European
Journal *of*
Criminology

Them Again?

Same-Offender Involvement in Repeat and Near Repeat Burglaries

Wim Bernasco
*Netherlands Institute for the Study of Crime and
Law Enforcement (NSCR)*

ABSTRACT

Burglary victimization is associated with a temporary elevated risk of future victimization for the same property and nearby properties. Previous research suggests that often the initial and subsequent burglaries involve the same offenders. This paper tests this assertion, using data on detected residential burglaries during the period 1996–2004 in The Hague and its environs, in the Netherlands. It demonstrates that pairs of detected burglaries occurring in close proximity in space and time are much more likely to involve the same offenders than pairs that are not so related. Topics for future research and implications for the detection of burglaries are addressed.

KEY WORDS

Apprehended Offenders / Burglary / Near Repeat / Repeat Victimization.

When a house is burgled twice within a short span of time, or when nearby premises are burgled shortly one after another, it is tempting to assume that the events involve the same perpetrator. Intuitively it seems unlikely that the offences could be independent, and indeed sometimes there are reasons to presume that the same offender was involved in both.

How often is this assumption correct? Does the likelihood of same-offender involvement depend on the time and the distance between the first and the second burglary? This paper intends to answer these questions.

The significance of repeat victimization

Since the introduction of victimization surveys in the 1970s, it has become widely recognized that crime is concentrated among relatively few victims (Hindelang et al. 1978). A significant number of people become repeat victims, some of them over and over again. Repeat victimization occurs when a person or a target becomes the victim of two or more offences of the same type (e.g. two burglaries or two robberies) within a specified time frame (e.g. a year). During recent decades several studies have addressed repeat victimization. Many of these studies, especially those conducted in the UK, were specifically designed to inform crime prevention strategies (Laycock 2001).

It has generally been demonstrated that past victimization is a good predictor of future victimization, that the likelihood of repeat victimization varies across individuals and across geographical areas, and that, when victimization recurs, it tends to do so swiftly (for an overview, see Pease 1998). These findings have been explained by two mechanisms (Tseloni and Pease 2003). The first is that victimization *flags* people and places that have enduring attributes that attract offenders. According to this mechanism, both the initial crime and the repeated crime reflect the elevated risk associated with stable attributes of the target. The second mechanism is that the initial victimization *boosts* the likelihood of a repeat victimization. Under this mechanism, the initial crime alters something about the victim that increases his or her risk of becoming a crime victim again. One factor that typically changes about a victim is that he or she is added to the offender's list of suitable targets. Thus the 'boost' explanation is compatible with the possibility that a repeat offence against the same person or target involves the offender who committed the initial offence.

It has recently been suggested that the elevated risk in the aftermath of victimization may spill over to the social and spatial environment. It was demonstrated that, in the wake of a domestic burglary, not only the property itself but also properties near the victimized property have an elevated burglary risk (Johnson et al. 2007a), and similar findings have been reported with respect to shootings (Ratcliffe and Rengert 2008) and vehicle crime (Johnson et al. 2006). Patterns of risk communication might also operate in social networks, so that family members, friends, classmates or colleagues of victims are 'infected' with a temporarily elevated risk of victimization.

Repeat burglary victimization: Return of the same offenders?

What is known about repeat victimization is to a large extent based on studies of repeated burglary victimization. For example, many studies have

demonstrated that previous burglary victimization is associated with an elevated risk of future burglary victimization (e.g. Budd 1999; Johnson et al. 1997). Further, the risk of re-victimization is particularly elevated during the first few months after the initial victimization and decreases as time passes. It has been argued that this temporal pattern in particular suggests the involvement of the same offender or offender group in both offences (Polvi et al. 1991). In other words, in line with the 'boost' account of repeat victimization, it is suggested that repeat offenders are responsible for repeat burglary victimization.

This argument is supported by findings that demonstrate consistency between the initial and the repeat burglary with respect to the point and method of entry into the property and with respect to the time of day. Ratcliffe and McCullagh (1998) examined the similarity of point and means of entry in repeat burglaries, and found that repeats taking place swiftly were more similar to the initial burglary than repeats that occurred later. New research (Sagovsky and Johnson 2007) provides evidence that repeat offences against the same property, as compared with random pairs of burglaries, occur significantly more often at the same time of day. Assuming that many offenders encounter burglary opportunities during time-structured routine activities, this finding could support the hypothesis that the same offenders are involved in both the initial and the subsequent burglary.

These temporal phenomena, however, only indirectly support the hypothesis that the same offenders are involved in repeat burglary victimizations. But is the hypothesis correct? The same phenomena could alternatively signal short-term changes or cyclical patterns in the routine activities of the burglary victims. For example, a property may lack signs of occupancy when the residents are away on vacation, and these signs may attract more than one burglar during the short holiday period only. In addition, the timing consistency could also be caused by victim routines because the time-structured routine activities of victims may leave the property empty and vulnerable at certain times of the day or days of the week. Alternatively, an initial burglary may leave the property vulnerable if broken windows or locks are not replaced immediately, resulting in an easy entrance for other burglars. Thus, if a property is burgled more than once during a short period of time, the offenders might be different individuals on each occasion. To support the claim that it is the same offenders who are involved in repeat burglaries of the same object, more direct evidence is needed. In particular, more information is needed about offenders' repeat targeting practices.

Such direct support comes from two sources. First, a few studies use police data on detected cases of burglary to document this assertion

(Everson 2003; Kleemans 2001). (Note that, for the purpose of this paper, 'detected', 'cleared' or 'solved' burglaries indicate cases in which the police have arrested at least one person to whom the burglary is attributed.) Accounts by offenders themselves, typically collected through interviews with prisoners or through ethnographic research among active offenders 'out on the street', are a second source of data relevant to the claim that many burglary repeats can be attributed to the offenders who committed the initial burglary (Ashton et al. 1998; Ericsson 1995; Hearnden and Magill 2004; Palmer et al. 2002; Shaw and Pease 2000). As found in these studies, the percentage of interviewed burglars who admit having gone back to burgle a previously burgled property ranged between 31 and 76 percent, probably reflecting differences in the wording of interview questions as well as differences in the sample frames used for the research.

Although the results confirm the notion that returning to a previously burgled property is a common strategy for burglars, offenders' accounts are not detailed enough to form the basis of a reliable estimate of the extent to which repeat burglaries at the same address are committed by the same offenders. For such an estimate, one would at least want to know the timing of all burglaries and to have an indication for each burglary of whether it was a repeat burglary against the same property.

'Near repeat' burglaries

It has recently been shown that the elevated victimization risk after burglary not only applies to the victimized property but generalizes to the immediate environment of that property. In other words, burglary victimization appears to be contagious. In the wake of a burglary, properties near the victim's property run heightened burglary risks as well. The phenomenon was first established in Beenleigh, a police division near Brisbane in south-east Queensland, Australia (Townsley et al. 2003), and in Liverpool, UK (Bowers and Johnson 2004, 2005; Bowers et al. 2004; Johnson and Bowers 2004a, 2004b), and its ubiquity has recently been demonstrated in no fewer than 10 regions around the world (Johnson et al. 2007a).

When a nearby property is burgled shortly after a burglary, the burglary is called a 'near repeat' (Morgan 2001). Near repeats follow a temporal decay pattern similar to repeat burglaries and the explanation of near repeat victimization more or less parallels the explanation of repeat victimization. That is to say, it is asserted that the same offender(s) who committed the first burglary will often be responsible for the subsequent burglaries committed nearby. Returning to the same vicinity would give the burglar the advantage of knowing the area and the layout of the houses. It has further been established that a substantial percentage of near repeats actually

take place during the same overnight or daytime period, suggesting that in many instances a near repeat does not represent a return to a previously targeted area but is just the continuation of an ongoing series (Bernasco 2007). In any event, as with repeat victimization, the theoretical claim is that near repeats involve the same offenders. Evidence that supports this claim is scarce. In fact, most papers seem merely to take same-offender involvement in near repeat burglaries for granted.

Bowers and Johnson (2004) provide indirect support for same-offender involvement in near repeats. In a procedure analogous to a study referenced above (Ratcliffe and McCullagh 1998), they compare the modus operandi similarity of near repeat burglary pairs with the modus operandi similarity of pairs of burglary events that are not close in time and space, and demonstrate that 'means of entry' and 'point of entry' are significantly more congruent for the former than for the latter. If 'means of entry' and 'point of entry' reflect offender specialization, then this finding supports the assertion that the same offenders tend to be responsible for both initial and subsequent burglaries in near repeats. Note that it is essential that the time between the burglaries is included in this test, because spatial proximity alone may simply reflect similarity between the properties involved that could 'invite' a method and point of entry. For example, all houses on a particular street may have the same vulnerable entry point, i.e. a back door accessible via a back alley that is not gated. Furthermore, generalizing the findings of Sagovsky and Johnson (2007), it has recently been demonstrated that, even when pairs of events taking place on the same day are excluded, near repeats tend to occur at the same time of day (Johnson et al. 2007b). This could be considered additional indirect evidence for same-offender involvement in near repeat burglaries.

There has, however, been no direct support for the assertion that the same offenders are responsible for near repeats. Interviews with burglars have not explicitly addressed the near repeat phenomenon – which is not surprising because it has been discovered only recently – and analyses of the near repeat phenomenon using police data have thus far been based on reported incidents of burglary exclusively and have not used data on offenders.

The aim of the present paper is to assess whether we can find direct evidence of the involvement of the same offenders in near repeat victimization. More specifically, the aim is to answer the following questions:

- What percentage of repeat and near repeat burglaries involves the same offender?
- What is the association between spatial and temporal proximity and same-offender involvement? Does same-offender involvement decrease with larger temporal and spatial distances?

Data and analytical strategy

The structure of the data set used here is simple. It consists of 3624 *detected* cases of attempted or completed residential burglary (breaking-and-entering) recorded by the police during the years 1996–2004 in The Hague and its environs. This is a metropolitan area with a population of about one million comprising the city of The Hague and other cities and towns in the vicinity. The full data set, including the undetected as well as the detected burglaries, has been used before to establish patterns of near repeat victimization in the cities of The Hague and Zoetermeer in 2002–3 (Johnson et al. 2007a) and in the cities of The Hague, Delft and Zoetermeer during the same period as is used here, 1996–2004 (Bernasco 2007).

The record of each of the 3624 detected burglaries consists of:

- a number that identifies the burglary object (residential property) uniquely;
- an XY coordinate pair indicating the location of the object of the burglary;
- the date of the offence;
- the identities (unique registration numbers) of all offenders known to be involved in the burglary.

Residential burglary is not an offence explicitly distinguished in Dutch penal law. The police classify an incident as a burglary in the case of an attempted or completed theft involving illegal entry of a domestic property, provided it does *not* involve violence against persons. Accordingly, attempts include unsuccessful attempts to enter the property illegally, as well as successful entry without anything being stolen. In this study we include such attempts. Illegal entries and theft from gardens, sheds, etc. are, however, excluded.

A well-documented disadvantage of police data is that they include only offences reported to the police. From the Police Monitor, a large-scale victimization survey in the Netherlands, it is known that victims report about 90 percent of completed burglaries and about 50 percent of attempted burglaries to the police. Clearly, the use of police data to link two offences has an additional disadvantage because both offences must have been reported in order to establish a link. Because we are interested in offenders, and because in the survey victims are not asked about offenders, there is no other choice here.

Although differences in definitions and criminal justice procedures lead to varying detection rates from country to country, the detection rate for property crimes, including residential burglaries, is universally low, typically below 10 percent (Smit et al. 2004). Thus, even among the burglaries that are reported to and recorded by the police, for the vast majority the

perpetrators go undetected. Indeed, the 3624 detected burglaries analysed here comprise only 6.21 percent of the full data set of 58,395 recorded residential burglaries. It should be pointed out that a sample of detected cases is likely to be selective with respect to the central issue of the relation between spatio-temporal proximity and involvement of the same offenders. Because this issue is more easily addressed after the analytical results have been presented, it will be taken up below.

The 3624 burglaries involve 2516 offenders. The majority of burglaries (71 percent) involve a single offender, another 20 percent involve two offenders, 5 percent involve three, and 2 percent involve four. The largest burglary group involves nine offenders. Most offenders (70 percent) are involved in only one detected burglary; the average number of detected burglaries per offender was two. These are minimum numbers because probably some offenders successfully hide the fact that they had accomplices.

There is sometimes uncertainty about the exact date of a burglary (the victims may have been away for a few days) and often about the exact time of the crime. For this reason, for reported events many police forces record the earliest and latest possible date and time of occurrence. Burglaries were excluded from the analysis if the period between the earliest and latest possible moment was longer than a week. Because we assume that it is easier for victims to recollect when they realized they had been burgled than it is for them to remember the last time when they did not recognize this, the latest possible date was used as an estimate of the burglary date.

Geo-coding of victimized addresses was done on the basis of city or town, street name, house number and possible additional specifications. Geo-coding was unsuccessful in 3.4 percent of the burglaries because of missing or unknown street names or because house numbers were missing. The removal of cases with missing house numbers was not because the geo-coding would be impossible or imprecise but because, without house numbers, we cannot distinguish between repeat burglaries and near repeat burglaries in the same street.

Analysis of the involvement of the same offenders in repeat and near repeat burglaries requires that burglary dyads or pairs are examined. Together, the 3624 detected burglaries generate $(N(N-1)/2)$, $N = 6{,}564{,}876$ burglary pairs.

Findings

Because the existence and significance of the near repeat phenomenon in the area under study have been established elsewhere (Bernasco 2007; Johnson et al. 2007a), the present analysis is not concerned with showing that near

repeats occur significantly more often than would be expected under the alternative hypothesis of space–time independence. Instead, the present analysis attempts to assess the level of same-offender involvement in repeats and near repeats. As a first descriptive step, all pairs of detected burglaries were generated and for each pair it was assessed

- whether the burglaries were offences against the same targets (repeats);
- what distance (in metres) they were apart (obviously zero for repeats, but zero distance could also occur for flats on floors above or below one another, which does not count as a repeat but could count as a near repeat if the time between the events was short);
- how many days separated the burglaries;
- whether or not at least one offender was involved in both burglaries, i.e. was any one of *n* offenders involved in both events in a pair?

The police registration used for the analysis cannot link undetected crimes on the basis of forensic evidence, such as fingerprints or DNA (Jobling and Gill 2004; Leary and Pease 2003; Townsley et al. 2006). For example, if fingerprints or DNA stains collected at one burglary scene match those found at another, there would be evidence that the same offender was involved in both burglaries, but this would not show up in the data used for the present investigation. Non-forensic indicators such as modus operandi or witness accounts are also used by the police to tentatively 'link' cases, but they should not be viewed as direct evidence for same-offender involvement, and accordingly they were not used in the analysis either. Thus, in the registrations available for the present analysis, burglaries are linked to other burglaries only through identified offenders.

Any empirical demarcation of repeat and near repeat burglary must categorize the spatial and temporal distance dimensions to be used in the analyses. Should repeat burglaries taking place within 2 weeks be distinguished from those taking place within 2–4 weeks? Should the thresholds for defining spatial proximity start with 50 m, or 100 m, and should they increase by a constant distance? Although there are numerous possibilities for doing this, it was decided to use a categorization that would accommodate the finding that differentiation already occurs at very short spatial and temporal ranges (Bernasco 2007) and would include repeat burglaries at the same address as a separate category on the spatial dimension (e.g. Johnson et al. 2007a). A matrix (shown as Table 1) was generated that shows the percentage of pairs that involve a common offender for each space–time combination and shows pairs of burglaries against the same property (repeats) as a separate category on the spatial dimension. As an example of how to interpret the table, consider the upper-left cell in the column labelled

Table 1 Percentages of detected burglary pairs that involve the same offender, by spatial and temporal distance between the burglaries: The Hague and environs, 1996–2004

| Temporal distance | Same address | *Spatial distance* | | | | | |
		1–100 m	101–200 m	201–300 m	301–400 m	401–1000 m	1001 + m
0–7 days	98	89	71	63	50	27	2
8–15 days	83	57	55	35	36	18	1
16–31 days	93	48	33	20	23	12	1
32–62 days	92	23	13	9	7	4	0
63–92 days	70	14	5	4	4	2	0
93+ days	31	3	2	1	1	1	0

Note: N = 3624 burglaries generating 6,564,876 burglary pairs.

'same address' and the row labelled '0–7 days'. The number 98 means that, of all the detected repeat burglary pairs that took place at the same address and 7 days or fewer apart, 98 percent involved the same offender and 2 percent involved different offenders. In the cell below, the number 83 means that, of all the detected repeat burglary pairs that took place no fewer than 8 and no more than 15 days apart, 83 percent involved the same offenders, and thus 17 percent involved different offenders. As a final example, in the cell to the right of the previous cell, in the column '1–100 m' and the row '8–15 days', the number 57 means that, of the burglary pairs that occurred at a distance of 1–100 m from each other and 8–15 days apart, 57 percent involved the same offender (and 43 percent involved different offenders).

With a few exceptions, Table 1 shows a very regular pattern of decreasing percentages of same-offender involvement along the spatial and temporal dimensions. Within the 1–100 m bandwidth, the degree of same-offender involvement decreases from a high of 89 percent for pairs 0–7 days apart down to only 3 percent for pairs that take place more than three months apart. Similar patterns can be observed at greater spatial distances. A notable exception to the general pattern is the initial drop (8–15 days) and subsequent increase (16–62 days) in same-offender involvement for repeats proper. This is consistent with the interpretation that, after an initial burglary, some burglars deliberately wait a few weeks before returning to re-burgle the same property, in the hope that the owners will have replaced stolen items.

Another way to summarize the level of same-offender involvement by spatial and temporal proximity is to present the percentages of same-offender involvement cumulatively, as in Table 2. This table shows, for example, in the cell where the column '≤200 m' crosses the row '≤62 days' that, of all the detected burglary pairs taking place within 62 days and within 200 m of each other (and including repeat victimization of the same address within 62 days), 55 percent involved the same offender. Therefore, in 45 percent of these burglary pairs, the first and the second burglary involved different offenders.

Note that the column to the far right and the bottom row indicate the absence of a spatial and temporal restriction respectively, which means that they are limited only by the spatial and temporal boundaries of the sample: two burglaries cannot be more than 25 km and more than 9 years apart. For example, the top entry in the column labelled '≤25 km' means that, of all burglary pairs taking place no more than 1 week apart (no matter how far apart spatially), 5 percent involve the same offender (and 95 percent involve different offenders). The entry furthest to the left in the '≤9 years' row means that 62 percent of the burglaries at the same address

Table 2 Cumulative percentages of detected burglary pairs that involve the same offender, by spatial and temporal distance between the burglaries: The Hague and environs, 1996–2004

Temporal distance	Same address	≤100 m	≤200 m	Spatial distance ≤300 m	≤400 m	≤1000 m	≤ 25 km
≤7 days	98	90	83	78	72	46	5
≤15 days	95	85	77	70	64	37	4
≤31 days	94	80	**68**	58	52	28	3
≤62 days	94	72	55	44	37	18	2
≤92 days	91	64	46	36	30	14	1
≤9 years	62	13	8	5	4	2	0

Note: N = 3624 burglaries generating 6,564,876 burglary pairs.

(no matter how many months apart) involve the same offender (and 38 percent involve different offenders). As the lower-right cell of Table 2 shows, the likelihood of a random pair of burglaries involving the same offender is close to zero. This implies that the percentages in the other cells of Tables 1 and 2 are extraordinarily high. Same-offender involvement in detected burglaries is thus very strongly associated with spatio-temporal proximity.

The patterns presented in Tables 1 and 2 are quite remarkable. They indicate that the level of same-offender involvement in detected repeat and near repeat burglaries is very high, not only in comparison with pairs that are distant in space and time, but also in comparison with pairs that are close in time but distant in space or close in space but distant in time. For example, Table 2 shows that 80 percent of the burglary pairs less than 100 m and 31 days apart involve the same offender, but this is true for only 13 percent of the pairs less than 100 m apart (see the bottom cell in the column labelled '≤100 m') and for only 3 percent of the pairs that take place less than 1 month apart (see the rightmost cell of the row labelled '≤31 days').

Although the patterns presented in Tables 1 and 2 unequivocally demonstrate that same-offender involvement is very high for burglary pairs within a month and within 200 m of each other and decreases with increasing spatial and temporal distances between burglaries, a description in simple percentages does not involve comparison. What is the level of same-offender involvement in burglary pairs that did not take place close in time and space and how does that compare with same-offender involvement in close pairs? In order to answer these questions, the association between spatio-temporal distance and same-offender involvement in burglary pairs is quantified with the help of odds ratios. An odds ratio is a measure of association between two dichotomous variables and it is calculated as the ratio of cross-products of the cross-tabulation of these variables. Odds ratios can take on any non-negative value. A value of 1 indicates that near burglary pairs are equally likely to involve the same offenders as distant pairs. Values above 1 imply that near burglaries are more likely to involve the same offenders and values below 1 that they are less likely to involve the same offenders than distant burglary pairs.

As an example of how odds ratios are calculated in the analysis reported here, in Table 3 same-offender involvement is cross-tabulated with spatio-temporal proximity, here defined as two burglaries taking place within 31 days and within 200 m of each other. It can be verified that the cumulative percentage of same-offender involvement in near repeats is 68 percent (printed bold in Table 2), which is calculated as 667 out of 974 (see first column of Table 3). On the basis of Table 3, the odds ratio is 1183,

which tells us that, for two burglaries taking place within 31 days and 200 m apart, the odds of their involving the same offender are 1183 times the odds of pairs at larger temporal or spatial distances. Because the odds ratio is a symmetric measure of association, by the same token the odds of a pair involving the same offender being spatially and temporally nearby are 1183 times the odds for a pair involving different offenders.

Table 3 Numbers of burglary pairs by same-offender involvement and spatio-temporal proximity: The Hague and environs, 1996–2004

	Close (≤200 m *and* ≤31 days)	Not close (≤ 200 m *or* ≤31 days)	Total
Same offender	667	12,033	12,700
Not same offender	307	6,551,869	6,552,176
Total	974	6,563,902	6,564,876

Notes: N = 3624 burglaries generating 6,564,876 burglary pairs.
Percentage same offender involved in close pairs: $100 \times 667 / 974 = 68$.
Odds ratio: $667 \times 6,551,869 / 12,033 \times 307 = 1183$.

Whereas Table 3 presented the basis for calculating the odds ratio for a single threshold combination (31 days and 200 m), Table 4 presents odds ratios for all combinations of temporal and spatial thresholds of 'closeness'. The table is constructed by calculating the odds ratio for every cell separately, as was explained for the cell '31 days, 200 m' in Table 3. In Table 4, consider the value 466 in the column labelled '≤200 m' and the row labelled '≤92 days'. This value means that, for a pair of burglaries taking place within 92 days and within 200 m of each other, the odds of the two burglaries involving the same offender are 466 times the odds of two burglaries involving the same offender if they took place more than 200 m or more than 92 days apart. The outcomes show that the association between same-offender involvement and the spatio-temporal proximity of detected burglaries is extremely large. Even if near repeats are defined to include burglary pairs up to 1 km and up to 3 months apart, the odds that they involve the same offender are still 105 times the odds that two burglaries that are distant in time and space involve the same offenders.

In sum, then, it seems that all findings point in the same direction, which is that both repeat burglaries and near repeat burglaries are much

Table 4 Odds ratios of spatio-temporal distance and same-offender involvement, by spatial and temporal distance between the burglaries: The Hague and environs, 1996–2004

				Spatial distance			
Temporal distance	Same address	≤100 m	≤200 m	≤300 m	≤400 m	≤1000 m	≤25 km
≤7 days	22779	4935	2560	1891	1396	485	34
≤15 days	9326	3030	1826	1279	967	349	26
≤31 days	8818	2095	**1183**	778	606	234	20
≤62 days	8203	1350	673	446	341	141	14
≤92 days	5584	943	466	314	244	105	11
≤9 years	848	81	46	32	26	13	

Note: N = 3624 burglaries generating 6,564,876 burglary pairs.

more likely to involve the same offender than are spatially or temporally unrelated burglaries. Before rushing to conclusions, however, some reflection is necessary concerning the investigative process, the universally low burglary detection rate, and the consequences for drawing conclusions from police-recorded burglary data.

Repeats, same-offender involvement and detection: A reflection on the findings

When police data are analysed without considering the mechanisms by which they are generated, the conclusions drawn may be seriously biased. For example, many crimes are never reported to the police and reported crimes differ from the ones that are not reported (Goudriaan 2006). The possibility of selectivity also concerns the question of whether, among the reported burglaries, detected cases are different from undetected cases. More specifically, the question is whether pairs of repeat and near repeat burglaries are more likely to be detected and whether this depends on the same offenders being involved in both offences. If the answers to both questions are positive, our findings may overestimate the amount of same-offender involvement. These issues are addressed in this section.

For a random pair of burglaries, it seems reasonable to assume that the involvement of the same offender in both crimes increases the likelihood that they will both be detected. The reason is that, when the police have knowledge of the involvement of an offender in one crime, they will generally take into account the possibility that this person has been involved before in similar crimes. This expectation will direct their further investigations with the likely result that, if the offender has indeed committed other similar offences, the other offences are more likely to be detected than if the offender was not involved (Kleemans 2001). For example, the police may try to obtain a confession by explaining to the offender that, if he or she was to confess to having been involved in other burglaries, this would barely affect the severity of the sanction (and would ensure that he or she could not be charged with those offences in the future), a procedure similar to the 'taken into consideration' (TIC) policy used in the UK.

In addition, it may also be reasonable to assume that, for burglary pairs committed by the same offender, the likelihood that both are detected depends on the spatio-temporal proximity of the offences. In the case of a repeat burglary within a short period of time, it could be routinely assumed that the police suspect that the same offender (arrested or not) is involved. 'Them again?' may be the first thing on the minds of police officers investigating the case.

It seems likely that the same reasoning applies to pairs of burglaries that are near repeats. Thus, if a burglar is caught in the act of committing a burglary, and if a week ago the neighbours of the current victims were burgled, the police may routinely consider the possibility that they have just arrested the person who also committed the previous burglary. In other words, if the police already assume that repeat and near repeat burglaries involve the same offenders, then the likelihood that they will detect two burglaries involving the same offender depends positively on the burglaries taking place close in space and time. This implies that our results must to some extent overestimate the involvement of the same offenders in repeat and near repeat victimization. The extent of this overestimation is addressed in the discussion, as well as some alternative methods for assessing the amount of same-offender involvement in repeat and near repeat victimization.

Discussion

Extant research provides considerable evidence to support the claim that a substantial percentage of repeat burglaries involve the same offender. This finding was generalized in this paper to near repeat burglaries. For near repeat burglaries, the results provide evidence that same-offender involvement is directly related to the spatial and temporal distance between burglaries. It is the regularity of the spatial and temporal decay rather than the absolute percentages of same-offender involvement that support the claim that same-offender involvement underlies repeats as well as near repeats, even though part of the relation between same-offender involvement and spatio-temporal proximity may reflect the investigative focus of the police detectives.

Nevertheless, addressing the potential influence of this selection effect on the inferences drawn requires further research, perhaps ethnographic in nature. Such research could select individuals who have been involved in at least two burglaries in the recent past (e.g. a year). For every burglary in which the offender was involved, it would be necessary to establish, as precisely as possible, when and where the offence took place and whether he or she was arrested for and charged with that offence. Ideally, such data should be verified using police data, in part because offenders who are not caught will generally not know whether the victim reported the burglary to the police (and unreported burglaries are not recorded and unrecorded burglaries cannot be detected). Even if the validity and reliability of such data were limited for various reasons, they would provide at least a rough estimate of the true relations between detection, same-offender involvement and spatio-temporal distance between the burglaries.

An alternative approach to solving the analytical puzzle could be the use of forensic evidence. Forensic evidence can help determine whether offences involve the same offender, irrespective of whether they are detected or not. This feature makes forensic evidence very useful for research purposes. If all burglaries were reported to the police, if burglars were so polite as always to leave traces and if fingerprints and DNA stains were collected after each burglary, then we would have an excellent measure of same-offender involvement that was independent of other aspects of the investigation process. Because these conditions are unlikely ever to be fulfilled, ethnographic research specifically designed to address these questions is required.

Although the answer to the core question addressed in this paper, 'Are the same offenders involved in repeat and near repeat burglaries?' seems clear enough, the meaning of 'are involved in' has implicitly been translated as 'commit'. Thus, we have been attempting to answer the question: 'Is it the same offenders who commit repeat and near repeat burglaries?' There are, however, ways to be involved in an act without committing it. For example, an offender who committed the first burglary may tip off an acquaintance who commits the repeat burglary. Even if the original perpetrator is, for any reason, unable to return, it is difficult to see why this would be a regular burglary strategy. First of all, it seems only logical that the original burglar, making the first risky investment in breaking and entering the property, would like to reap the fruits by returning to the place himself or herself. More important, many of the advantages of returning to the same place (knowledge of where it is, how it can be entered, the internal design and places where valuables are to be found) are not easily communicated between individuals. A rational burglar would be advised to return in person and use the prior experience. These arguments are in part supported by the findings of Hearnden and Magill (2004), who found that only 18 out of 80 burglars had ever relied on tips or second-hand information to return to a property previously burgled by someone else. Alternatively, the information may flow via a third person, for example a person involved in fencing stolen items, or even organizing burglaries without committing them. This may not be an uncommon scenario amongst professional burglars.

The findings reported in this paper have some interesting implications for burglary investigations, i.e. for the process of identifying who the offenders are. Before discussing these, it should be emphasized that irrespective of who commits burglaries, it is the concepts of repeat victimization and near repeat victimization themselves that are central to *crime prevention* because they have clear and straightforward implications: if you want to prevent burglaries, focus on recently burgled properties and victims as well as on nearby properties and residents, react very quickly,

and allocate resources elsewhere when the elevated risk has decreased. A good example of a current development in this area is a recent report (Johnson et al. 2007b) that evaluates the application of a new prediction tool based on near repeat burglary patterns in an operational context.

In addition to efforts to prevent future burglaries, the finding in this paper – that repeat and near repeat burglaries very often involve the same offenders – may help police investigators to link burglary cases, i.e. attribute two burglaries to the same offender or offender group. Linking cases is often a difficult task when the offenders are unknown, but it is also very important because evidence from one case added to evidence from another may help to solve both cases instead of leaving both unsolved. A recent study underlines the importance of spatio-temporal burglary features for linking burglaries (Goodwill and Alison 2006). Using a series of detected burglaries, the authors evaluated criteria for linking crimes to the same suspects, and concluded that spatial and temporal information was more effective in linking crimes than behavioural information (on the offender at the crime scene) or than the characteristics of the victimized dwelling.

As noted above, 'Them again?' is possibly a routine working hypothesis in many police departments in the case of repeat burglaries. However, this might not be the case for near repeats, especially if the near repeat character is not too obvious. An 'obvious' near repeat is when a property is burgled one weekend and the neighbouring property is burgled the next weekend. In this case, 'Them again?' is a likely response. But this might not be true of two burglaries taking place two weeks and 200 m apart (possibly in different streets and possibly across a division boundary), although the findings in this paper suggest that more than half of such pairs do involve the same offender.

In the Netherlands, where repeat victimization has not received as much attention from practitioners as it has in the UK, Kleemans (2001) observed that, even in the case of repeated burglaries of the same dwelling, the police did not always consider the possibility that the same offender had come back for another burglary. In other words, 'Them again?' was not always their first reaction. It is even more unlikely that it would be if the two burglaries had taken place in two nearby properties rather than in the same property. Thus, an increased awareness of the link between spatio-temporal proximity and involvement of the same offenders might help to link cases and solve them.

At a more general level, the results underline the importance of bringing the detection rate of residential burglary to a higher level (also see Coupe and Griffiths 1996). As mentioned above, the detection rate is below 10 percent in many countries. In this respect, it should be stressed that the offenders who commit repeat burglaries tend to be prolific offenders

(Everson 2003; Everson and Pease 2001), so that a focus on repeat victim-ization would be efficient not only because it targets repeat victims but also because it targets chronic offenders. The same might be true for near repeats if the offenders who commit repeats are the same offenders who commit near repeats. It has been suggested that near repeats are the result of the successful prevention of repeats (Bernasco 2007). When a burglar returns to a previously burgled property, finds the residents have taken ade-quate prevention measures and subsequently targets the neighbours, then a potential repeat burglary has been displaced and turned into a near repeat burglary. This scenario suggests that repeat offenders and near repeat offenders are the same people, and thus that both repeats and near repeats are mostly committed by prolific offenders. A special focus on repeat and near repeat burglaries in police investigations may thus pay off because it is likely to target prolific offenders.

Acknowledgement

References

Ashton, J., Brown, I., Senior, B. and Pease, K. (1998). Repeat victimisation: Offender accounts. *International Journal of Risk, Security and Crime Prevention 3*, 269–79.

Bernasco, W. (2007). Is woninginbraak besmettelijk? *Tijdschrift voor Criminologie 49*, 137–52.

Bowers, K. J. and Johnson, S. D. (2004). Who commits near repeats? A test of the boost explanation. *Western Criminology Review 5*, 12–24.

Bowers, K. J. and Johnson, S. D. (2005). Domestic burglary repeats and space-time clusters: The dimensions of risk. *European Journal of Criminology 2*, 67–92.

Bowers, K. J., Johnson, S. D. and Pease, K. (2004). Prospective hot-spotting: The future of crime mapping? *British Journal of Criminology 44*, 641–58.

Budd, T. (1999). *Burglary of domestic dwellings: Findings from the British Crime Survey*, Home Office Statistical Bulletin 4/99. London: Home Office.

Coupe, T. and Griffiths, M. (1996). *Solving residential burglary*, Crime Detection and Prevention Series, 77. London: Home Office, Police Research Group.

Ericsson, U. (1995). Straight from the horse's mouth. *Forensic Update 43*, 23–5.

Everson, S. (2003). Repeat victimisation and prolific offending: Chance or choice? *International Journal of Police Science and Management 5*, 180–94.

Everson, S. and Pease, K. (2001). Crime against the same person and place: Detection opportunity and offender targeting. In G. Farrell and K. Pease (eds) *Repeat victimization*, 199–220. Monsey, NY: Criminal Justice Press.

Goodwill, A. M. and Alison, L. J. (2006). The development of a filter model for prioritising suspects in burglary offences. *Psychology, Crime & Law 12*, 395–416.

Goudriaan, H. (2006). *Reporting crime. Effects of social context on the decision of victims to notify the police.* Veenendaal, The Netherlands: Universal Press.

Hearnden, I. and Magill, C. (2004). *Decision-making by house burglars: Offenders' perspectives*, Home Office Research Findings 249. London: Home Office.

Hindelang, M., Gottfredson, M. R. and Garafalo, J. (1978). *Victims of personal crime: An empirical foundation for a theory of personal victimization.* Cambridge, MA: Ballinger.

Jobling, M. A. and Gill, P. (2004). Encoded evidence: DNA in forensic analysis. *Nature Review Genetics 5*, 739–51.

Johnson, S. D. and Bowers, K. J. (2004a). The burglary as clue to the future: The beginnings of prospective hot-spotting. *European Journal of Criminology 1*, 237–55.

Johnson, S. D. and Bowers, K. J. (2004b). The stability of space-time clusters of burglary. *British Journal of Criminology 44*, 55–65.

Johnson, S. D., Bowers, K. and Hirschfield, A. (1997). New insights in the spatial and temporal distribution of repeat victimisation. *British Journal of Criminology 37*, 224–41.

Johnson, S. D., Summers, L. and Pease, K. (2006). *Vehicle crime: Communicating spatial and temporal patterns.* London: UCL Jill Dando Institute of Crime Science.

Johnson, S. D., Bernasco, W., Bowers, K., Elffers, H., Ratcliffe, J., Rengert, G. and Townsley, M. (2007a). Space-time patterns of risk: A cross national assessment of residential burglary victimization. *Journal of Quantitative Criminology 23*, 201–19.

Johnson, S. D., Birks, D. J., McLaughlin, L., Bowers, K. J. and Pease, K. (2007b). *Prospective crime mapping in operational context.* London: Home Office.

Kleemans, E. R. (2001). Repeat burglary victimization. In G. Farrell and K. Pease (eds) *Repeat victimization*, 53–68. Monsey, NY: Criminal Justice Press.

Laycock, G. (2001). Hypothesis-based research: The repeat victimization story. *Journal of Criminology and Criminal Justice 1*, 59–82.

Leary, D. and Pease, K. (2003). DNA and the active criminal population. *Crime Prevention and Community Safety: An International Journal 5*, 7–12.

Morgan, F. (2001). Repeat burglary in a Perth suburb: Indicator of short-term or long-term risk? In G. Farrell and K. Pease (eds) *Repeat victimization*, 83–118. Monsey, NY: Criminal Justice Press.

Palmer, E. J., Holmes, A. and Hollin, C. R. (2002). Investigating burglars' decisions: Factors influencing target choice, method of entry, reasons for offending, repeat victimisation of a property and victim awareness. *Security Journal 15*, 7–18.

Pease, K. (1998). *Repeat victimisation: Taking stock.* London: Police Research Group, Home Office.

Polvi, N., Looman, T., Humphries, C. and Pease, K. (1991). The time-course of repeat burglary victimisation. *British Journal of Criminology 31*, 411–14.

Ratcliffe, J. H. and McCullagh, M. J. (1998). Identifying repeat victimization with GIS. *British Journal of Criminology 38*, 651–62.

Ratcliffe, J. H. and Rengert, G. F. (2008). Near repeat patterns in Philadelphia shootings. *Security Journal 21*, 58–76.

Sagovsky, A. and Johnson, S. D. (2007). When does repeat victimisation occur? *Australian and New Zealand Journal of Criminology 40*, 1–26.

Shaw, M. and Pease, K. (2000). *Research on repeat victimisation in Scotland: Final report*. Edinburgh: Scottish Executive Central Research Unit.

Smit, P. R., Meijer, R. F. and Groen, P.-P. F. (2004). Detection rates, an international comparison. *European Journal on Criminal Policy and Research 10*, 225–53.

Townsley, M., Homel, R. and Chaseling, J. (2003). Infectious burglaries: A test of the near repeat hypothesis. *British Journal of Criminology 43*, 615–33.

Townsley, M., Smith, C. and Pease, K. (2006). First impressions count: Serious detections arising from Criminal Justice Samples. *Genomics, Society and Policy 2*, 28–40.

Tseloni, A. and Pease, K. (2003). Repeat personal victimization. 'Boosts' or 'flags'? *British Journal of Criminology 43*, 196–212.

Wim Bernasco

Wim Bernasco is a Senior Researcher at the Netherlands Institute for the Study of Crime and Law Enforcement (NSCR). He is currently involved in studies of criminal target choice, crime displacement, geographic offender profiling, and repeat and near repeat victimization.
wbernasco@nscr.nl