secured by Design Developments are half as likely to be burgled and two and a half times less likely to suffer vehicle crime." Indeed, numerous controlled evaluations of designed or modified communities utilizing CPTED techniques have suggested its crime preventive effects in the UK (Armitage, 2000), US (Chula Vista Police Department, 2001), Sweden (Alexandersson, 2002), and elsewhere. Yet in a very detailed – and seemingly unbiased – review of 39 "key studies" relating to defensible space/CPTED/SBD, Cozens et al. (2001) describe the results as mixed. They do, however, enthusiastically embrace the concept, and encourage future research on its effectiveness. Defensible space, CPTED and SBD all encourage a balance of natural crime inhibitors and community aesthetics. They should therefore not be confused with "gated communities," – those islands of the wealthy characterized by surrounding walls, security guards, and CCTV surveillance. Weisel (2002, 30) says that residents of gated communities may experience somewhat less burglary and fear of burglary. On the other hand, she points out that some police feel their response time to emergencies on gated properties is slowed by access control measures, and that routine patrol of such areas is difficult.

### **A Rough Assessment of Situational Crime Prevention Approaches**

Table 3.1 (following page) provides an overview of the (1) functions and (2) evidence for the effectiveness of the eleven techniques described above. The three columns under the broad header, "Functions By" summarize the *primary* means by which each method is designed to reduce burglary from a rational choice perspective (i.e., effort, risk, reward). Keep in mind, however, that many techniques may serve multiple functions in this regard even where not specifically marked as such below.

The two columns under the broad header "Assessment of Available Evidence" include "Amount of Reliable Evidence" and "Assessment of Potential Effectiveness." *These assessments are entirely based upon the evidence provided in this report*, since I have not reviewed - nor am I even aware of - every piece of research providing evidence for or against a given technique. This assessment is perilously subjective, and presented only to help summarize the research evidence described above. Since that evidence was in many cases mixed, the reader's opinion may differ from the assessments I make below. My own assessments are decidedly conservative. This is primarily due to the generally poor quality of the evidence available concerning the techniques described.

Table 3.1: Functions of Situational Crime Prevention Approaches, Amount of Reliable Evidence, and a Subjective Assessment of Their Potential Effectiveness Against Burglary Based on Evidence Provided in This Report

TECHNIQUE	Functions By			Available Evidence	
	Increasing Perceived Effort	Increasing Perceived Risk	Reducing Perceived Rewards	Amount of Reliable Evidence	Assessment of Potential Effectiveness
Burglar Alarms	X	X		Low	Medium-High
Target Hardening	X	X		Medium-High	High
Neighborhood Watch		X		High	Low
Cocoon Watch		X		Medium*	Medium*
Property Marking		X	X	Low	Low
Mock Occupancy Indicators		X		Low	Unknown
CCTV		X		Low	Unknown
Removing Obstacles/Improving Visibility		X		Low	Unknown
Restricting Access to Perimeters	X	X		Low	Medium-High
Modifying Pedestrian and Motor Traffic	X	X		Medium	Medium-High
Defensible Space/CPTED/SBD		X		High	Medium-High

\* Rankings for Cocoon Watch are based on evidence presented in Section 5.



## Section 4: Targeting Crime Prevention Programs at Places, Demographic Communities and Prior Victims

In 1989, Sherman et al. made a startling discovery. They found that 50% of 324,000 calls for police service during a one-year period in Minneapolis, Minnesota, came from just 3% of all addresses and intersections (Sherman et al, 1989, 37). Since then, replications throughout the world have made it clear that both crime and victimization are concentrated in geographic “hot spots.” We have long known that crime and victimization are also concentrated demographically, among - just for starters - males, the young, and the unemployed. Research has further determined that both crime and victimization are heavily concentrated among those previously involved in, and victimized by, crime. This should be no surprise, as social science has long recognized that one of the best predictors of future behavior is past behavior. Nonetheless, the widespread realization that this pattern applies to crime *victims*, as well as offenders, is relatively new – a fact that Skogan has called “probably the most important criminological insight of the [1990s]” (National Institute of Justice, 1996, 3). Interestingly, the risk of repeat victimization is heavily concentrated in the days and weeks immediately following a prior victimization (Polvi et al., 1991). Like crime, victimization is thus concentrated geographically, demographically, and temporally. Since financial resources are limited, crime prevention programs are best targeted at those people, places and times most at risk. This section provides guidelines for identifying the geographic areas, demographic communities, and prior victims most likely to benefit from those resources. Major emphasis is placed on the potential significance of repeat victimization for the prevention of both burglary and the fear of burglary. This discussion sets the stage for the five anti-repeat victimization case studies evaluated both individually and collectively in Section 5.

### Geographic Concentration

Burglary is concentrated geographically. Concentrations may be as narrow as a single street address or as wide as an entire neighborhood. Identifying the nature and breadth of a crime concentration has important implications for both understanding and combating a particular crime problem. “Hot spots” refer to areas small enough to be entirely visible from a single vantage point – for instance, street intersections and the areas about 35 meters in either direction there from (Sherman et al., 1989, 31; Farrell and Sousa, 2001, 228-229). The term “hot spot” has generated various spin-off terms indicative of the nature and breadth of a crime concentration. For example:

- Hot dots are smaller than hot spots, and refer to concentrations of crime at *specific addresses*, a designation implying the presence of repeat victimization (Pease and Laycock, 1996, 1).
- Hot routes are wider than hot spots, and refer to concentrations of crime along certain streets or boulevards (Home Office, 2003).
- Hot areas refer to concentrations of crime within a geographically bounded area that is wider than a hot spot or a hot route.

Geographic concentrations of burglary can be efficiently analyzed by way of electronic mapping software – such as the Windows-based, MAPINFO system – which uses GPS-

(global positioning system) coded data to map crime hotspots. The Kraks Kort company uses GPS-coded data on their Internet website ([www.kraskort.dk](http://www.kraskort.dk)) to map addresses – a capability that can be linked to relevant census data. New York City’s widely praised COMPSTAT program is based on such a system. The Home Office (2003) website provides detailed, user-friendly information on how to conduct spatial crime pattern analyses.<sup>14</sup>

While skeptics may see crime mapping as no more than a high-tech presentation of what they already know,<sup>15</sup> the Home Office (2003) advocates electronic mapping on four basic grounds. First, crime mapping provides an objective criterion by which to distribute (and if need be, defend) the allocation of resources to a particular area. While beat cop members of a crime analysis team may have extensive, first-hand knowledge of street-level problems, the other team members will not, and will thus be forced to rely on the subjective interpretations of the few who do. Mapping allows all members of a program to contribute to the analysis and discussion of objective facts.

Second, mapping provides up to the minute information on complex crime patterns that may change rapidly over time. Mapping allows analysts to identify, and if need be alter, on-going interventions in reaction to these changes. In terms of evaluation, mapping provides researchers with an objective criterion on which to evaluate various program outcomes, including the displacement of crime.

Third, mapping allows for the cross-tabulated analysis of spatial, temporal, and other crime patterns. Burglaries may be concentrated at particular times of the day or week, or only during particular seasons. Modus operandi may vary significantly depending on when and where these crimes are committed. The cross-tabulated analysis of these kinds of data can provide better insight on the nature of the problem, indicate specific interventions for specific aspects of a problem, and aid police in the profiling and apprehension of active offenders.

Fourth, mapped data can be linked to housing and demographic data, thereby presenting a detailed picture of the people and types of properties most at risk. This is, in fact, crucial, and introduces a second major means by which crime prevention programs can be targeted: at demographic communities.

### **Demographic Communities**

Burglary is concentrated demographically. British Crime Survey (BCS) data presented in Section 2, Figure 2.4 (page 19), showed that single parent households, low-income households, and urban households – among others - all have higher than average rates of burglary victimization in England and Wales (Budd, 1999, 10-12; 82). Focusing solely upon geographic concentrations of burglary risks ignoring at-risk households that lie

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<sup>14</sup> The Home Office (2003) website contains a series of “Crime Reduction Toolkits” with detailed advice on how to diagnose and treat numerous crime problems, including residential burglary. The “Partnerships” and “Focus Area” toolkits provide extensive, user-friendly information on how to conduct spatial and temporal crime pattern analyses.

<sup>15</sup> There is an old joke in US social science circles about the foundation that paid \$US 10,000 for a study identifying areas of high-rate prostitution. Meanwhile, they could have gotten the same information from any taxi cab driver for an extra five-dollar tip.

outside of identified hot spots or hot areas (Curtin et al., 2001, 3). Furthermore, crime concentrations that appear to be geographic in nature may, in fact, represent concentrations of at-risk demographic communities. It seems safe to presume that demographic communities characterized by more than one risk factor should have still higher rates of victimization (e.g., low income, single parent households located in urban communities). Identifying and targeting multiple risk factor demographic communities in Denmark would seem likely to provide a highly cost-effective, objective basis for crime prevention allocation. And given the relative ease with which electronic crime reports and Danish CPR data can be linked, the task would seem well worthwhile.<sup>16</sup>

There is, however, a third means by which to target crime prevention resources that may turn out to be the most cost-effective of all possible methods: targeting prior burglary victims.

### **Repeat Victimization**

Criminal victimization is highly concentrated among prior crime victims. Table 4.1 – reproduced directly from Pease (1998, 3) – shows the distribution of criminal victimization by number of victimizations for property and personal crimes reported by BCS respondents. The data indicate that repeat victims of property crime – who comprised just 6% of the BCS sample – suffered 68% of all reported property offenses. The 2% that suffered the most property crimes accounted for 41% of the victimizations reported. The data for personal crimes is even more lopsided. Based on these data, the prevention of repeat victimization should be expected to produce staggering inroads on the prevention of crime overall.

Repeat Victimization (also referred to as RV, revictimization, or multiple victimization) refers to the “recurrence of crime in the same places and/or among the same people” (Pease, 1998, 1). The rate of RV is not only high, but RVs tend to occur very soon after prior victimizations. The RV phenomenon thus goes a long way towards predicting exactly where and when future crimes are likely to occur. This has numerous implications for crime prevention, and led Skogan to label RV, “probably the most important criminological insight of the [1990s]” (National Institute of Justice, 1996, 3). The remainder of this section focuses on the implications of RV for the prevention of residential burglary, the fear of burglary, and crime in general. The following section, Section 5, examines the process and outcomes of five, well-constructed evaluations of anti-RV burglary prevention programs.

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<sup>16</sup> The identification of at-risk demographic communities is best based on bivariate, as opposed to multivariate, risk. Section 2 examined both bivariate and multivariate risk data on burglary derived from Budd’s (1999) analysis of BCS. Some discrepancies between bivariate and multivariate risk were noted. For example, while the bivariate data indicated that flats have a higher than average risk of actual burglary victimization, the multivariate data suggested that flats should have a lower probability of victimization than detached houses when the effects of other relevant factors are statistically held constant. The discrepancy between findings lies in the fact that, compared to other forms of housing, flats tend to lie in lower-income areas and to be occupied by lower-income, younger residents. However, when one controls for income, location and other relevant factors, flats turn out to be more resistant to burglary than detached houses – presumably because there are fewer potential points of entry. When considering resource allocation based on competing risks among demographic communities, it seems to make more sense to use the bivariate (real-world) risk estimates than the multivariate (unreal, all things being equal) risk estimates. After all, if you control for temperature and presence of oxygen, walking on the moon without a space suit should be no more hazardous than walking on the earth. But I wouldn’t want to try it.

Table 4.1: Percentage of Property (excluding vehicle) and Personal Offenses by Number of Victimitizations: BCS 1982-1992.

Number of Victimitizations	OFFENSE TYPE			
	Property		Personal	
	Proportion of Respondents (%)	Proportion of Events (%)	Proportion of Respondents (%)	Proportion of Events (%)
0	84	0	92	0
1	10	32	5	25
2	3	17	1	12
3	1	10	1	7
4+	2	41	1	59

Source: Reproduced directly from Pease (1998, 3).

*What proportion of burglary is RV?*

Table 4.2 indicates the extent of repeat burglary victimization found in the BCS. The data show that less than 1% of BCS respondents suffered over 20% of all reported burglary victimizations. Less than 2% reported more than 38% of all burglary victimizations. Note that annual-based data such as these may even mask the extent of repeat victimization, since respondents burgled, for example, in December 1994 and January 1995, show up as having suffered only a single victimization. Displacement and other concerns aside, these data suggest that if crime prevention programs could merely eliminate RV, they could prevent almost 40% of all burglaries.

Table 4.2: Percentage of Burglary Victimitizations by Number of Victimitizations: BCS 1995 and 1997

Number of Victimitizations	Proportion of Respondents (%)		Proportion of Events (%)	
	1995	1997	1995	1997
0	94	94	0	0
1	5	5	61	60
2	1	1	18	19
3+	<1	<1	20	21
TOTAL	100	100	100	100
Unweighted N	16,348	14,947	1,467	1,195

Source: Reproduced from Budd (1999, 17).

Based on 1996 and 1998 BCS data. Includes attempts.

Data from the Scottish Crime Survey (SCS), presented in Table 4.3, suggest the same pattern, where just over 1% of all victims experienced 34% of all burglaries.

Table 4.3: Percentage of Burglary Victimization by Number of Victimization: SCS 1996

Number of Victimization	Proportion of Respondents (%)	Proportion of Events (%)
0	97	0
1	4	66
2	1	17
3+	0.2	17

Source: Shaw and Pease (2000, Ch 3, Table 3.11)

Sample n=20,156 respondents.

The over-representation of repeat victims is also evident in official police data, though somewhat less so than in self-reports. For instance, official burglary data covering 1½-years (May 1997-March 1998) in three Scottish police districts suggest that 23% of the (n=3,675) reported burglaries (including attempts) occurred at 13% of burgled addresses (based on numbers from Shaw and Pease, 2000, Table 4.4). Townsley et al. (2000, 45) examined burglary calls for service over a 1½-year period (June 1995-November 1996) in Beenleigh, Queensland, Australia, and found that 32% of (n=1,219) burglary reports came from 16% of burgled residences. In a six-year study (1987-1992) in Enchede, the Netherlands, Kleemans (2001, 58-59) found that 25% of (n=6,266) reported burglaries occurred at 13% of burgled residences.

While the proportion of RV identified in official data remains impressive, it is far less extreme than that found in the BCS and SCS self-report data described earlier. This may reflect differences between first-time and repeat victims in the tendency to report crime. There is some evidence that repeat victims are less likely to report burglaries to the police than first-time victims (Guidi et al., 1987, as cited by Morgan, 2001, 86). Repeat victims may become somewhat weary of reporting, especially if they have been dissatisfied with the responses received from authorities on previous occasions. Furthermore, both initial and repeat victimizations are disproportionately concentrated in economically disadvantaged communities (Budd, 1999, 16; Mawby, 2001, 56). Members of these communities experience more crime, tend to perceive police response less favorably, and are less likely to have the contents of their homes insured against burglary.

#### *Demographic communities and RV*

Repeat victimization appears to be heavily concentrated in the very same neighborhoods where initial victimization is highest. In the Dutch city of Enchede, Kleemans (2001, 62) noted that the percentage of burglaries that were repeats varied from 0% to 25% among the 48 neighborhoods in his sample, with the average at 14%. Yet he found that a neighborhood's percentage of repeats was strongly correlated with the prevalence rate (% households victimized) ( $r=0.74$ ,  $p=0.000$ ,  $n=48$  neighborhoods). The implication is that the percentage of burglaries that are repeats grows with increasing prevalence. This relationship is so widely accepted as to have led Farrell and Pease (1993, 14) to suggest that, "high crime areas are primarily so because of the rate of repeat victimization that characterizes them."

The same pattern is clearly apparent in the UK, where 20% of British Crime Survey respondents reported two or more burglary victimizations in 1997. 13% of all respondents

reported two burglaries, while 7% reported three or more burglaries. Yet Budd (1999, 16) informs us that the prevalence of RV was much heavier among certain demographics communities, including the following (% experiencing repeat burglary is in parentheses):

- Single parent households (37%)
- Households headed by single, divorced and separated persons (23%)
- Households earning less than £5,000 (DKr 54,000) per year (24%)
- Households in inner cities (26%) and council estate areas (25%)
- Households in areas characterized by high levels of physical disorder (27%)

Focusing crime prevention efforts on high-risk demographic subgroups that have already suffered an initial victimization could thus provide the most cost-effective treatment focus discussed so far in this report.

#### *Why does RV occur? Risk heterogeneity and event dependency*

Two standard explanations are used to explain the RV phenomenon: *risk heterogeneity* and *event dependency*. While the terminology may seem formidable, explanation is straightforward.

Risk heterogeneity simply refers to the fact that some people and/or properties are more susceptible to burglary than others, and that these differences in susceptibility remain relatively constant over time. Put another way, people and places have consistently different (“heterogeneous”) levels of “risk.” For example, houses lying in “bad” parts of town and constructed of flimsy materials are consistently more likely to be victimized than well-fortified flats in “good” neighborhoods. The explanation for their high rate of RV is identical to that for their initial victimization: these properties are simply more attractive to burglars. While not quite as stable as location and structural characteristics, occupancy and other lifestyle patterns are also relatively constant. For example, student households are at high risk for both initial and repeat victimizations because student residents are very frequently, and consistently, away from the home.

Event dependency, on the other hand, refers to the notion that an initial victimization increases the probability of a subsequent victimization. Put another way, the probability of a future “event” is “dependent” upon the occurrence of a previous event. For example, offenders who have already burgled a property may return for goods they left behind, or for goods they expect residents to replace in the near future (e.g., loose money, TV sets, laptop computers, etc.). Furthermore, those offenders will now have a sense of how easy or difficult it was to gain entry, as well as an intimate knowledge of the interior layout of the residence. Even if they don’t go back themselves, they may pass this knowledge along to other offenders, who may then return on their own to hit these “easy” or lucrative targets. Damaged points of entry that are left unrepaired may also attract opportunist burglars – a possibility that Pease (1998, 6) likens to Wilson and Kelling’s (1982) famous “broken windows” thesis.<sup>17</sup>

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<sup>17</sup> In a groundbreaking article, Wilson and Kelling (1982) argued that unrepaired vandalism invites more vandalism, as well as more serious crime, since it suggests to offenders that, “nobody cares.” As a general analogy to urban blight, Wilson and Kelling note, “if a window is broken and left unrepaired, the rest of the window will soon be broken.”

Pease (1998, 9) prefers use of the less formidable terms, “flag” and “boost accounts,” though the meaning is identical to that of risk heterogeneity and event dependency. Flag accounts (risk heterogeneity) refer to the fact that some properties seem to be “flagged,” or stick out, as visibly easy targets. Boost accounts (state dependency) refer to the notion that the occurrence of an initial burglary may “boost” the probability of a subsequent burglary.<sup>18</sup> It is important to note that while distinct, these explanations are not necessarily mutually exclusive. Some kinds of houses and/or people may be consistently more prone to burglary, while the burglars who burgle them may also be more likely to return to “easy” targets they are familiar with to steal more property. This mixed explanation, in fact, seems the most likely. In terms of relative importance, however, offender accounts suggest that burglars regularly return to previous targets, which is an event dependency/boot explanation. Pease (1998, 10), for example, quotes Ericsson (1995), who interviewed 21 convicted burglars and found that 16 of them:

...said they had gone back to a number of houses after a varying period of time to burgle them between two and five times. The reasons given for returning to burgle a house were because the house was associated with low risk...they were familiar with the features of the house... the target was easily accessible...or to steal more goods in general...The reasons for going back for goods were things they had left behind...replaced goods...and unhidden cash (Ericsson, 1995, 23, as cited by Pease, 1998, 10).

Though Ericsson’s sample was rather small, such findings are typical of offender accounts (see Pease, 1998, 10-13). Ericsson, however, makes no mention of tips traded among burglars. Almost half of the burglars interviewed by Bennett (1995, cited by Pease, 1998, 10) said they had chosen a particular target on the basis of a recommendation from someone who had already burgled that target. Despite this, Pease (1998, 14) concludes on most RV is the work of the same offender – as opposed to a second offender receiving a tip. Furthermore, Pease (1998, 15) cites evidence indicating that repeat offenders are more active than non-repeat offenders. This suggests that the apprehension of repeat offenders could have a significant impact on a local burglary problem (see Everson and Pease, 2001, for an examination of this subject).

#### *The timing of RV*

When victimization recurs, it tends to do so quickly. Studies have typically found that 50% of repeat burglaries occur within one month of a previous burglary, and that a large

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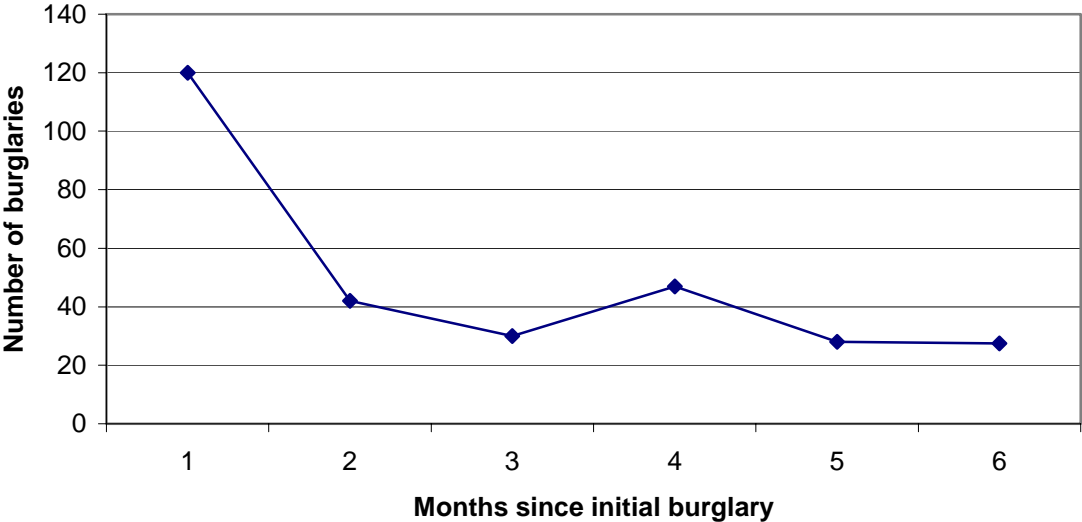
<sup>18</sup> While I realize that use of the more formidable terms, “risk heterogeneity” and “event dependency,” may put some readers off, I prefer these terms because of their long history and well understood meaning in social science research. Both terms are widely used in economics, psychology, sociology, and theoretical statistics. Meanwhile, the “flag” and “boost” terminology is a relatively recent invention of a small group of researchers concerned with burglary. My own Ph.D. dissertation focused precisely upon these two concepts – in my case, using longitudinal self-report data (following subjects from age 11-28) to examine competing explanations of the stability of individual offending over time. Analogous to differences in victimization, some offenders are more likely to offend more frequently than others, and these between-person differences are relatively stable over time. My question then, was whether these differential rates of offending are due to stable bio-psycho-social differences between people (population heterogeneity) or whether initial involvement in crime increases the probability of subsequent offending (state dependency) by, for example, reducing social bonds, eliminating pro-social opportunities, labeling offenders, or increasing delinquent peer involvement (Sorensen, 2003).

percentage of these occur within just days. The speed with which victimization recurs supports the event dependency/boost explanation of RV.

In a pioneering study of official police data from Saskatoon, Canada, Polvi et al. (1990; 1991) noted that the chances of burglary victimization were about four times higher among those burgled during the previous 12 months than among those not burgled. More interesting, however, was that among those recently burgled, the rate of new victimization during the first month alone was 12 times the expected average rate of victimization. Furthermore, 50% of the repeat burglaries occurring within the first month happened within seven days of the initial burglary (Polvi et al., 1991, 412). Polvi et al. (1991, 413) noted a slight rise in RV four to five months after the initial burglary. They interpreted this rise as most likely due to a “chance fluctuation in the data,” but cautioned that it might also “represent the period after which replacement of goods though insurance is virtually certain to have occurred” (Polvi et al., 1991, 413-414).

However, this same pattern was also observed by Andersen et al. (1995, 12) in their study of burglary in the Huddersfield section of West Yorkshire, England. Figure 4.1 shows the number of repeat burglaries experienced during the six months following an initial victimization. Over 40% of burglaries occurring during the first six months happened in the first month following the initial incident. Furthermore, the same slight rise identified by Polvi et al. (1991) is visible in the Huddersfield data as well.

Figure 4.1: Repeat Burglaries in Huddersfield by Month (n=circa 294 RVs).



Source: Andersen et al, 1995, 12 (as cited by Mawby, 2001, 55). N=approximately 294 repeat burglaries.<sup>19</sup>

In a study of official police reports from Tallahassee, Florida, Robinson (1998, 78) found that 51% of repeat burglaries occurred within a month of an initial burglary, while 25% occurred within a single week.

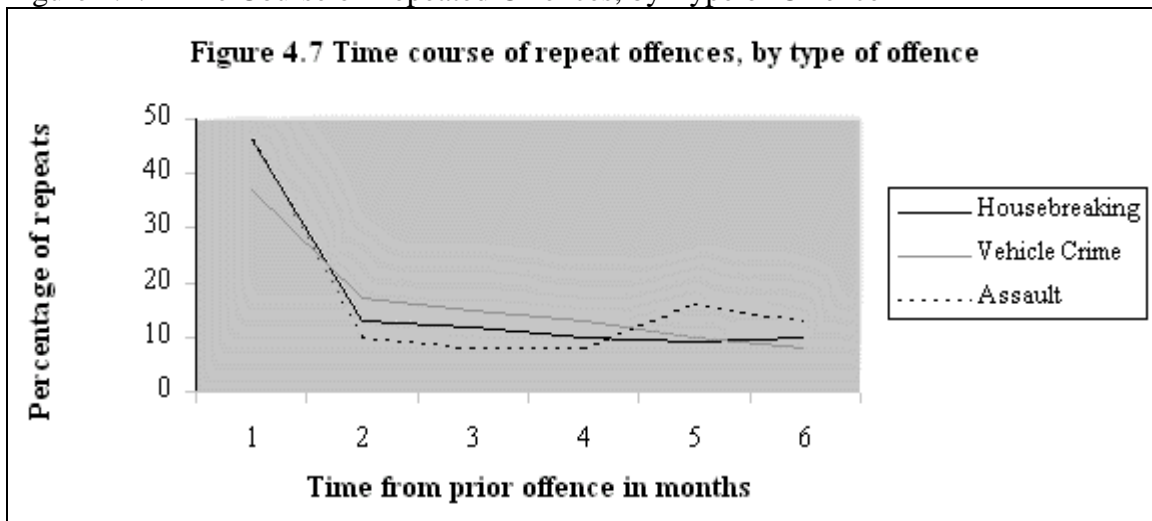
<sup>19</sup> I was unable to obtain the original Anderson et al. (1995) article. Figure 4.2 is reconstructed from an identical figure provided by Mawby (2001, 55).



The quick recurrence of victimization is common for many crimes. Figure 4.2 is reproduced directly from Shaw and Pease’s (2000) analysis of official data from three Scottish police divisions. Note that around 47% of both housebreaking and assault, and 37% of vehicle crime, recurred in the first month subsequent to a prior victimization.

This same basic pattern has been observed for repeat residential burglary in the Netherlands (Kleemans, 2001, 60), Australia (Morgan, 2001, 100-109), and Sweden (Carlstedt, 2001b, 9). Furthermore, it has been demonstrated in connection with repeat “school crime,” racial victimization, and domestic assault in the UK (Farrell and Pease, 1993, 8-12).

Figure 4.2: Time Course of Repeated Offences, by Type of Offence



Source: Shaw and Pease (2000, Chapter 4, Figure 4.7), reproduced directly.

*What proportion of Scandinavian residential burglary is RV?*

Malena Carlstedt, of the University of Stockholm, seems to be the only researcher to have examined the RV phenomenon in Scandinavia. Her primary report on this topic is in Swedish (Carlstedt, 2001a), and thus largely impenetrable to this American author. There is, however, an 18-page Danish summary of Carlstedt’s work titled, “Victim Again?” (“Offer Igen?”), which is available from the Danish Crime Prevention Council and used in the current review (Carlstedt, 2001b).<sup>20</sup>

Carlstedt examined data on 30,000 crimes reported to Swedish police during 1997-1999 in two medium-to-large-sized counties (120,000 and 95,000 residents, respectively). While her data exclude Sweden’s largest cities, the Swedish National Council for Crime Prevention (BRÅ) considers her sample generalizable to the broader Swedish population (Carlstedt, 2001b, 3). Her report examines RV in six crime categories, the findings for which are reproduced in Table 4.4. Without going into detail, two facts are immediately striking. First, according to these official record data, RV constitutes a major proportion of

<sup>20</sup> This Danish summary is based on excerpted material from Carlstedt’s (2001a) Swedish report. While the actual author of the Danish summary is the (Danish) Crime Prevention Council (Det Kriminalpræventive Råd), I cite the author as Carlstedt (2001b). Full information on author and publisher is given in the bibliography under Carlstedt 2001b.

some Swedish crime categories, most notably burglary in schools. Second, and more relevant to the immediate discussion, Carlstedt does not find nearly the degree of repeat residential burglary found elsewhere in the international literature.

Carlstedt (2001b, 8) says that the low rate of residential burglary RV in Sweden is probably due in part to the rather low household prevalence of burglary overall – which she cites as about 0.05%. Though not mentioned in the Danish summary, Carlstedt’s reasoning is presumably based upon the widely reported tendency for the proportion of crimes that are repeats to increase as the prevalence of crime increases (see the sub-section, *Demographic communities and RV*, above). Despite the low rate of RV, Carlstedt (2001b, 8) says that the distribution of residential burglary is, indeed, very uneven, and that “those who have experienced a [residential] burglary run a meaningfully higher risk than others for experiencing burglary again.” Furthermore, Carlstedt finds that RV for residential burglary follows precisely the same pattern found elsewhere in the literature. Nearly half of the reported repeat residential burglaries occur during the first month after an initial reported burglary. Seen another way, she says that the risk of repeat residential burglary is 12 times higher than the average risk during this first month, and drops to twice the average risk after six months (Carlstedt, 2001b, 9). The other crime categories show similarly extreme patterns, with the exception of car-related crime. In that category, only 19% of repeats occur within the first month of an initial victimization. Yet 40% occur within three months.

Table 4.4: Proportion of Reported Crime during 1 year that is Repeat Victimization

CRIME TYPE	% RV
Assault and threats against women, known assailant	30%
Assault and threats against men and women, unknown assailant	13%
Car-related crime *	13%
Burglary in schools **	86%
Burglary in stores **	32%
Residential burglary **	5%

Source: Carlstedt (2001b, 3).

\* Car theft, attempted car theft, theft from car, vandalism of car.

\*\* Includes attempts.

While Carlstedt’s findings mirror those found in the international literature in regard to the timing of repeat residential burglary, she finds far less RV overall. Why? It could be that Swedish residential burglary is simply characterized by less RV than that found elsewhere. International data *do* suggest large differences in RV across borders. It is, however, also possible that failure to report RV plays a part. Carlstedt (2001b, 8) states that the overall individual prevalence of residential burglary (including attempts) in Sweden is relatively low – approximately 0.5%. This figure is based on official reports, which she says should reflect actual crime in the area given the very high level of residential burglary reporting (2001b, 4). For what it is worth, however, the International Crime Victims Survey (ICVS) suggests far less than perfect burglary reporting in Sweden, especially when it comes to attempts. The 69 Swedes who told ICVS that they had experienced one or more burglaries (including attempts) in 1999, said that they had reported only 71% of burglaries with entry, and only 37% of attempted burglaries, to the police that year (Kesteren et al., 2000, 30; 194-195). An estimate of reporting behavior made on the basis of 69 victims is, of course,

suspect. Nonetheless, if we are to accept the ICVS Swedish data at face value, then the scarcity of repeat residential burglary found in Carlstedt's study *might* be due to a lower tendency for RV victims to report those crimes to the police. Alternatively, there may simply be less repeat residential burglary in Sweden than elsewhere. Yet the ICVS data do not suggest this.

Table 4.5 indicates ICVS estimates for the prevalence (% of respondents victimized) and incidence (number of victimizations per 100 respondents) of burglaries with entry and attempts, respectively, by country. When prevalence and incidence are known, one can calculate a measure of the "concentration" of crime, or the proportion of all crimes that are repeat crimes against the same person or household ( $[i-p]/i$ ).<sup>21</sup> According to these data, about 24% of all burglaries reported by Swedish respondents in 1999 were repeats. The corresponding figure for Denmark, on the other hand, is very low, at only 6%.

Table 4.5: ICVS Estimates of the Prevalence, Incidence, and Concentration of Burglary in 1999, by Country

Country	National Population	ICVS Sample Size	Burglary With Entry		Burglary Attempts		CONCENTRATION (Incid-Prev)/Incid	
			Prev	Incid	Prev	Incid	Burglary With Entry	Burglary Attempts
Australia	19,338,000	2,005	3.9	4.8	3.3	4.0	18.8%	17.5%
Belgium	10,263,000	2,402	2.0	2.4	2.8	3.7	16.7%	24.3%
Canada	31,014,000	2,078	2.3	2.9	2.3	2.7	20.7%	14.8%
Catalonia (Spain)	6,361,000	2,909	1.3	1.3	0.6	0.7	0.0%	14.3%
Denmark	5,332,000	3,007	3.1	3.3	1.5	1.6	6.1%	6.3%
England & Wales	52,042,000	1,947	2.8	3.4	2.8	3.8	17.6%	26.3%
Finland	5,177,000	1,783	0.3	0.5	1.0	1.3	40.0%	23.1%
France	59,452,000	1,000	1.0	1.0	1.3	1.9	0.0%	31.6%
Japan	127,334,000	2,211	1.1	1.7	0.8	1.2	35.3%	33.3%
Netherlands	15,929,000	2,001	1.9	2.3	2.7	3.0	17.4%	10.0%
N. Ireland	1,685,000	1,565	1.7	1.7	0.9	0.9	0.0%	0.0%
Poland	38,576,000	5,276	2.0	2.5	1.3	1.8	20.0%	27.8%
Portugal	10,032,000	2,000	1.4	1.8	1.2	1.7	22.2%	29.4%
Scotland	5,062,000	2,040	1.5	1.5	1.9	2.2	0.0%	13.6%
Sweden	8,832,000	2,000	1.7	2.3	0.7	0.9	26.1%	22.2%
Switzerland	7,169,000	4,234	1.1	1.2	1.8	2.0	8.3%	10.0%
USA	285,925,000	1,000	1.8	3.3	2.7	3.3	45.5%	18.2%
All 17 Countries	689,523,000	39,458	1.8	2.3	1.8	2.2	21.7%	18.2%

Source: Prevalence and incidence are from Kesteren et al. (2000, 178-181); National population data from the World Health Organization (2003).<sup>22</sup>

<sup>21</sup> Those familiar with "criminal career" research should note that "concentration" is not directly analogous to Blumstein et al.'s (1986) lambda ( $\lambda$ ) – which stands for the average frequency of criminal offending among active offenders. Lambda for victims would equal the average number of victimizations among active victims ( $i/p$ ). Concentration, on the other hand, refers to the proportion of overall crime that is repeat crime ( $[i-p]/i$ ). Nonetheless, it should come as little surprise that concentration and lambda are highly correlated. I calculated lambda for the data above (not shown) and found the correlation between lambda and concentration among the 17 countries greater than 0.98 for both burglary with entry and attempts, respectively.

### *Implications of RV*

The international research suggests that a large proportion of crime could be detected and prevented by focusing resources upon prior victims. Not only does RV suggest the potential prediction of crime location, but also the time of its occurrence. The implication of rapid recurrence is that crime prevention efforts may only need to be focused on victims for 7-30 days in order to pay large dividends. Townsley et al. (2000, 39) note that maximum prevention can be achieved by applying interventions within the first 24 hours of an initial victimization. The Biting Back burglary reduction program in Huddersfield, UK, took just that approach by delivering portable alarms to burglary victims on a 30-day loan basis. Results from that and similar programs are discussed in Section 5.

While ICVS estimates of burglary concentration in Denmark are low (6%), the cost-effective reduction of this sub-portion of burglary would still seem worth the effort. Furthermore, the 6% figure applies to Denmark nationally. Some Danish communities – whether geographically or demographically defined – surely suffer far high rates of both initial and repeat victimization. The potential for linking electronic police reports and CPR registries would seem to offer a relatively easy means by which to identify and target these places and people. Targeting members of (a) high-risk demographic groups (b) residing in high-risk neighborhoods (c) who have already experienced an initial victimization would seem likely to maximize both the prediction and prevention of future criminal events.

Focusing solely upon victims – whether in or out of at-risk demographic groups and places – offers a sensible sampling frame by which to intervene. Forrester et al. (1990, 45; also see Pease, 1998, 16) refer to this process as “drip-feeding” the problem, since cases are treated on the same pace as they arise in police burglary report files.

RV also seems to serve moral needs of distributive justice. It places resources precisely where the most pain has been suffered, and where people are most anxious about future victimization. Section 5 examines the effects of anti-RV programs on burglary and fear, but also keeps a close eye open for signs that crime is merely displaced to adjacent vicinities. Most of the research suggests it is not. But from a standpoint of distributive justice, Farrell and Pease (1993, 21) argue that even this would be a laudable outcome, since it would spread the pain and fear of victimization a little more evenly.

Speaking of fear, one of the qualities of RV-based programs is that they combine crime prevention with victim services. British research cited in Section 1 indicates that the emotional effects of burglary victimization may be surprisingly similar to those experienced by victims of robbery (Hough and Mayhew, 1985, as cited by Shover, 1991, 96). These overlapping effects include shock, fear and sleeplessness (Budd, 1999, 66-67). Perhaps not surprisingly, then, a study by Shaw (2001) suggests that the emotional trauma of repeated victimization can be so intense as to mimic bereavement. Section 1 also indicated that two-thirds of BCS burglary victims said they would like to have received some sort of help or advice, especially an update from the police about the progress of their cases (28%), and/or advice about security and crime prevention in general (24%) (Budd, 1999, 70). Yet only 9% reported having actually received any such help or advice from

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<sup>22</sup> Except Catalonia (Spain) which comes from Statistics Catalonia (2003), and England & Wales, Northern Ireland, and Scotland, which come from UK National Statistics (2003). All population statistics are for 2001.

police (Budd, 1999, 70). This seems especially unfortunate given that one British study concluded that victims would be far more satisfied with police if they merely received a letter apprising them of the status of their case (Maguire, 1980, as cited by Shover, 1991, 96). As clearly seen in Section 5, RV-based programs serve all of these purposes. The extent to which they actually work to reduce fear and dissatisfaction will be examined and discussed therein.

The British Government is so impressed by the potential for RV that they have made it a primary performance indicator for police departments (Farrell et al., 2000, 2-3). Since large-scale crime trends are affected by so many factors - including economy, drug patterns, and political change - the British Government has decided that its police cannot be meaningfully held accountable for these patterns. On the other hand, the fact that prior victimization indicates the place and location of future crime suggests that police can, and should, be held accountable for reducing RV. Crime concentration has thus become one of the primary indicators of police performance in the UK today.

Anti-RV programs flourished across Britain during the 1990s. Nonetheless, very few have been evaluated under strict, experimentally controlled conditions. The Kirkholt Burglary Reduction Project in Rochdale, England, is among those that has, and happens to be the very first evaluated application of RV theory to crime prevention. Following a brief discussion of selection criteria in the following section, the Kirkholt study will top the list of five anti-RV studies discussed in terms of both process and outcome.

## Section 5: Anti-Repeat Victimization Project Case Studies

This section provides detailed overviews of five anti-repeat victimization projects evaluated in England and Australia. All of these projects aimed to reduce the overall rate of residential burglary by reducing the rate of repeat victimization (RV). Therefore, most of the interventions described were applied directly to prior burglary victims. Given the promise of RV theory as described in the previous section, readers will be surprised to hear that three out of the five programs described below failed to meet their crime-reduction objectives. In most cases, this seems to have resulted from implementation failures, lack of victim compliance, the brevity and/or lack of intensity of the interventions applied, and the speed with which post-intervention evaluations were conducted. All of the projects described utilized multi-tactic approaches, so it is generally difficult to assess the individual impact of specific intervention components. This section concludes by summarizing the overall results of the five projects and discussing why only the first two succeeded in meeting their objectives.

### Selection Criteria

The case studies reviewed below are based on published evaluation reports. Selection criteria for inclusion here required that evaluations:

- Be printed in English
- Measure impact on the bases of comparable pre-/post-test data
- Examine change in both target areas and control areas
- Contain detailed information on interventions as actually applied.

A search of relevant terms<sup>23</sup> identified published evaluations in the following electronic databases:

- Criminal Justice Abstracts (CJA)
- National Criminal Justice Reference Service (NCJRS).

Additional published, as well as unpublished, evaluations were sought through:

- A search of relevant terms on the Internet
- A (non-systematic, but intensive) search of Internet-accessible publications at crime prevention research organizations
- An examination of the bibliographies contained in evaluations already identified
- An examination of Farrell's (2003) "Bibliography of Studies on or Incorporating RV"
- Emails to key RV researchers in the UK

This search produced only six eligible, obtainable evaluation studies, five of which are reviewed below.<sup>24</sup>

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<sup>23</sup> For example, various combinations of the following terms: "burglary," "burglar," "repeat victimization/victimisation," "multiple victimization/victimisation," "experiment," "evaluation," "control," etc.

## **The Kirkholt Burglary Prevention Project, Rochdale, Greater Manchester, England (Phase I)**

Source: Forrester et al. (1988; 1990)

Implementation Period: March 1987 to December 1990

The Kirkholt Project was the first application of RV-theory to a concrete, crime prevention project. It was designed to reduce the level of repeat residential burglary on the Kirkholt Estate, and thereby reduce the incidence of residential burglary overall. The reduction of repeat victimization was considered a laudable aim in and of itself, since even if crime was displaced, its distribution across more victims (less concentration) would spread the pain more evenly (1988, 13). Despite this, the project succeeded at reducing both overall and RV burglary.

The Kirkholt Estate was a housing project of 2,280 dwellings in the Rochdale, Lancashire area of Greater Manchester (1988, 1) with a rate of burglary more than twice the 1984 BCS average for high-burglary-rate estates. Household prevalence of police reported burglary was estimated at 25% in 1985 (1988, 2; 1990, 1), and rates of revictimization were extremely high. Bounded by major roads on all four sides, Kirkholt was considered an ideal site for program evaluation (1988, 1-2). Like many UK public housing estates of the time, Kirkholt apartments contained coin-operated gas and electric utility dispensers, a fact that plays prominently in the intervention developed.

### **Diagnosing the Problem**

Extensive data were collected and analyzed. These data would be useful both for designing the intervention, and for comparison to data collected later (post-intervention) in connection with the project's evaluation. Data included:

- Police Crime Reports;
- Burglar Interviews: Interviews were conducted with a sample of recently convicted, local burglars (n=76) to gain insight on motivation, premeditation, target selection, and modus operandi (1988, 2-4);
- Victim Interviews: Home interviews were conducted with a sample of Kirkholt's recent burglary victims (n=237) to obtain details concerning the circumstances of their victimizations, such as burglar's point(s) of entry, household's presence and use of security devices as well as occupancy and/or signs of occupancy at the time of the burglary, property stolen, views on police response, fear of crime, prior victimization, and household demography (1988, 4-5);
- Neighbor Interviews: Interviews were conducted with a sample of victims' neighbors (n=136) in order to identify factors distinguishing burgled from non-burgled homes (1988, 5).

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<sup>24</sup> The sixth eligible, but un-reviewed study was the Beenleigh Break and Enter Reduction Project from Queensland, Australia (Criminal Justice Commission, 2001). It is excluded here primarily for reasons of space. Note, however, that two other Australian projects are evaluated here and, like those two projects, the Beenleigh project also failed to fully meet its objectives. Webb's (1997) review of (the reportedly successful) Direct Line Homesafe projects was eligible, but unpublished and – despite my best attempts – unobtainable. In addition to these detailed evaluation reports, Tilley (1993) and Tilley and Webb (1994) provide brief summaries of five (collectively) British anti-RV evaluation projects that come close to meeting the selection criteria, but that provide insufficient detail on both process and outcome.

Burglar interviews indicated that (a) 85% offended within 3.2 km of home (63% within 1.6 km) (1990, 2), and that the majority (b) avoided homes that were occupied, had visible burglar alarms, and/or high visibility around potential points of entry; and (c) were unemployed (70%). 32% listed drug or alcohol use a contributing factor, and 41% owed money (1988, 2-4) indicating a need for drug and debt counseling.

Victim interviews indicated that 49% of burglaries involved the theft of money from pre-payment meters, and 27% were characterized by theft of meter cash only (1988, 13). Audio-video equipment was the second most stolen item (1988, 6-7). Entry was most often gained by either forcing window locks open (suggesting a need for better locks) or breaking doors in (suggesting a need for stronger doors – as opposed to stronger locks) (1988, 6). 70% of entry points were visible to neighbors, but only 35% visible to passers-by – suggesting the potential benefits of organizing “cocoon watches” (1988, 6). 89% of victims reported no involvement in community associations, yet 63% said they would definitely get involved in a crime prevention program if one was set up, and 30% expressed qualified interest. Over 30% were concerned about the time it took for the housing authorities to repair damaged entry points. The resultant anxiety, combined with the acknowledged vulnerability of unrepaired damaged points of entry, implied a need to speed up repair work (1988, 7). Single-parent households comprised 8% of Kirkholt dwellings, but 20% of victimized dwellings (1988, 11).

Interviews with victim’s neighbors indicated few structural differences, but showed that non-victimized house were more likely to have exhibited signs of occupancy entry and to have had dogs at the time of their neighbors’ victimizations (1988, 8). 66% and 13% of neighbors expressed definite and qualified interest, respectively, in joining a neighborhood crime prevention project if one were set up (1988, 8).

Collectively, these data indicated the potential merits of removing pre-payment utility meters, hardening doors and windows, speeding up repair work to damaged entry points, setting up cocoon watches, and dealing with offenders’ drug, debt, and unemployment problems. Furthermore, revictimization was identified as a major contributor to the overall burglary rate on Kirkholt. Forrester et al. (1988, 9) determined that during 1986, “the chance of a second or subsequent burglary was over four times as high as the chance of a first, on Kirkholt (1988, 9). Put another way, “nearly half of those burgled in December 1986 had been burgled at least once before during 1986” (1988, 9).

### **Target Selection**

Funds were not available to treat the whole Kirkholt estate, so the research team had to decide on which people of places to treat. They considered either focusing on a sub-portion of the estate, or on single-parent households because of their heavy over-representation as victims, yet decided both choices would be socially divisive and politically infeasible (1988, 12). They therefore decided to focus on prior victims because doing so automatically focused crime prevention efforts on the most at-risk, fearful populations without having to make the politically problematic decision of focusing on one specific group or place at the exclusion of other groups or places. Furthermore, a focus on victims would provide a regular schedule to the intervention program, which could be implemented case by case as new victimization reports came in to police.



## **Interventions**

The interventions described below focus on burglary victims and their neighbors. Intervention on Kirkholt went into effect beginning with the first victim identified after March 1, 1987, and continued at minimum through the period for which outcome data is available (December 1990). These interventions included:

- Removal of pre-payment meters: With the cooperation of the housing fuel boards, gas and electric pre-payment meters were removed from residences or replaced with token-operated meters (1988, 13-14).
- Target Hardening: With the cooperation of local police, specially trained officers visited victims within days of a burglary report to conduct a “security survey” of the dwelling. Given the tendency of burglars to force doors in, better quality doors, as opposed to locks were installed. The researchers stress that the security upgrades provided were not token measures, but dealt with actual vulnerability as assessed in each dwelling (1988, 15-16).
- Community Support Team: Eleven “self-help” workers were drawn from the community, two of which were given supervisory positions. After one week’s training (and extensive background checks), these self-help workers were sent out to visit burglary victims, offer support, and put them in touch with relevant agencies. Self-help workers eventually took on the security surveys originally conducted by the police. Security surveys and upgrades were also provided to neighbors who agreed to participate in cocoon watches, as described below (1988, 16-17).
- Cocoon and Neighborhood Watch: Self-help workers visited victimized homes to discuss the formation of cocoon home watches (usually involving 6 homes) and, if victims approved, approached their neighbors with the idea of cooperating (1988, 17). At the time, there were no neighborhood watch-type programs operating on Kirkholt (1990, 8). Given the occurrence of a concrete triggering event (the burglary), victims and neighbors were expected to be motivated to participate in a cocoon watch, even if they lacked interest in broader, less focused forms of neighborhood watch. Furthermore, it was hoped (and later found true) that cocoon watch might be self-perpetuating, since it laid the seeds for the kinds of ties that generally exist between neighbors in more socially cohesive communities (1988, 17).
- Property Marking: Self-help workers provided property-marking instructions and kits for residents, and to those neighbors solicited for involvement in cocoon watches (1988, 17).

A second phase of the Kirkholt project began in 1989, and focused on reducing the underlying motivations for burglary. Meanwhile, all Phase I interventions described above remained in place. Since outcome data for Kirkholt are only available through 1989, Phase II of the project is not discussed in this review.<sup>25</sup>

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<sup>25</sup> Forrester et al. (1990, 6) say, “Phase II can be thought of as the development of an offender and community focus alongside the victim focus of Phase I.” New interviews with a new sample of burglars were conducted between September 1989 and March 1990 to gain insight on burglary motivation and underlying social causes (1990, 16-17). Drug and alcohol abuse, debt, and unemployment once again proved central to crime on Kirkholt (1990, 17-19). In response to this, the Probation Service of Rochdale received

## **Process Evaluation**

Unfortunately, Forrester et al. (1988; 1990) do not provide systematic details concerning the application or resident utilization of any of the interventions described above. The details that are available are sporadic, and refer primarily to the initial months or, at best, first year of the intervention. That said,

During the first 12 months of the program (March 1987-February 1988), nearly every household was approached in regard to cocoon watch involvement, since nearly every household was either adjacent to a victimized household or had been victimized itself. The majority of all households expressed interest in joining cocoon watches (1990, 8). Security surveys, target hardening upgrades, and property marking kits were offered to all victims, as well as those neighbors that agreed to participate in cocoon watch programs (1988, 16-17). Pre-payment meters were steadily removed from dwellings.

By the time Forrester et al. (1988) wrote their first evaluation (published mid-June 1988), all 143 victims contacted by the team had accepted the security survey, and 62% had accepted property-marking offers. All but three victims consented to the solicitation of neighbors for cocoon watch. Among neighbors approached, 85% agreed to cooperate in cocoon watch, and slightly more than 62% agreed to involvement in the property-marking program (1988, 17).

## **Outcome Evaluation**

### *Effects on the overall incidence of burglary*

The Kirkholt Intervention went into full swing in March 1987 (1988, 21-22). By 1989, the incidence of residential burglaries reported to the police had dropped by 72%. Table 5.1 indicates the change in reported burglary by year as compared to pre-intervention, 1986 levels. While burglary declined in the rest of the sub-division as well (which acted as a control area), the drop was far less extreme.

Within the first five months of the project, burglary on Kirkholt fell by 60% (1990, 4), but then rose slightly again. Nevertheless, Table 5.1 indicates that by year's end, burglaries for 1987 were 38% below 1986 levels on Kirkholt, while burglaries in the rest of the sub-division had actually risen very slightly (1990, 30).

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Home Office funding for three projects, which went into effect between 1989 and 1990: (a) The Group Work Program provided focus groups for convicted offenders, and landscaping jobs on Kirkholt for convicted burglars given sentences of community service (1990, 22-23); (b) The Kirkholt Credit Union Cooperative encouraged residents to save small amounts of money on a regular basis each month, which entitled Union members to low-interest rate loans, and (sometimes) free life insurance (1990, 23); (c) The "Unity for our Community" Project was a community-based crime prevention project focused on Kirkholt's school children. Anti-crime and crime prevention messages were imparted through teaching, theatrical productions, and school fairs. Local education welfare department has assigned an officer to work with problem students and school drop-outs (1990, 23-26). Forrester et al. (1988; 1990) provide very little concrete information on the actual implementation of Phase II interventions. Furthermore, given their late onset (1989-1990) it seems unlikely that these interventions could have had any significant impact on the available outcome data (1987-1989/90).

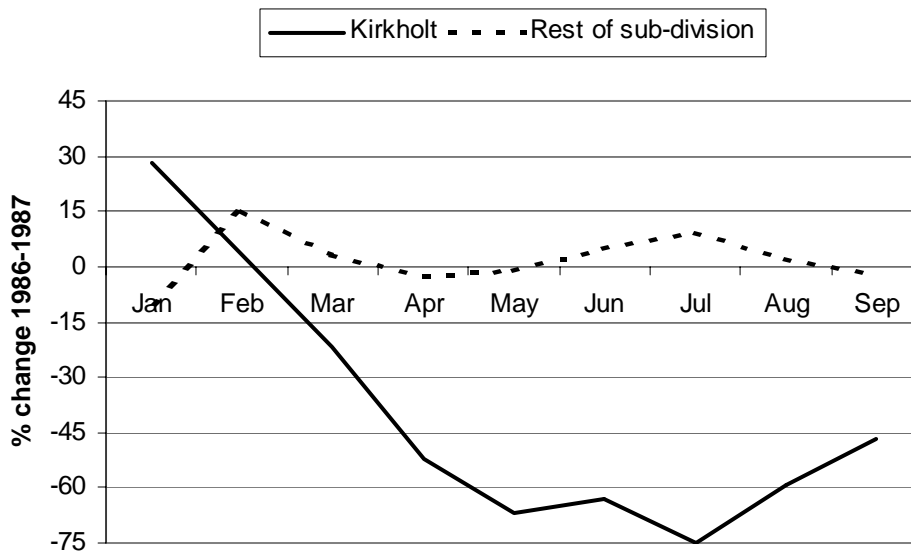
Table 5.1: Change in Reported Burglaries on Kirkholt and the Rest of the Sub-Division

Calendar Year	Kirkholt	% Change from 1986	Remainder of Sub-division	% Change from 1986
1986	512	--	2,843	--
1987	317	-38%	2,880	1%
1988	170	-67%	2,311	-19%
1989	145	-72%	2,160	-24%

Source: Reproduced from Forrester et al. (1990, 30), as based on police reports.

There was no evidence of spatial displacement during the first few months of the intervention. Figure 5.1 compares month-specific changes in burglary rates (i.e., change in Jan 87 compared to Jan 86; Change in Feb 87 compared to Feb 86; etc.). It shows no mirrored change that would suggest direct displacement of burglary from Kirkholt to the surrounding sub-division.<sup>26</sup> Nor did the researchers find any evidence of “functional” displacement (to other forms of crime) on Kirkholt or the rest of the sub-division (data not shown; 1988, 21).

Figure 5.1: Percent Change in Monthly Burglary Rate, based on police reports 1986-1987



Source: Recreated from Forrester et al. (1988, 20).

*Effects on repeat victimization*

Forrester et al. (1988, 21-24) provide figures (not reproduced here) indicative of the fact that RV declined substantially on Kirkholt, and that the overall drop in burglary was largely attributable to the drop in RV. I say “largely,” because as Forrester et al. (1988, 18-19) point out, some proportion of the overall decline in burglary was surely attributable to the fact that cocoon watch, property marking and security survey initiatives were also

<sup>26</sup> Forrester et al. (1990, 29) suggest Barr and Pease (1990) as a good source of information on how to test for displacement in crime prevention projects.

provided to victims' neighbors – which should have reduced their risk of initial victimization as well.

#### *Effects on fear of crime/burglary*

Post-intervention surveys asked numerous questions regarding changes in respondents' fear of burglary and other crime since the implementation of the program. All measures reported by Forrester et al. (1990, 9-11) suggest significant reductions in fear. A general measure asked how things on Kirkholt had changed since the program's start. Nearly 90% said things were "improved" or "much improved," while only 1% said things had gotten worse.

#### **Discussion**

Given the 72% reduction in burglary over three years, it is not surprising that nearly every article concerning burglary prevention hails Kirkholt as a primary example what can be accomplished through a focus on revictimization. What is surprising, however, is that few if any reviewers make very much of the fact that pre-payment meters are (I believe) extremely uncommon in the modern, industrialized world, and that one of the major interventions of the Kirkholt project is thus inapplicable to replication elsewhere. This said, the declines in burglary on Kirkholt were greater than one would expect from the removal of pre-payment meters alone.

## **Biting Back: The Burglary Reduction Project at Huddersfield, West Yorkshire, England**

Source: Anderson and Pease, 1997 (AP, 1997); Chenery et al., 1997 (C, 1997)

Implementation Period: October 1994 to March 1996

The “Biting Back” (Huddersfield) Project aimed to prevent repeat residential burglary and motor vehicle crime, and is routinely hailed as a success. This review focuses on its results in regard to burglary. Beginning well after the publication of successes at Kirkholt, and the growth of RV theory more generally, the project began with the operating assumption that an anti-RV focus can reduce crime. The purpose of Biting Back was to examine prospects and problems involved with transferring an anti-RV strategy from a carefully monitored, research endeavor (as it was in Kirkholt) to a mechanized, day-to-day approach to policing in a large police division. Huddersfield was chosen as an ideal location, since it is the largest geographical division in West Yorkshire (C, 1997, 1). Comprising both urban and rural areas, Huddersfield’s population of 220,000 is spread across 31,000 hectares, and policed by 325 officers and 47 support staff (C, 1997, 2).

### **Diagnosing the Problem**

Examination of police reports revealed a high proportion of repeat residential burglaries in Huddersfield, even though problems with police reports masked RV to some degree (presumably due to incorrect or non-standard address entries). Furthermore, the project team recognized that even given proper data entry, the estimated proportion of RV was probability biased down by the fact that victims are less likely to report subsequent than first-time victimizations (C, 1997, 2-3). What was needed then was a means by which to identify prior victims, and intervene on levels commensurate with their actual degree of previous victimization. It was decided that police officers would identify victims through regular burglary reports, but then ask them informally at the crime scene how many times they had been burgled in the past twelve months (AP, 1997, 202; C, 1997, 21). Since victimization history should predict future victimization, it was decided that interventions should be tailored on this basis. Bronze, silver, and gold interventions were thus designed for victims of one, two or three previous crimes, respectively. The technique has come to be known as the “Olympic Model of Crime Prevention” (AP, 1997, 203).

### **Target Selection**

Biting Back covered the entire Huddersfield police division of 88,000 households and 31,000 hectares (AP, 201; C, 1997, 2).

### **Interventions**

Bronze, silver and gold responses are listed below. The focus of the project changed from prevention after an initial burglary to detection and apprehension after two or more burglaries.

#### **Bronze Responses for First Burglary**

- Victim letter with crime prevention advice
- UV property-marking pen and instructions
- Check with known informants and stolen goods outlets
- Loan of temporary equipment (alarms, timer switches, dummy alarms)

- Cocoon watch: As in Kirkholt, neighbors to victims were approached. Participation was harder to achieve in high-crime, public housing areas, since residents in these areas often suspected their own neighbors as being behind the burglaries (C, 1997, 7-8).
- Target Hardening: Rapid repairs and free security upgrades were provided for residents of public housing. Owner occupiers received discount vouchers on security equipment. Chenery et al (1997, 7) say that redemption rates on these vouchers indicate they are being used.

#### Silver Responses for Second Burglary

- Visit from a Crime Prevention Officer
- Search warrant
- Loan and installation of Turnstall Telecom monitored, silent alarm. 16 units were installed during the project period, and no further burglaries were reported at these locations (C, 1997, 6). After a period of some weeks, alarms were removed from the victim's home and shifted to a new location.
- Police Watch visits twice weekly for six weeks: When a silver response is indicated, a coordinator provided police with a card detailing the date, time, and modus operandi of a previous burglaries at a given address. Police would then patrol twice per week at the appropriate days and times. It was hoped that police watch would (a) reduce response times by having officers in the area at high-risk periods, (b) increase police knowledge of previously burgled areas, and (c) reassure victims, who would see them patrolling the area (C, 1997, 8).
- Security equipment loan

#### Gold Responses for a Third Burglary<sup>27</sup>

- Visit from a Crime Prevention Officer
- Priority Automatic Fingerprint Search
- Six-week loan and installation of high-tech equipment (e.g., covert cameras and silent alarms)
- Police Watch visits daily for six weeks: See Silver response.

### Process Evaluation

The purpose of the Biting Back project was to see how well anti-RV interventions could be integrated into the regular strategies of day-to-day policing. While this represents a necessary first step toward integrating RV-strategies into crime prevention routines, it hampers evaluation since researchers were not able to monitor whether and, if so, to what extent, each element of the three-tiered response strategy was correctly implemented by

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<sup>27</sup> Also included the installation of a tracking device (such as those used to find stolen cars) and an index solution, dye sprayer. A tracking device was placed in the central boiler unit of a housing complex that had had its boiler units repeatedly stolen. The replacement boiler was stolen again, but the tracker led police to the burglar who was arrested and connected to numerous other burglaries as well (C, 1997, 6). Index Solutions are dyes sprayed from a device designed to work in conjunction with a silent alarm. When activated, the device emits a spray that marks burglars with a unique, chemically identifiable dye that is only visible under UV light. This system provides strong evidence against apprehended offenders, but is generally only useful if police already have suspects in mind. Biting Back used Index Solutions in only two cases, but no arrests resulted (C, 1997, 7). I include trackers and index solutions as only a footnote because of their very low actual use (C, 1997, 6-7).

attending police officers. This said, there were 383 silver responses and 113 gold responses delivered in Huddersfield between January 1, 1995 and March 31, 1996, as shown in Table 5.2. No information was available one the number of bronze responses delivered.

Table 5.2: Number of Silver and Gold Responses Delivered, by Month 1/95-3/96

	Total	1/95	2/95	3/95	4/95	5/95	6/95	7/95	8/95	9/95	10/95	11/95	12/95	1/96	2/96	3/96
Silver	383	42	42	36	29	32	14	18	25	29	20	25	26	24	13	8
Gold	113	17	7	11	6	7	13	4	4	7	10	11	2	4	3	7

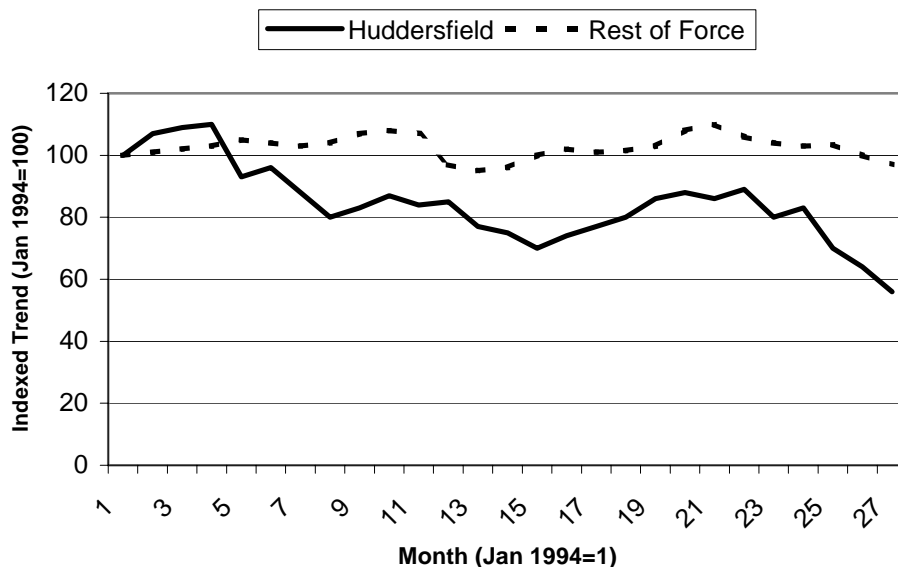
Source: Adapted from Chenery et al., 1997, 21.

## Outcome Evaluation

### *Effects on the overall incidence of burglary*

Both sources for this review present the data in Figure 5.2 as evidence of the decline in burglary on Huddersfield as compared to the rest of the force, which acts as a control area (AP, 1997, 203; C, 1997, 24).

Figure 5.2: Change in Reported Burglary Relevant to January 1994 (Index=100) on Huddersfield and Rest of Force



Source: Adapted by eye from Chenery et al. (1997, 24). Monthly figures are weighted on the basis of 1993 data to eliminate seasonal variation.

It is a curious figure, since it indexed change against January 1994 levels, even though the project officially began in October 1994, and Anderson and Pease (1997, 202) say it was only implemented in “a meaningful way” in December 1994. Furthermore, Chenery et al. (1997, 24) describe the data as showing a 30% decline in Burglary at Huddersfield, but state in a footnote that “The reduction is greater if measured relative to January 1994, but the appropriate baseline should be October-November 1994” (C, 1997, 24). Despite this, it suggests a considerably greater decline in overall levels of burglary relevant to January

1994 than that indicated for the surrounding force. There was no evidence of spatial displacement from Huddersfield to the surrounding divisions (AP, 204-206; C, 1997, 36-40), and logic would suggest against this anyway given the territorial size of the division and the tendency for burglars to “work” locally.

#### *Effects on repeat victimization*

The declining number of gold responses apparent in Table 5.2 (presented above in the process evaluation) suggests a decline in repeat victimization across time in Huddersfield. During the same period, 71% of those visited by officers for a first or subsequent burglary in Huddersfield described it as their first offense, while 63% of victims attended to by officers in the surrounding force described it as such (C, 1997, 21). This suggests that the Biting Back project reduced repeat victimization as compared to the control area.

#### *Effects on fear of crime/burglary*

No evidence was presented on fear of crime or burglary. Periodic police surveys unrelated to the current project, however, suggested that citizen satisfaction with police performance was higher for Huddersfield residents than in the surrounding divisions (AP, 1997, 17).

#### **Discussion**

Despite the curious way in which the data were presented, the Biting Back project seems to have reduced both the overall incidence of burglary and the proportion of RV.



## **The Residential Burglary Prevention Project in Cambridge, England**

Source: Bennett and Durie, 1999 (BD, 1999)

Implementation Period: January 1996 to August 1997

The Cambridge Project aimed to reduce residential burglary in two “hot wards” by reducing repeat victimization (RV) within those wards. The project proceeded in three stages: (1) Identify hot spots and hot wards within the city of Cambridge; (2) select a study area, and collect data on the nature of burglary, repeat burglary, and burglars within the selected study site; (3) design and implement interventions on the bases of the data collected. The project failed to reduce burglary and RV as compared to control areas. Failure seems to be attributable to low victim involvement in the program. Despite project failure, the evaluation itself is a model for a detailed, well-described evaluation process. The Cambridge Program was set up by the Domestic Burglary Task Force (DBTF), which was comprised of university researchers and local authorities (police, victim services, etc.).

### **Target Selection**

The DBTF used official police data to rank Cambridge’s 14 wards in terms of frequency of burglary.<sup>28</sup> Just two adjacent wards (Castle and Arbury) accounted for 23% of all burglary reports in Cambridge, and an even higher proportion of repeat burglary.<sup>29</sup> Each of these wards contained a hot spot that was both particularly active and very stable over time. The DBTF initially chose these two hot spots as target areas, but soon after decided to broaden their focus to the entire wards in which they were located. The target wards, Castle and Arbury, had a collective total of almost 13,000 residents living in 5,700 households (BD, 1999, 6-7). Approximately half of all households were rented from public authorities (BD, 1999, 4).

### **Diagnosing the Problem**

Two additional forms of data were used to diagnose problems.

1. Official police reports on apprehended burglars were used to calculate the distance traveled by these offenders to their burglaries. Data on 100 offenses by 32 offenders suggested an average “commute” of 1.5 km (BD, 1999, 13).
2. Interviews conducted with 28 convicted local burglars indicated that most offenders traveled less than 0.8 km to their targets, and that targets were selected on the bases of perceived risks, rewards, and effort required (BD, 1999, 16).

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<sup>28</sup> For unexplained reasons, this project analysed numbers, as opposed to rates, of burglaries for the purpose of identifying high-risk areas. Hot spots should always be identified as rates (i.e., relevant to population density).

<sup>29</sup> The DBTF identify two methods for analyzing RV rates within a given ward: (1) calculate the percent of dwellings burglarized twice or more in any given calendar year. This method has the advantage of being straightforward, but the disadvantage of downward biasing the estimated rate of RV. This is because victims burgled in both the December preceding the focal calendar year and January of the focal calendar year are not classified as repeat victims. The second method is: (2) identify all residences burgled during a randomly selected month (e.g., February 1995), and then check records to see how many times they were burgled in the previous 11 months. This second method has the advantage of eliminating the artificially imposed start/stop dates of January and December that will otherwise lead to a low-biased estimate of RV (BD, 1999, 10).

The DBTF concluded from these data that a significant proportion of local burglars might be opportunistic juveniles.<sup>30</sup> A panel of experts was brought together to consider potential solutions in relation to the three elements of Cohen and Felson's (1979) routine activities theory (described in Section 1): motivated offenders, suitable target, and the absence of capable guardians<sup>31</sup>

### **Interventions**

Beginning around January 1996, victims of burglary within the two target areas were identified every few days from police reports and sent a letter asking if they were interested in receiving a visit from a crime prevention officer to discuss involvement in one or more of the following programs. A stamped return envelope was included, as was some general information on crime prevention and the risk of repeat victimization. The interventions set forth were (BD, 1999, 20-21):

- Cocoon Watch: Where, as in Kirkholt, victims would be asked if a crime prevention officer might approach neighbors to seek cooperation;
- Alarm Loan: An 8-week loan of a motion-sensored, audible burglar alarm that plugs into a wall socket;
- Security Survey: A home security survey to identify vulnerable entry points;
- KeepSafe: A free security upgrade (door and window locks, door chains, spy holes) for economically disadvantaged victims;
- GateSafe: Free installation (but not purchase price) of back and side alley fences and gates.

In addition to these victim-focused interventions, a number of projects aimed at potential guardians were implemented (BD, 1999, 22-23):

- Post Watch: Which enlisted local mail delivery personnel to keep an eye out for suspicious persons and/or situations, and provided a direct line to report such activities;
- Enhanced Neighborhood Watch: a one-day training seminar for neighborhood watch coordinators;
- Community Seminar: A one-day community seminar where local residents – whether victims or not - could come together for advice on crime prevention;
- Community Centre Information Link: Set up community centers where free crime prevention advice is distributed, including property marking kits;
- Targeted Police Patrols: Coordinated with the local police, officers would use available time to patrol the target areas (in general, as opposed to specifically victimized residences).

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<sup>30</sup> This conclusion, however, seems questionable given its basis in apprehended offenders - who may well be younger and less professional than the broader spectrum of burglars in general (see Section 2).

<sup>31</sup> While a model evaluation in all other ways, the connection between the nature of the problem identified through analysis and the interventions selected is not entirely clear. The interventions selected seem rather generic as opposed to driven by facts arising out of the local analysis.

In regard to reducing motivated offenders, the program implemented a (BD, 1999, 23):

- Youth Development Project: Which provided counseling to youth at risk.

### **Process Evaluation**

As discussed momentarily in the outcome evaluation, this program had no effect on burglary or RV in Cambridge. Its lack of effect is very likely a function of the low level of victim involvement. During the 14-month period July 96-August 97, only 35 (21%) of the 171 burglary victims identified and sent letters to said they were interested in receiving a visit from a crime prevention officer. And only 28 victims were actually visited. Of these,

- 2 out of 28 agreed to have neighbors approached in regard to cocoon watch;
- 15 out of 28 asked for and received loan alarms;
- 26 out of 28 requested a security survey;
- 12 out of 28 qualified for and received free installation of security hardware. Half of these qualified for and received both free installation and hardware;
- 0 out of 28 applied for free installation of gates, apparently since few of the 28 lived in detached housing;
- Post watch operated April 1997-August 1997 during which 19 reports of suspicious activity were filed with police.
- The one-day Enhanced Neighborhood Watch seminar was attended by 30 local NW coordinators, most of whom reported a satisfying experience in a post-seminar questionnaire.
- The one-day Community Seminar was attended by 43 local residents, most of whom reported a satisfying experience in a post-seminar questionnaire.
- Five Community Centers were set up with staff to answer questions and distribute crime prevention literature. During their first three months in operation, 300 literature packets were taken, 30% of which contained property-marking kits.
- The Targeted Police Patrols began July 1, 1996 and were closely evaluated in terms of man-hours spent on patrol in the two target wards. While the number of patrol hours varied considerably by month, an analysis conducted later showed no month-to-month correlation between patrol hours and burglary rates.
- The Youth Development Project provided counseling to 13 at-risk local youth.

### **Outcome Evaluation**

#### *Effects on overall incidence of burglary*

Given the low number of victims treated, it should not be surprising that evaluation of the project suggested no effect when compared to various control areas – and many were examined. Table 5.3 – reproduced from Bennett and Durie (1999, 27) – shows comparative changes in burglary rates between the two targeted “program” wards, and (1) the City of Cambridge, (2) various control wards, (3) various enumeration districts, which are smaller than wards, and (4) other hot spots identified in the city, but not targeted.

Table 5.3: Change in Burglary Pre-and Post Implementation, by Area

	Pre-program Period 9/95-8/96	Program Period 9/96-8/97	Percent Change
<b>CITY LEVEL</b>			
Whole city	1,974	1,597	-19%
Program area part of the city *	298	286	-4%
<b>WARD LEVEL</b>			
Program area: Castle	200	194	-3%
Program area: Arbury	98	92	-6%
Comparison: Kings Hedges	140	96	-31%
Comparison: Market	196	146	-26%
Comparison: Newnham	100	157	57%
Comparison: West Chesterton	209	145	-31%
<b>ENUMERATION DISTRICT LEVEL</b>			
Program area ED1 (Arbury)	63	71	13%
Program area ED2 (Arbury)	31	17	-45%
Program area ED3 (Castle)	72	76	6%
Program area ED4 (Castle)	130	117	-10%
Comparison ED5 (Kings Hedges)	50	37	-26%
Comparison ED6 (Kings Hedges)	91	59	-35%
Comparison ED7 (Market)	47	28	-40%
Comparison ED8 (Market)	73	52	-29%
Comparison ED9 (Market)	75	55	-27%
Comparison ED10 (Newnham)	23	60	161%
Comparison ED11 (Newnham)	48	64	33%
Comparison ED12 (Newnham)	31	35	13%
Comparison ED13 (West Chesterton)	99	69	-30%
Comparison ED14 (West Chesterton)	114	78	-32%
<b>'HOT SPOT' LEVEL</b>			
Original program 'hot spot'	114	94	-18%
Program 5-year 'hot spot' 1	15	7	-53%
Program 5-year 'hot spot' 2	111	70	-37%
Comparison 5-year 'hot spot' 3	83	58	-30%
Comparison 5-year 'hot spot' 4	37	17	-54%
Comparison 5-year 'hot spot' 5	22	10	-55%

Source: Reproduced from Bennett and Durie (1999, 27).<sup>32</sup>

\* Castle and Arbury wards.

As to the downward trend exhibited in the control areas, Bennett and Durie (1999, 43) tell us that (a) England experienced a 6% decline in residential burglary during the period 1995-1996, and (b) that the City of Cambridge Police department moved to a focus on targeted and proactive policing during the study period.

<sup>32</sup> Bennett and Durie (1999, 27) indicate the percent change in Enumeration District 7 (Comparison ED7 Market) as negative 19%. I have replaced this figure with negative 40%, since the move from 47 to 28 burglaries represents a decline of 40%, not 19%.

*Effects on repeat victimization*

A similar table examining target and control area changes in repeat victimization yielded similarly disappointing results.

*Effects on fear of crime/burglary*

No data were collected on fear of crime, fear of burglary, or police satisfaction.

**Discussion**

Bennett and Durie (1999, 41) conclude, “the programme was strong, but the level of [victim] take-up was *variable* (emphasis on this understatement of the year is mine). They go on to say, “that it was the right medicine, but the wrong dosage” (Bennett and Durie, 1999, 41). Given 171 burglaries in 5,700 target ward households during a one-year period, the treatment of 28 victims could hardly be expected to have a meaningful impact on burglary rates.

## **The Safer Towns and Cities Housebreaking Reduction Project, New South Wales, Australia**

Source: Taplin et al. (2001)<sup>33</sup>

Implementation Period: January 1 to December 31, 1999

The ST&C Housebreaking Reduction Project sought to reduce the overall incidence of residential and commercial burglary by increasing detection rates and reducing the rate of repeat victimization (RV). As in Huddersfield, the current project began with the assumption that a reduction in RV should reduce overall incidence. The purpose, then, was to examine the extent to which a project-focused endeavor could be translated to a standard policing procedures for day-to-day use. Police initiated the interventions described during routine, crime scene investigation. The current review focuses on efforts to reduce residential burglary. Attempts are not included in these data. The evaluation upon which this review is based is a model in terms of descriptive detail. Unfortunately, however, the project itself seemed to have little effect on burglary rate and RV in the target areas. The project implementation period is calendar year 1999. Evaluation is based on comparisons to relevant circumstances in 1998.

### **Target Selection**

Two target areas were selected. The Ashfield Local Area Command (LAC) is located eight miles southwest of Sydney. Ashfield's 19 square km are heavily suburban, and home to nearly 75,000 residents. Ashfield was chosen given its high burglary rate in comparison to the surrounding suburbs, as well as its high rate of RV burglary.

The Mid North Coast LAC is located 450 km from Sydney. Its 8,500 square kilometer area is home to just over 100,000 residents. The area has a relatively high proportion of youth, and a high rate of unemployment (18.6% in 1996) and crime, including burglary. Most dwellings are single-family houses.

### **Diagnosing the Problem**

Not much, but the authors do describe various methods for estimating RV.

### **Interventions**

The following interventions were applied to all victims in the target areas beginning January 1, 1999.<sup>34</sup>

- **Security Audit:** During routine investigation of the crime scene, police officers conducted security audits to identify vulnerabilities in the dwelling. A paper copy of recommended upgrades was given to the victim, while the original was taken back to police headquarters and given to the project team.
- **Canvas Cards to Neighbors:** While still at the crime scene, police distributed cards in neighbors mailboxes that informed them of the occurrence of a crime next door and provide general advice on home security. Distribution of these cards was

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<sup>33</sup> This Internet-accessed document had no page numbering. Therefore, my review of this study provides no citations for page number.

<sup>34</sup> Intervention actually began three weeks earlier in Ashfield, on December 10, 1998.

designed to (a) increase general awareness of household security, and (b) solicit tips from neighbors in regard to the immediate burglary.

- **Increase Fingerprint Team Attendance:** Special fingerprint units were trained in the target areas, and police officers were told to contact these units in connection with burglaries. This was done since 78% of local offenders are recidivists, and that about 30% of crime scenes produce usable fingerprints – 80% of which are found on broken or intact glass near points of entry.
- **Victim Support Package:** Within 7 days of the burglary report, victims received a Support Package from the project team. The package included (1) a cover letter, (2) a crime prevention pamphlet, and (3) property identification stickers. The primary purpose of the package was to encourage victims to comply with the recommendations made in the security audit.
- **Target Hardening:** Victims burgled two or more times in Ashfield target area were identified through police records and contacted by phone in regard to how the burglars got in. If these victims suggested serious vulnerabilities, a crime prevention officer was sent out to assess the situation, and could provide free locks and installation. This assessment also allowed the project to evaluate the Security Audit advice originally given by police at the crime scene.

In the Mid North Coast target area, target-hardening upgrades were applied to hot spot areas instead of repeat victims. Therefore, all homes in a certain hot spots were provided assistance with upgrading security.

Two additional services were provided to all residents in the target areas, regardless of prior victimization:

- **Repeat Offender Units:** In May/June 1998, special units were set up in both target areas to follow repeat offenders, and identify offenders recently released from prison or jail, and other known offenders recently moving into the area. They also monitored hot spot activities, and kept an eye on local pawnshops and other known outlets for stolen goods.
- **Crime Prevention Mail Package:** Crime prevention packages were sent to all residents in the target areas either by mail or along with newspaper delivery. These packages included (a) an introductory letter, (b) general advice on home security, and (c) crime prevention pamphlets.

### **Process Evaluation**

- **Security Audit:** 792 (70.5%) of Ashfield's eligible 1,123 victims of residential received security audits in 1999. In Mid North Coast, 729 (73.9%) of the 987 eligible victims received security audits.<sup>35</sup> The absence of security audits among

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<sup>35</sup> Ineligible victims include those living in motor homes, youth hostels, old age homes, camping wagons, etc.

some eligible victims stems from a failure of the police to follow project procedures.

- **Canvas Cards to Neighbors:** No precise numbers were collected on this. Instead, a sample of police officers was asked how they felt about the use of canvas cards. Reaction was mixed. Some found it a useful tool, while others felt it was inappropriate to alert neighbors to the occurrence of a burglary by means of a card.
- **Increase Fingerprint Team Attendance:** Table 5.4 shows the change in the percentage of fingerprinting scenes attended to as a percent of all burglary crime scenes (residential and commercial). While the increase in fingerprint scene attendance in Ashfield is considerable (65.5%), that increase was even higher in one of the control areas. The increase in Mid North Coast, on the other hand, was unmatched in its control areas.

Table 5.4: Fingerprint Team Attendance as a Percentage of all Burglary crime Scenes by Area, 1998-1999

	<b>Ashfield</b>	Campsie Control 1	Marrickville Control 2	Burwood Control 3	<b>Mid North Coast</b>	Manning Control 1	Coffs/Clar Control 2
1998	<b>22.6</b>	15.5	20.0	32.8	<b>27.2</b>	33.0	28.2
1999	<b>37.4</b>	16.3	46.3	30.8	<b>32.5</b>	25.1	30.4
Change	<b>65.5%</b>	5.2%	131.5%	-6.1%	<b>19.5%</b>	-23.9%	7.8%

Source: Based on Taplin et al. (2001, Ch. 4).

- **Victim Support Package:** Receipt of the Victim Support Package can be confirmed by follow-up interviews conducted with victims (described in the outcome evaluation). Ninety percent of the victims in Ashfield and 92% of those in North Mid Coast reported having received the package.
- **Target Hardening:** There were 58 victims burgled two or more times in Ashfield in 1998. These victims were contacted by a crime prevention officer who made security suggestions and installed free locks and other hardware on the most vulnerable properties. Improvements were made at 27 properties, including: 10 burglar alarms, 9 door/dead locks, 9 window locks, 5 security doors, 5 bars on windows, and 4 security/lockable gates. Mid North Coast took the hot spot approach to target hardening. Deadlocks and window locks were installed at 31 properties.
- **Repeat Offender Units:** Efforts to increase the targeting of burglars increased approximately two fold in Ashfield, but remained relatively stable in Mid North Coast despite the objectives of the program.
- **Crime Prevention Mail Package:** Effects of the Crime Prevention Package were not evaluated. Doing so would have required before/after surveys, and was not deemed worth the cost.



## Outcome Evaluation

Outcomes are compared to changes in burglary and RV in five control areas (three for Ashfield and two for North Mid Coast), selected on the basis of their physical proximity and demographic similarity to the target areas.

Evaluation was based on two forms of data: (1) official police data on reported crimes, and (2) follow-up surveys with all victims in the target areas. These ten-minute follow-up surveys, conducted by phone, were designed to provide the following information: (a) feedback regarding quality of police response, (b) whether victims had followed through on recommendations made in the security audit, (c) whether victims had been burgled again since their last reported burglary, and (d) how many times victims had been burgled during the year *prior* to their last reported burglary. Fifty percent of residents in two adjacent control areas who were also burgled in 1999 were interviewed as well using the same instrument. The purpose of this was to get comparative information on (a) perceptions of police response, and (b) victim-reported rates of RV.

### *Effects on overall incidence of burglary*

Table 5.5 shows the changes in the raw numbers of residential burglaries reported in the target and control areas in 1999 (the project period) as compared to 1998. While numbers of burglaries declined in both the Ashfield and Mid North Coast target areas, the percent decline was equivalent or higher in three of the five control areas. Furthermore, the overall, statewide decline in New South Wales was greater than that in the Mid North Coast target area. Based on these data, the authors of the evaluation conclude that the declines witnessed in the target area may well have been part of a wider trend, and not attributable to the intervention. These results underscore the importance of using control areas to measure intervention effectiveness. Without the use of control areas, the interventions in both the Ashfield and Mid North Coast target areas would almost certainly be deemed a success.

Table 5.5: Change in Raw Number of Residential Burglaries Reported to Police in the Target and Control Areas, 1998-1999

	Ashfield	Campsie Control 1	Marrickville Control 2	Burwood Control 3	Mid North Coast	Manning Control 1	Coffs/Clar Control 2 <sup>36</sup>	NSW Statewide
1998	1,684	1,605	1,703	967	1,242	756	1,451	na
1999	1,199	1,157	1,158	1,085	1,132	787	1,214	na
Change	-28.8%	-27.9%	-32.0%	12.2%	-8.9%	4.1%	-16.3%	-10.0%

Source: Based on Taplin et al. (2001, Ch. 3, part 1).

Despite the lack of effect, various analyses presented by Taplin et al. (2001, Ch 3, Part 1) suggest no evidence of functional displacement to other types of crimes, and little evidence of spatial displacement from the target to control areas.

<sup>36</sup> Taplin et al. (2001) do not give 1998/1999 numbers the Coffs/Clarence control area, but do say that there were 237 fewer residential burglaries in Coffs/Clarence in 1999 than in 1998. The numbers provided above are estimated on the basis of (a) the decline of n=237, (b) the number of total residential and commercial burglaries in Coffs/Clarence in 1999 (n=2,004), and (c) the proportion of Coffs/Clarence burglaries that were residential in 1999 (60.6%) (2,004\*0.606=1,214 residential burglaries in 1999, etc.).

### *Effects on repeat victimization*

Changes between 1998-1999 in the proportion of RV in the target areas were estimated on the bases of both official police reports, and victim-reports of RV obtained through the follow-up surveys. Neither target area showed any change in the proportion of RV between 1998 and 1999. The project thus failed to have any effect on RV.

### *Effects on clearance rates*

Ninety-day clearance rates for burglary are very low across the target and control areas, but increased in all areas between 1998 and 1999. Table 5.6 indicates that the percent increase in the 90-day clearance rate by area. When viewed in comparison to changes in the control areas, the increases observed in the two target areas appear insignificant. One again, these results indicate the importance of using controls areas.

Table 5.6: Changes in the 90-Day Clearance rate for Burglary by Area, 1998-1999

	<b>Ashfield</b>	Campsie Control 1	Marrickville Control 2	Burwood Control 3	<b>Mid North Coast</b>	Manning Control 1	Coffs/Clar Control 2	NSW Statewide
1998	<b>1.6</b>	1.6	2.7	2.0	<b>9.0</b>	8.0	11.0	5.1
1999	<b>2.5</b>	2.9	4.1	2.3	<b>11.8</b>	10.0	11.8	6.0
Change	<b>56.3%</b>	81.3%	51.9%	15.0%	<b>31.1%</b>	25.0%	7.3%	17.6%

Source: Based on Taplin et al. (2001, Ch. 3, part 1).

### *Effects on fear of crime/burglary*

No data were collected on fear of crime or burglary. However, about 90% of respondents in both Ashfield and Mid North Coast rated the police response to their burglaries as “good” or “very good,” as compared to 46% and 77% in the collective control areas.

## **Discussion**

While this project failed to reduce either overall burglary or RV, it does provide a good example of how RV theory might be applied to day-to-day police work. In their conclusion, Taplin et al (2001, Ch. 5) discuss various explanations for the project’s failure. One explanation is that the publicity surrounding the project – plus the Crime Prevention Package mailed out – may have increased the public’s probability of reporting crime. Another possibility is that the assessment period should have come subsequent to the intervention instead of overlapping it, since it might take some time for the intervention to take full effect. There were also various procedural failures on the part of the police, though Taplin et al. (2001, Ch.5) note that this must be expected, especially since police took on these duties in addition to their regular work. Given the project’s relatively low cost, popularity among victims, and potential for increased, long-term effect, Taplin et al (2001, Ch.5) recommend continuation of security audits, victim support, and fingerprint attendance at residential burglaries.

## **The South Australian Residential Break and Enter Project**

Source: Crime Prevention Unit South Australian Attorney-General's Department, 2002 (CPU, 2002); Henderson (2002)

Implementation Period: November 16, 1998 to January 4, 2000

The South Australian Residential Break and Enter Project was a relatively low-budget project designed to reduce the incidence of residential burglary by preventing repeat victimization. The project failed to do so. The target areas were two police sub-divisions, which collectively comprised 20% of the population of Greater Metropolitan Adelaide, Australia. The City of Tea Tree Gully (population 92,000) and the Norwood sub-division (comprised of three cities, total population 115,000) had a total population of 207,000 (CPU, 2002, 7). Intervention consisted of a visit from to victims a crime prevention volunteer. Volunteers had thorough background checks, and underwent extensive training. Two volunteers would attend to each victim visit. During their first visits, project staff accompanied volunteers. This reduced anxiety among volunteers, and allowed project staff to observe, assess and, if necessary, correct volunteer performance. Each volunteer was equipped with a photo ID badge, letter of introduction signed by the Director of the Crime prevention unit; street map, flashlight, clipboard, and mobile phone. (CPU, 2002, 6-7) The project utilized 46 volunteers for an average of 96.5 hours each – or 4,431 total volunteer hours (CPU, 2002, 12).

### **Diagnosing the Problem**

Rates of burglary and repeat burglary were calculated on the basis of crime reported to the police.

### **Target Selection**

The intervention project targeted all dwellings reporting a burglary to the police in the City of Tea Tree and Norwood police divisions during the intervention period. Victims were identified and recruited to the program via one of two means during the course of the 14-month intervention period (November 16, 1998 to January 4, 2000). During the first half of this period (Nov 16, 98-June 30, 99), in connection with their routine attendance to burglaries, police would (a) introduce and describe the project, (b) provide a pamphlet about the project, (c) encourage participation; and (d) obtain a victim consent form for a visit from a crime prevention volunteer. One copy of this consent form was stapled to the incident report, while a duplicate was sent to the project team. But police adherence to these procedures varied tremendously, and was subsequently abandoned for a second strategy. Therefore, during the second half of the intervention period (July 1, 1999-Jan 4, 2000) police were relieved of these duties. Instead, project team members would examine police reports for burglaries each work day, identify victims, and contact them on their own. If victims could not be contacted by phone, a letter was sent asking for their consent to visit. (CPU, 2002, 6)

### **Interventions**

Crime prevention volunteers visited victims within approximately one week of their reported burglary. The visit was referred to as an “intervention,” and had five components consisting of:

- Informal victim support

- A security audit specific to the dwelling and victim
- Referral to an engraver for property marking
- Links to neighbors
- Referral to relevant agencies

In addition, victims from Tea Tree Gully were also offered free locks and installation up to a value of \$200 Australian dollars (DKr 836 at 2003 exchange rate) (CPU, 2002, 7).

Volunteers completed various forms during their visits including:

- A Security Audit Form detailing the advice given to the victim;
- A Survey (1) concerning victim characteristics, details of the offense, and information on past offenses;
- A Survey (2) concerning characteristics of the dwelling and the area;
- A Lock Sheet providing detailed instructions for locksmiths on what locks to install where; and
- A Check Sheet, to assure that all necessary procedures had been completed (CPU, 2002, 7). (7)

### Process Evaluation

Table 5.7 shows that only 31.7% of burglary victims provided consent for a visit from a crime prevention volunteer, and that only 26.6% of victims were actually visited. Rates of referral were lowest in the first half of the study due to the failure of police to push the project. Not surprisingly, education, income and suburban residence were all positively correlated with victim compliance (CPU, 2002, 8-10).

Table 5.7: Number of Referrals and Interventions November 1998-December 2000

Number of Reported Burglaries	Number of Referrals	% Reported Burglaries Referred	Number of Interventions	% Reported Burglaries with Interventions
3,137	994	31.70%	833	26.60%

Source: Adapted from CPU (2002, 8).

A follow-up interview was conducted either in person (during the first half of the project) or by phone (during the second half) approximately six to eight weeks after the initial volunteer visit. The interview was designed to find out whether victims had implemented the crime prevention advice given, and whether any subsequent burglaries had occurred (CPU, 2002, 4; 7). Table 5.8 shows compliance reported by victims on the basis of 632 completed follow-up surveys. Reported compliance was low in both target areas, but better for Tea Tree Gully than Norwood.

Table 5.8: Reported Compliance with Crime Prevention Advice (n=632 Victims)

Action	Norwood		Tea Tree Gully		Total	
	Number (N=367)	%	Number (N=265)	%	Number (N=632)	%
<b>Security action</b>						
Install door locks	112	30.5%	121	45.7%	233	36.9%
Install window locks	130	35.4	133	50.2	263	41.6
Install alarm	58	15.8	63	23.8	121	19.1
Upgrade alarm	11	3.0	13	4.9	24	3.8
Mark property	137	37.3	116	43.8	253	40.0
Recalled security advice	345	94.3	251	94.7	596	94.3
Followed some security advice	227	61.7	163	61.5	390	61.7
<b>Neighbor contact</b>						
Speak to neighbors	310	84.5	222	83.8	532	84.2
Increased contact with neighbors	174	47.4	137	51.7	311	49.2
<b>Funding</b>						
Received intervention project funding	4	1.1	135	50.9	139	22.0

Source: CPU (2002, 10).

### Outcome Evaluation

Evaluation of the project was based on comparison with four control areas selected “because they were similar to the intervention area and not likely to be affected by any impact of the intervention” (CPU, 2002, 8).

#### *Effects on overall incidence of burglary*

Table 5.9 indicates that burglary increased (by 31.3%) in the target areas during the 20 months subsequent to the start of the intervention as compared to the 20 months prior to it. Furthermore, it increased in the target areas even more than in the adjacent and non-adjacent control areas. The project thus failed to reduce the overall incidence of burglary.

Table 5.9: Change in the Raw Number of Burglaries Pre- and Post Intervention

	20 Months Pre-intervention	20 Months Post-intervention	% Change
Norwood	2,240	3,036	35.5%
Tea Tree Gully	1,122	1,379	22.9
Combined intervention areas	3,362	4,415	31.3
Non-contiguous control area	7,262	8,875	22.2
Adjacent control areas	1,762	1,658	-5.9
Combined control areas	9,024	10,533	16.7

Source: Reproduced from Henderson (2002).

*Effects on repeat victimization*

Table 5.10 shows that the percentage of residents experiencing a repeat burglary remained relatively stable across pre/post-intervention periods of varying lengths, while that same percent increased, though only slightly, in the control areas. Thus, while the project did not reduce the rate of repeat burglary, it stabilized in relevant to growth in the control areas.

Table 5.10: Percentage of Residents Experiencing a Repeat Burglary

	3 Months	3 Months	6 Months	6 Months
	Pre-	Post-	Pre-	Post-
	intervention	intervention	intervention	intervention
Combined intervention areas	4.25	4.15	6.4	6.52
Combined control areas	4.54	5.67	7.44	8.55

Source: Reproduced from Henderson (2002)

*Effects on fear of crime/burglary*

No information was collected in regard to fear of crime or burglary. Where made, victims' unsolicited comments regarding the quality of the volunteers were complimentary (CPU, 2002, 12).

**Discussion**

Like the Cambridge Project, the South Australian Project had difficulty promoting their projects, much less getting victims to act on their advice. With rates of compliance such as those described here and in Cambridge, it is no wonder that neither burglary nor the percent of repeats declined. It is, of course, possible, that the rate of subsequent victimization among compliant victims did decline – which would be a laudable result – yet neither of these studies considered that outcome. Unlike the Cambridge study, which assessed impacts at the ward, enumeration district, and hot spot levels, the South Australian project examines changes solely within police sub-divisions – a evaluation strategy that may suffer problems as discussed in Section 4. Nonetheless, this methodological shortcoming is not likely to account for lack of effect observed here.

### Do Anti-RV Programs Reduce Burglary?

Only two out of the five anti-RV programs reviewed had any significant effect on either overall burglary or RV when examined relevant to a control group. These two were the projects in Kirkholt and Huddersfield (Biting Back). Why did they succeed where the other three failed?

Table 5.11 summarizes the primary intervention techniques offered in the five anti-RV programs. Kirkholt doesn't stick out in terms of the absolute number of interventions offered. Yet one thing seems clear. Given the enormous contribution of pre-payment meters to the burglary problem to begin with, their removal at Kirkholt was destined to have a significant impact on the overall incidence of burglary. Nonetheless, this doesn't explain the whole picture, since burglary rates fell further than one can attribute to the removal of pre-payment meters alone.

Huddersfield offered a far broader combination of interventions than Kirkholt. This could be important, since burglary researchers are quite fond of saying that a combination of measures seems to reduce burglary better than one or two measures used in isolation (e.g., Forrester et al., 1988, 11, but this is stated throughout the literature). If true, this may be due to the public awareness of burglary that the simultaneous implementation of so many interventions must generate. Or it could simply be due to blind luck. Yet whatever the case, the mere application of multiple tactics cannot explain the successes at Huddersfield, since the project at Cambridge used just as many, if not more intervention techniques.

Table 5.11: Primary Intervention Techniques Offered in the Five Anti-RV Programs

	Target Hardening	Cocoon Watch	Property Marking	Loan Alarms	Targeted Patrol	Fingerprint Teams	Other
Kirkholt	X	X	X				*
Huddersfield	X	X	X	X	X	X	**
Cambridge	X	X	X	X	X		***
NSW	X					X	****
South Australia	X		X				

\*Removal of pre-payment meters.

\*\*Fingerprint checks; informant checks; check of stolen goods outlets.

\*\*\*Postal watch; alley gating (no takers); NW seminar; community seminar; community center; youth development.

\*\*\*\*Canvas cards; repeat offender units.

Part of the answer, of course, is that Kirkholt and Huddersfield were the only two projects that were able to motivate any reasonable degree of victim participation. The question then should not be whether anti-RV programs "work," but whether the citizens they are designed to protect can be motivated to utilize the techniques offered. The next logical step in anti-RV program development may therefore have nothing to do with the design of new situational crime prevention approaches. Rather, it may focus on the psychology of motivation, and how project managers and/or police can encourage higher levels of participation among the citizens they aim to protect.

### **Are These Five Evaluations Representative of All RV Projects?**

The scarcity of eligible evaluations identified for this report was a surprise given the intense promotion of RV theory in the criminological literature, especially in Great Britain. Furthermore, Farrell et al. (2000, 6-7) report that as of May 1999, all 43 police forces in the UK had some system in place to combat repeat home burglary. It is therefore quite likely that there are additional evaluations that would fit the selection criteria used here - but that I have failed to identify. On the other hand, one would expect that the most prominent promoters of RV theory would have long since commented upon the existence of any additional success stories. Yet the literature is dominated by repeated referrals to the same two studies: Kirkholt and Huddersfield. There may very well be a flourishing of anti-RV evaluations in the near future, as it seems the idea is now fast taking hold outside of traditional academic circles. At least one major study is currently in production in the United States, where the National Institute of Justice is running anti-RV demonstration projects in three major US cities. Until these evaluations become public, however, I have to assume that the five projects evaluated above provide a reasonable representation of the universe of projects to which they belong.



## Section 6: Where Next?

Given the facts provided in Section 1, it would be hard to argue that burglary isn't a serious problem in Denmark. First, whether measured by official statistics or victims reports, burglary comprises somewhere between 11 and 13% of all serious penal code violations committed. Second, Denmark ranks no less than second for completed burglaries among the 17 nations examined in the most recent wave of the International Crime Victims Survey (ICVS). Third, despite the burglary reduction successes achieved by a number of EU member states during the past half-decade, Denmark's overall rate of reported burglary shows no overall signs of decline. And fourth, while the symptoms of burglary-related anxiety have not been measured in Denmark, research from the UK suggests that they might be intense. Burglary may not be the most vicious of crimes, and generally results in no physical harm to its victims. Nonetheless, it is a crime that ranks consistently high in terms of public concern internationally – presumably due to the very personal invasion it entails. And while burglary in Denmark has little financial impact upon its individual victims, the costs to society in terms of police hours and increased insurance premiums must be high.

Despite the relatively pessimistic results of the anti-RV evaluations presented in the previous section, situational crime prevention approaches – and RV itself – may yet have something to offer in Denmark. Given the problem, what have we to lose? A better understanding of the patterns and correlates of *Danish* burglary would assist us in whatever steps we ultimately take in an effort to reduce the incidence of residential burglary – be it through criminal reformation, pro-active policing, or situational crime prevention. Furthermore, the application of at least some aspects of anti-RV strategies would be likely to increase citizen satisfaction with police response – an aim that may well justify their implementation on this ground alone. There is also, however, at least one good reason to believe that anti-RV programs could be more effective in Denmark than they seem to have been in the UK and Australia. That reason has to do with the general reputation Danes have for trust in, and cooperation with, authorities, as well as their overall level of political competence and citizen involvement. To the extent that this characterization holds true – and I believe that it may – Danish RV programs might enjoy far higher levels of victim participation than the projects discussed in the previous section. This might be especially true if strategies could be worked out to enhance victim motivation or, alternatively, to bypass the issue altogether by adopting approaches that do not require the active involvement of victims.

Before considering any of this very seriously, however, a better understanding of the nature and correlates of Danish burglary is required. According to estimates derived from the ICVS, only 6% of completed residential burglaries in Denmark are repeat crimes. At the very least, this figure deserves further exploration – a task that should not be too difficult given the good quality of electronic police data available for analysis. A second question would concern the extent to which the overall incidence of both burglary and RV differ across geographic and demographic communities in Denmark. A third basic question would concern the timing between prior and subsequent victimizations in Denmark - with disaggregation by property type and demographic community. All of this is easily within our reach solely on the bases of electronically coded police files. Only after establishing such overall, baserate figures would it make sense to definitively accept

or reject the notion of attacking residential burglary by attacking its recurrence. And even if the notion of an anti-RV approach was ultimately rejected, the collection of these data would still be of enormous significance to pro-active policing, not to mention the growing body of international RV research.

Should an experiment in burglary reduction actually grow out of all of this, my reading of the literature convinces me of the following points:

Programs should be designed to reduce – and therefore measure – not only burglary itself, but also the fear of burglary and the level of citizen satisfaction with police response. Adding fear and satisfaction would, of course, necessitate some degree of survey research both before and after implementation – a cost that may not be justifiable in connection with an exploratory, pilot study. Yet a program’s effects on fear are arguably as important as its effect’s on the incidence of burglary itself; and its effects on citizen satisfaction with police response may well be important to some readers – and seem very likely to be identified regardless of the other outcomes.

Keep in mind, however, that fear of crime is a tricky issue to measure in the context of crime prevention experiments. This is because the very act of engaging residents in a crime prevention project may increase their levels of anxiety by focusing their attention on the existence of a local crime problem. Furthermore, there may be serious selection issues involved in experiments utilizing motivated participants. This, because there is evidence that volunteer participants in community policing activities express higher degrees of fear *to begin with* than similarly situated persons who do not volunteer for participation in such programs (Zhao et al., 2002).

While policy makers may be tempted to target areas characterized by extreme burglary problems for hope of a significant impact, this decision can be a poor choice from a methodological perspective. This is due to the potential for “regression to the mean,” a commonly recognized threat to experimental validity arising from the choice of such bad cases for treatment that they could only have become better. To make an analogy, it is methodologically safer to test the fever-reducing effects of Paracetamol on patients with temperatures of 38.5 than 40 degrees Celsius. This is because those with 40 degree fevers would probably get better regardless of whether they were treated or not – which can lead to ineffective drugs being mistakenly identified as effective. If extreme burglary problems must be treated, a reasonably long trend of pre-test data should be available to show that the problem has been relatively stable for some time as opposed to reflecting a recent spike.

The use of well-chosen control groups/areas is vital. One of the biggest impediments to evaluating the effectiveness of the ten situational crime prevention approaches described in Section 3 arose from the lack of controlled experiments. Laycock (2002) has recently argued that methodological orthodoxy hinders science if its practitioners ignore a long-term body of research whose methodologically imperfect pieces nonetheless constitute a cumulatively consistent body of results. To quote, “While...the critical reviewer may take issue with any one project as not necessarily making the case that repeat victimization is important to crime control, to dismiss the whole programme is certainly stretching credibility too far” (Laycock, 2002, 75). While I agree with her that to do so would indeed

stretch credibility to the limit, I don't see any good reason to persist in such studies when the use of control groups will enhance the credibility of an individual study so greatly. Not to suggest that Laycock would either. After all, if control areas had not been used in connection with the Ashfield and North Mid Coast target areas in the Safer Towns and Cities study, we would assume that the 29 and 9% burglary drops in those target areas, respectively, indicated a whopping success. However, the fact that their control areas dropped by 32% and 16%, respectively, entirely changes that interpretation (Taplin et al., 2001, Ch. 3, Part 1).

The best experiments will also account for displacement, since its potential is one of the primary criticisms of the situational crime control enterprise. The more often research attends to –and falsifies – the displacement hypothesis, the less able those categorically opposed to situational crime prevention will be able to use it as a reflex critique. Yet without the inclusion of carefully chosen control areas, I am not sure how the issue of (spatial) displacement is supposed to be falsified.

Finally, I would stress my belief in the importance of single-tactic interventions. From the perspectives of finance, politics, and pure crime prevention, multi-tactic interventions may appear to make more sense. After all, if a city council is going to foot the bill to send a pair of police officers around to perform security audits, why not have them pass out 10 Kroner property-marking kits while they're at it. And given this, why not direct the officers to approach the neighbors in regard to cocoon watch? The reason *why not*, however, is that we learn very little from multi-tactic interventions about what specific interventions actually work to reduce crime – as shown again and again throughout this report. We thereby condemn ourselves to repeat these multi-tactic approaches each time if we want to be sure not to leave out that key, unknown element that we think *might* have effected a drop in crime witnessed during a previous program. The evaluation of single-intervention programs might pose a high start-up cost, since they would require researchers to sort through individual tactics experiment by experiment. On the other hand, once the Golden Goose had been found, programs identified as unsuccessful could be discarded once and for all. Thereafter, we could move ahead both confidently and cost-effectively with the implementation of crime prevention programs that were proven to work here in Denmark. As things stand today, there is really very little concrete evidence as to what works in burglary prevention.

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