



# University of HUDDERSFIELD

## University of Huddersfield Repository

Roach, Jason, Weir, Kevin, Phillips, Paul, Gaskell, Karen and Walton, Miles

Nudging down theft from insecure vehicles. A pilot study

### Original Citation

Roach, Jason, Weir, Kevin, Phillips, Paul, Gaskell, Karen and Walton, Miles (2016) Nudging down theft from insecure vehicles. A pilot study. *International Journal of Police Science and Management*. ISSN 1461-3557

This version is available at <http://eprints.hud.ac.uk/30977/>

The University Repository is a digital collection of the research output of the University, available on Open Access. Copyright and Moral Rights for the items on this site are retained by the individual author and/or other copyright owners. Users may access full items free of charge; copies of full text items generally can be reproduced, displayed or performed and given to third parties in any format or medium for personal research or study, educational or not-for-profit purposes without prior permission or charge, provided:

- The authors, title and full bibliographic details is credited in any copy;
- A hyperlink and/or URL is included for the original metadata page; and
- The content is not changed in any way.

For more information, including our policy and submission procedure, please contact the Repository Team at: [E.mailbox@hud.ac.uk](mailto:E.mailbox@hud.ac.uk).

<http://eprints.hud.ac.uk/>



**NUDGING DOWN THEFT FROM INSECURE VEHICLES. A PILOT STUDY**

Journal:	<i>International Journal of Police Science and Management</i>
Manuscript ID	PSM-16-0028.R1
Manuscript Type:	Original Article
Keywords:	Nudge psychology, Theft from motor vehicles, Crime Reduction, Behavioural change, Police
Abstract:	This report presents the preliminary findings of a pilot study to reduce thefts from cars committed against insecure vehicles, using the behavioural insights or 'nudge' approach. The recipients of the 'nudges' were potential victims of theft from insecure vehicles living in high rate areas, where a bespoke leaflet campaign was developed to nudge vehicle owners to thinking more carefully when leaving their vehicles unattended, particularly when left on their driveways overnight. Although somewhat tentative at this stage, the preliminary findings indicate that the percentage of thefts committed against insecure vehicles in the two treatment areas was reduced significantly when compared with the two control group areas where no nudge interventions were introduced. This demonstrates that if appropriate nudges (grounded in psychological theory) are coupled with and delivered by appropriate messengers, then prosocial behavioural change can be encouraged which can lead to a reduction in criminal behaviour and opportunities for crime.

SCHOLARONE™  
Manuscripts

## Introduction

The malleability of human behaviour by subtle tweaks burst into public consciousness by its repackaging as the ‘nudging’ of behaviour (Thaler and Sunstein, 2008). The originality of the approach lay not in its content but its representation as a way of shaping behaviour to be more prosocial. The argument was that people should retain the freedom to behave as they wished, but nudged to be more prosocial. In the first example given in the Thaler and Sunstein book, it was shown how schoolchildren could be nudged into choosing healthier food. It would be good if more people were organ donors, made adequate pension plans, and gave blood for transfusion. Recent successes for the approach have included issuing handwritten envelopes in letters demanding payment of tax (the amount of tax recovered increased enormously), moving the reminder that falsely claiming expenses is fraud from the bottom to the top of expense claim forms decreased the expenses claimed, and the **adoption** of an ‘opt out’ as opposed to an ‘opt in’ approach improved organ donation.<sup>1</sup>

The initial exponents of the nudge approach, Thaler and Sunstein (2008) claim that nudging is not about removing choice in decision making, but rearranging the ‘choice architecture’ in such a way to promote prosocial options in ways which make their selection more likely. The notion of governments structuring individual choice is bound to be controversial, and has evoked parallels with Orwellian dystopias. It is perhaps least controversial in the context in which it is used in this report; the reduction in the probability of committing crime, namely theft from motor vehicles that have been left insecure. This should be uncontentious because the only group nudged away from the behaviour are motivated offenders and potential victims, and their acquisition or supplementation of a criminal record is injurious to their long-term interests. This is to say nothing of the benefits to someone who would otherwise

---

<sup>1</sup> <http://www.behaviouralinsights.co.uk/publications/page/2/>. Accessed 25/03/2016

1  
2  
3 become a crime victim, and the citizen whose insurance premiums are inflated by  
4  
5 commission of the crimes prevented.  
6  
7

8  
9 In a sister paper currently in development by Roach and Pease, it is argued that nudge is  
10 simply an arm of what is widely known as 'Situational Crime Prevention' (Clarke, 1995;  
11 1997) where criminogenic environments are manipulated to reduce opportunities for crime.  
12  
13 **Sharma and Kilgallon Scott (2015) have argued that there is a subtle but important**  
14 **difference between the Situational Crime Prevention (SCP) and Nudge approaches. While**  
15 **SCP targets a criminal's ability to make rational choices, nudges are based on the principle**  
16 **that most choices that people make are irrational (i.e. not consciously calculated) and**  
17 **hence the choice architecture can be manipulated to influence their behaviour. Nudging**  
18 **being more appropriate for unconscious decision-making, or as Kahneman and Tversky**  
19 **refer to it 'system 1' (e.g. intuition), as opposed to the more conscious and effortful,**  
20 **system two thinking which necessitates rational calculation (Tversky and Kahneman,**  
21 **1992; Kahneman, 2011). The point being that many of the decisions we make will be**  
22 **intuitive at the system 1 level and so ripe for the subtle influence of nudging. Nudges can**  
23 **of course also be used to provoke us into thinking about the consequences of our**  
24 **decisions before we act. Sharma and Kilgallon Scott (2015) suggest that theft from shops**  
25 **might be reduced if retailers displayed signs showing how savings made from reductions**  
26 **in losses due to shop-theft, would be donated directly to charity.**  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39

40  
41 It suffices to say here that the rebranding of this work as nudging has brought it to  
42  
43 Government and public attention and released a set of imaginative people to think of new  
44  
45 kinds of nudge. MINDSCAPE is the mnemonic by which the Behavioural Insights Team  
46  
47 (formerly of the UK Cabinet Office) categorises behaviour shaping.<sup>2</sup> The elements are shown  
48  
49 in Table 1  
50  
51  
52

53  
54  
55  
56  
57  
58  
59  
60  
INSERT TABLE 1 HERE

---

<sup>2</sup> <http://www.behaviouralinsights.co.uk/publications/mindspace/>. Accessed 26/11/2016.

1  
2  
3 Acronyms are themselves nudges, being ways of facilitating decision-shaping ways of  
4 thinking. There is no shortage of acronyms or practice guides in the nudge literature.  
5  
6  
7 MINDSCAPE is a useful one. **It suffices here at least, if nudges are thought of as**  
8  
9  
10 **constituting simple and cheap measures which may be put in place and readily tested**  
11  
12 **for their effects on decision-making, in contrast to what can be expensive situational**  
13 **measures such as the installation of close-circuit television.** The advantage of keeping it  
14 simple, at least in the crime reduction context, would be so as not to deter police and other  
15 agencies from taking it too seriously. When anti-crime nudges are cheap to implement, then  
16 one can afford to roll out lots of them and see which work in an 'evidence-based' way.  
17  
18  
19  
20  
21  
22  
23  
24

25 Although the literature on cognitive bias has grown exponentially in recent years with its  
26 influence on decision making permeating some professional contexts, such as criminal  
27 investigation (e.g. Rossmo, 2008), **how such natural biases can be used to do 'good' by**  
28 **'nudging' people to take more care of their valued possessions, by exciting, for example,**  
29 **the well documented influence of 'loss aversion' in human decision making (Tversky**  
30 **and Kahneman, 1992; Kahneman, 2011) has not.** A brief account of attempts to reduce  
31 bicycle theft by 'nudging' (although not badged so) are presented next, prior to the outlining  
32 of a pilot 'nudge' project to reduce theft from insecure motor vehicles in Durham.  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44

45 *A nudge by any other another name.*

46  
47  
48 Johnson, Sidebottom and Thorpe (2008) categorize existing responses to theft into four  
49 groups depending on the crime reduction *mechanism* through which the intervention is  
50 expected to work. The crime which they use to exemplify the point is bicycle theft:  
51  
52  
53

- 54 1. Interventions designed to detect bicycle thieves
- 55 2. Schemes focusing on the registration of and recovery of bicycles
- 56
- 57
- 58
- 59
- 60

3. Schemes aiming to improve bicycle parking facilities
4. Schemes aiming to improve locks and the manner in which they are applied.

The fourth is of greatest relevance here, with ‘the manner in which they (locks) are applied’ important because it implies that a significant number of thefts might involve inappropriately applied locks – a probable euphemism for ‘unlocked’ or ‘insecure’ as with thefts from cars, a problem identified in County Durham. In a follow up study, Sidebottom, Thorpe and Johnson (2009) used targeted publicity in the form of small stickers placed on bikes depicting how to lock a bike securely, to produce a statistically significant reduction in bike thefts in treatment areas.

Although not badged so, there has been several previous crime prevention studies built on the nudge approach. Daniel Nettle and colleagues, for example, explored how signage displaying images of ‘watching eyes’ **affected** bicycle thefts at three locations on a university campus where levels were previously high (Nettle, Nott and Bateson, 2012). Why is this an example of a crime reductive nudge you might well ask? Put simply, it perceptually increases the salience of surveillance. It does not tell the person who sees it what to do. The findings saw a significant reduction in thefts of bikes in all three experimental (treatment) locations, offset by an equivalent increase in thefts from control (and other locations). The signs were effective but had displaced thefts to the control locations and places on campus without signs (Nettle et al., 2012). The displacement result is almost unique in the literature, making more detailed analysis of the dynamics of the crime (including recovery rates, clustering of thefts etc., suggesting whether the crime was an organised enterprise). Signs throughout the campus are feasible and the campus was geographically separate from the surrounding town, making

1  
2  
3 it probable that, the entire campus being covered, one would anticipate less complete  
4  
5 displacement.  
6  
7

8  
9 Publicity has long been used to reduce crime (Johnson and Bowers, 2003; Barthe, 2006) with  
10  
11 most being victim-orientated campaigns, often targeting potential (future) victims (e.g.  
12  
13 Sidebottom, Thorpe and Johnson, 2009; Poyner, 1993). Barthe (2006) identifies the two  
14  
15 forms which most victim-oriented publicity take: (1) generic schemes relating to crime and  
16  
17 its prevention; or (2) specific schemes aimed at certain groups, with generic schemes found to  
18  
19 be far less effective at reducing crime (e.g. Riley and Mayhew, 1980; Johnson and Bowers,  
20  
21 2003; Sidebottom et al, 2009). Johnson and Bowers (2003) suggest that this is explained by  
22  
23 the relevance of communication strategies to the target population that the publicity is  
24  
25 intended to affect. Barthe's (2006) finding echoes that crime prevention publicity can only be  
26  
27 fulfilled if ways are found which effectively reach and engage intended audiences. In regard  
28  
29 to theft related crimes such as burglary, for example, UK police have traditionally used a  
30  
31 'lock it or lose it' approach, whereby areas have been targeted with leaflets of the kind  
32  
33 presented in Figure 1.  
34  
35  
36  
37  
38  
39

40 INSERT FIGURE 1 HERE  
41  
42  
43

44 As can be seen, such leaflets and posters at best only convey a generic message to raise  
45  
46 residents' awareness of vulnerability and the need for personal vigilance and responsibility  
47  
48 for personal security in high burglary areas. The same message is delivered in the same way,  
49  
50 irrespective of whom the message is intended to influence. When the first author recently  
51  
52 asked an officer from a UK police force if his force still used the same type of leaflets and  
53  
54 posters in burglary reduction campaigns, he said that they did. When he was asked next  
55  
56 whether there was any evidence to suggest that these leaflets had had the desired effect (i.e.  
57  
58  
59  
60

1  
2  
3 reduced the number of burglaries) he said, 'No, but we have a warehouse full of them to get  
4 rid of'. The central point however is that the leaflets tell people what to do. By contrast,  
5 nudges invite subtle reframing of the perception of the situation. Us humans don't like being  
6 told what to do.  
7  
8  
9  
10

11  
12  
13  
14 The purpose for our pilot study was to reduce the percentage of thefts from cars committed  
15 against vehicles which are left insecure, by targeting vehicle owners. Our method was simple,  
16 to develop more bespoke, better targeted messages, to be delivered by the most appropriate  
17 medium for the target audience concerned. In short, we wanted to employ a nudge approach  
18 to re-vamp (and target more appropriately) messages to influence people to take more  
19 precautions in areas where thefts from insecure vehicles was high. A nudge pilot study to  
20 reduce the number of thefts from vehicles left insecure (i.e. unlocked) in County Durham is  
21 now presented.  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31

### 32 **Method**

33  
34 Although the number of recorded thefts from motor vehicles in County Durham has been  
35 reduced over the last few years, the proportion committed against insecure vehicles has  
36 remained constant. In the past few years, on average over 25% of all thefts from vehicles  
37 crimes in County Durham were against (suspected) insecure vehicles, with the figure as high  
38 as 70% for some areas. A reduction in the number of insecure vehicles would therefore make  
39 a significant contribution to the overall number of thefts from vehicles in the county. A pilot  
40 research study adopting the nudge approach was developed to reduce the number of thefts  
41 from motor vehicles in County Durham, by concentrating on those areas where the proportion  
42 of thefts from vehicles left insecure was found to be highest.  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56

57 *Selecting comparable pilot areas*  
58  
59  
60



1  
2  
3 It was decided that four areas within County Durham were needed to serve as either ‘target’  
4  
5 or ‘control’ areas, in relation to the use of the nudge pilot initiative in Durham. To enable  
6  
7 appropriate comparison, the four areas had to be similar in respect of:  
8  
9

- 10
- 11
- 12 • The level of the problem in the area posed by theft from insecure motor vehicles.
- 13
- 14 • The size of the population (in terms of households or persons).
- 15
- 16
- 17 • The socio- economic demographics of the area.
- 18
- 19

20 Data used to facilitate the identification of the four pilot areas included primarily;

- 21
- 22 1. Crimes recorded by Durham Constabulary (as ‘045/10 Theft from a motor vehicle’)
- 23 that occurred in the 3-year period 01/09/2012 to 31/08/2015.<sup>3</sup>
- 24
- 25
- 26
- 27 2. Experian ‘Mosaic Public Sector’ Group data by post code was used to determine the
- 28 social make-up of specific areas within County Durham & Darlington (classifying
- 29 citizens based on information about the respective addresses, using one of 15 groups
- 30 based on location, demographics, lifestyles and behaviours).
- 31
- 32
- 33
- 34
- 35 3. It was agreed that the most effective local geography would be that of ‘Lower Super
- 36 Output Area’ (LSOA), whereby each area contains approximately 1,500 resident
- 37 persons (ranging from a minimum of 1,000 to a maximum of 3,000) and contains
- 38 between 400 and 1,200 households<sup>4</sup>.
- 39
- 40
- 41
- 42
- 43
- 44
- 45
- 46 4. In order to map theft from motor vehicle crime data, records not containing XY co-
- 47 ordinates (relating to the crime location) were updated manually, either by; matching
- 48 with the co-ordinates recorded in the corresponding police incident log (from which
- 49 the theft was then crimed) or where no log existed (e.g. subsequent crime generated
- 50
- 51
- 52
- 53
- 54
- 55

---

56 <sup>3</sup> Crime data relating to theft from insecure vehicles was isolated using the search terms: insecure, unsecured, not locked, unlocked, Left  
57 open (reviewed by an analyst) within the Modus Operandi text of the crime record.

58 <sup>4</sup> Northgate XD (Gis system) was used to count both the total theft from motor vehicle and the number of thefts from insecure  
59 vehicles per Lower Super Output Area, using choropleth analysis.  
60

1  
2  
3 during investigations) the recorded address (or partial address/description of the  
4 location the crime occurred) was used to determine relevant co-ordinates using a Gis  
5 computer system.<sup>5</sup>  
6  
7  
8  
9

10  
11 From this analysis, the resultant theft from insecure motor vehicles crime data was converted  
12 into an index by using the simple formula  
13  
14

$$\frac{\text{count of theft from insecure vehicle} \times 100}{\text{LSOA average for this category}}$$

15  
16  
17 The index was then used to identify the LSOA's that had disproportionately high levels of  
18 theft from insecure vehicles, compared with the whole of County Durham, as follows  
19  
20

$$\text{theft from insecure vehicle Index} \geq 300 \text{ (3 or more times higher than average)}$$

21  
22 Those areas where theft from insecure vehicles, as a percentage of all theft from motor  
23 vehicle, was higher than would be expected based on the whole of County Durham and  
24 Darlington were further highlighted as potential pilot study areas.  
25  
26

$$\text{theft from insecure vehicle (\% all theft from vehicle)} > 26.5\%$$

27  
28 From twenty possible areas identified using the above criteria (including matching for socio-  
29 demographics, four were eventually chosen;  
30  
31

- 32 a. Durham (treatment 1)
- 33 b. Chester-le-street (control1)
- 34 c. Wear Valley (treatment 2)
- 35 d. Wear Valley (control 2).

36  
37 With all four groups chosen and randomly assigned to one of two conditions, an appropriate  
38 'nudge strategy' was developed and is detailed next.  
39  
40  
41

#### 42 *Developing appropriate nudges*

43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  

---

<sup>5</sup> Experian Micromarketer G3 was used to count the number of postcodes within each Lower Super Output Area that were classified as Mosaic Public Sector Group A-O, via data catchment analysis.

1  
2  
3  
4  
5 As discussed, the treatment and control areas were matched as closely as possible on social  
6 economic demographics, and each of the four was identified as a quite affluent, mainly  
7 residential area, populated with mainly professional people with families. One recurring  
8 reason identified for why previous victims of thefts from vehicles in these areas had left their  
9 vehicles insecure, was, 'I had been shopping and forgot to lock the car when I got home'.  
10 Most vehicles targeted had been either left insecure on the vehicle owner's driveway or on a  
11 road outside or adjacent to their property. Table 2 applies the MINDSCAPE criteria  
12 (displayed in Table 1) to nudge vehicle owners in the treatment areas to take more care to  
13 ensure their vehicles are left secure (i.e. locked) especially at night.  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26

27 INSERT TABLE 2 HERE  
28  
29  
30  
31

32 The leaflets were distributed to residents in the two treatment areas between September and  
33 October 2015, and are presented in Figure 2.  
34  
35  
36

37 A carefully designed leaflet put through a resident's letterbox was considered the most  
38 appropriate means of delivering the 'take care to lock your vehicle' message, for two main  
39 reasons. First, the demographic of the resident populations for the four areas indicated that  
40 the majority of people were 'professional', working people, hopefully more likely to read the  
41 leaflet in the first instance, than younger people in other areas of the county. Second, the  
42 areas were mainly populated by parents with young families, who would be inclined to read a  
43 message from the police when it came through their letterbox to protect their children if not  
44 themselves. If the demographic had indicated a younger population of vehicle owners then  
45 maybe delivery of the message by electronic communication, such as email or text message,  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

1  
2  
3 or via social media, such as Twitter and Facebook, may have been more appropriate options.  
4

5 Needless to say, nothing was distributed in the two control areas.  
6  
7  
8  
9

10  
11 INSERT FIGURE 2 HERE  
12  
13

## 14 **Results**

15  
16  
17 Table 3 displays all thefts from motor vehicles, number of thefts from insecure vehicles, the  
18 insecure index scores, and the percentage of all thefts from motor vehicles that were recorded  
19 as being from insecure vehicles, for the four areas selected, for the 3-year period 01/09/2012  
20 to 31/08/2015 (i.e. prior to the distribution of the nudge leaflets).  
21  
22  
23  
24  
25  
26  
27  
28  
29

30 INSERT TABLE 3 HERE  
31  
32  
33

34 As can be seen, all four areas (2 treatment and 2 control) have a high percentage of thefts  
35 recorded as being against insecure (e.g. unlocked) vehicles (range = 32.2% to 69.2% of all  
36 thefts from vehicles). No statistically significant differences were found between the four  
37 areas either for the number of thefts from insecure vehicles or with regards the percentage of  
38 thefts from vehicles that were considered insecure.  
39  
40  
41  
42  
43  
44  
45

46  
47 Thefts from motor vehicle data was collected for the four areas, for the four months of the  
48 pilot project and is summarised in Table 4.  
49  
50  
51  
52  
53  
54

55 INSERT TABLE 4 HERE  
56  
57  
58  
59  
60

1  
2  
3 As can be seen, at the end of the four month pilot period (i.e. 3-4 months after the leaflet  
4 drops in the treatment areas) the percentage of thefts from insecure vehicles had reduced in  
5 three out of the four areas, only not doing so in Wear Valley (control area 2), contributing to  
6 an overall reduction in thefts from vehicles in these three areas. Both treatment areas  
7 (Durham and Wear Valley 1) saw a reduction in the percentage of thefts from insecure  
8 vehicles for the pilot period to 33% and 25% respectively, a reduction of 9% and 7% in those  
9 areas compared with the average percentages for these areas in the previous three years  
10 (41.9% and 32.2% respectively). The percentage of insecure thefts from vehicles in control  
11 area 1 (Chester-le Street) had also reduced by 18% (60% to 42%) over the pilot period, where  
12 the number of thefts from vehicles overall had increased. Possible explanations for this will  
13 be offered in the discussion section.  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29

30 The mean percentage of insecure thefts from vehicles was 50.25% for the control area (with a  
31 high standard deviation of 25.94) whereas for the treatment areas it was 12.75% (with a lower  
32 standard deviation of 6.95) suggesting that the percentage of thefts from insecure vehicles  
33 was not only higher in the control areas, but also varied greater in the control areas,  
34 suggesting that the reduction in theft from insecure vehicles in the treatment areas was more  
35 likely to have been as a result of the nudge (leaflet intervention) than from other unknown  
36 confounding factors. The mean of the two groups was 37.5 (95% confidence interval of this  
37 difference ranging from 4.64 to 70.36). An independent t-test was used to calculate the  
38 difference in the mean percentages of thefts from insecure vehicles between the treatment and  
39 control areas and the difference statistically was found to be significant at the 0.05 level  
40 (t=2.80, df=6, p=0.03)<sup>6</sup>.  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54

---

55  
56  
57 <sup>6</sup> with a standard error of difference = 13.42.  
58  
59  
60

## Discussion

The main findings from the pilot study show that both treatment areas showed a reduction in the percentage of thefts from insecure vehicles when compared with the control areas, which is best attributed to the nudge leaflet intervention. The use of a carefully constructed, bespoke, yet cheap, intervention to nudge vehicle owners in the treatment areas to lock their cars at night appears to work, at least in the short-term, supporting previous claims that crime prevention publicity is only effective if it is communicated effectively to specific groups of people (Johnson and Bowers, 2003; Barthe, 2006; Sidebottom et al, 2009). Moreover, that nudging only stands a good chance of working when the right message is designed for the right people and is then delivered by the most appropriate means.

Pilot studies of course always come with caveats and limitations. First, there was not a clear distinction in the reduction of the percentage of insecure thefts from cars between the treatment and control areas, as control area 1 (Chester-le-Street) also saw a reduction in the percentage of thefts from insecure vehicles. It however, also saw an increase in the number of thefts from vehicles overall, which the two treatment areas did not, suggesting that there was a likely small displacement effect from insecure to secure thefts from cars in this area that was not found in the treatment areas. There are a number of other possible explanations for why this occurred, for example, more people in control area 1 may have hidden the fact that they had left their vehicles unlocked, with a knock on effect of reducing the percentage of insecure thefts from cars in that area. Insurance companies are unlikely to pay out compensation in cases where the owner was negligent with regard to vehicle security, which was an important part of the message conveyed by the leaflet. There might also have been a diffusion of benefits effect from a nearby treatment area, whereby residents of control area 1 heard about the nudge leaflets in the treatment areas (Clarke, 1997), although this would have

1  
2  
3 been expected more in control group 2 (the Wear Valley) due to its close proximity to  
4  
5 treatment area 2 (also Wear Valley).  
6  
7

8  
9  
10 Second, critics may argue that a more robust study design would have seen a traditional,  
11  
12 generic leaflet delivered to homes in the control areas and the nudge leaflet delivered to those  
13  
14 in the treatment areas, therefore providing a direct comparison of the efficacy of the  
15  
16 interventions for nudging vehicle owners to lock their vehicles. This was discounted early on  
17  
18 as those both in treatment and control areas had received 'traditional leaflets' in the three  
19  
20 years prior to the study, and although the general trend found was that thefts from cars had  
21  
22 been steadily reduced, the proportion of thefts from insecure vehicles had remained high in  
23  
24 the four areas. The reduction of insecure thefts was the purpose of the pilot study.  
25  
26  
27

28  
29  
30 Third, we deliberately made the period for the pilot study short (4 months) as we anticipated  
31  
32 that any nudging effect was likely to be short-lived, with those vehicle owners changing their  
33  
34 vehicle security habits only in the short-term. That said, we do intend to test this hypothesis  
35  
36 by revisiting the recorded thefts from vehicles data 12 months after the nudge intervention.  
37  
38  
39

40  
41 Fourth, in order to increase both the validity and reliability of the findings, the data relating to  
42  
43 thefts from motor vehicles (including insecure) needs to be broken down into months if a  
44  
45 reliable comparison is to be made between the before and after treatment conditions (i.e.  
46  
47 before and after the nudge intervention). This data is vital, for example when determining if  
48  
49 the treatment conditions saw a reduction in the percentage of thefts from insecure vehicles  
50  
51 only for the month when the leaflets were delivered, or whether the reduction was seen for all  
52  
53 four months of the trial.  
54  
55  
56  
57  
58  
59  
60

1  
2  
3 Fifth, without a follow-up qualitative study to find out from the vehicle owners in the  
4  
5 treatment areas whether they 1) saw the leaflet, and 2) they believe that it had an effect on  
6  
7 them, we cannot be sure that the reduction in the proportion of insecure thefts from cars was  
8  
9 indeed due to the nudge treatment. We suggest that this is a common criticism of much  
10  
11 research of this ilk (including Randomised Control Trials) where conclusions of effect are  
12  
13 drawn without speaking with the seemingly 'affected'.  
14  
15  
16  
17

18  
19 To conclude, if this brief pilot study is seen as a 'starter for ten' and regarded as more of a  
20  
21 test of approach than a robust crime prevention intervention in its own right, then it lends  
22  
23 support to the use of nudging over generic publicity campaigns to influence victims/potential  
24  
25 victims thinking and behaviour with regards risk and security, where traditional approaches  
26  
27 have not fared well in the past. **Perhaps a main prerequisite for a nudge is that it must be**  
28  
29 **cheap to implement. With our study for example, the only costs incurred were for the**  
30  
31 **printing of 1500 leaflets and police staff time to deliver them. On reflection, it was not**  
32  
33 **imperative that they were delivered by police so perhaps non-police delivery might have**  
34  
35 **been even more cost-effective. That said, if nudging in the pursuit of crime reduction is**  
36  
37 **to work, then it must only be applied when; the people it is meant to influence are**  
38  
39 **properly understood, the message it conveys has been well -constructed, and its**  
40  
41 **intended audience suitably targeted.** A garage full of leaflets might seem like crime  
42  
43 prevention on the cheap, but surely only if they actually work.  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60



## References

- Barthe, E.P. (2006). *Crime prevention publicity campaigns*. Problem-Orientated Guides for Police Series, Police Responses to Crime, Guide No.5. Washington, DC: US Department of Justice, Office of Community Orientated Policing Services.
- Clarke. R.V. (1997) (ed.). *Situational Crime Prevention: Successful Case Studies*. New York: Harrow and Heston.
- Clarke, R.V. (1993) (ed.). *Crime Prevention Studies Volume 1*. Monsey, NY: Criminal Justice Press.
- Johnson, S.D, and Bowers, K.J. (2003). Opportunity is in the eye of the beholder: The role of publicity in crime prevention. *Criminology and Public Policy* 2, p497-524.
- Johnson, S.D., Sidebottom, A. and Thorpe, A. (2008). *Bicycle theft*. Problem –orientated Guides for Police Series. Washington, DC: US Department of Justice, Office of Community Orientated Policing Services.
- Kahneman, D. (2011). *Thinking Fast and Slow*. New York: Penguin.
- MINDSCAPE found at <http://www.behaviouralinsights.co.uk/publications/mindspace/>
- Nettle, D., Nott, K., and Bateson, M. (2012). ‘Cycle thieves, we are watching you’: Impact of a simple signage intervention against bicycle theft. *PLOS ONE* 7(12): e51738. Doi:10.1371/journal.pone.0051738.
- Poyner, B. (1993). What works in crime prevention: An overview of evaluations. In R.V.(ed.) Clarke, *Crime Prevention Studies Volume 1*. Monsey, NY: Criminal Justice Press.
- Riley, D. and Mayhew, P. (1980). *Crime prevention publicity: An assessment* . Home Office Research Study No. 63. London: Home Office.
- Rossmo, D.K. (2009) (Ed.) *Criminal Investigative Failures*. Boca Raton, FL: CRC Press.
- Sharma, D. and Kilgallon Scott, M. (2015). Shopping mall design could nudge shoplifters into doing the right thing – here’s how. *The Conversation*, 4<sup>th</sup> June 2015. Found at <https://theconversation.com/shopping-mall-design-could-nudge-shoplifters-into-doing-the-right-thing-heres-how-42292>. Accessed 1<sup>st</sup> September 2016.
- Sidebottom, A., Thorpe, A. and Johnson, S.D.(2009). Using targeted publicity to reduce opportunities for bicycle theft. *European Journal of Criminology*, Volume 6 (3) p.267-286.
- Thaler, R.H. and Sunstien, C.R. (2008). *Nudge. Improving decisions about health, wealth, and happiness*. Yale University Press.
- Tversky, A., Kahneman, D., 1992. Advances in prospect theory: cumulative representation of uncertainty. *Journal of Risk and Uncertainty* 5, p.297–323.

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

## Tables

**Table 1 – MINDSCAPE (reproduced from Behavioural Insights Team<sup>1</sup>)**

Nudge	Description
Messenger	We are heavily influenced by who communicates information
Incentives	Our responses to incentives are shaped by predictable mental shortcuts.
Norms	We are strongly influenced by what others do
Defaults	We “go with the flow” of pre-set options
Saliency	Our attention is drawn to what is novel and seems relevant to us
Commitments	We seek to be consistent with our public promises, and reciprocate acts
Affect	Our emotional associations can powerfully shape our actions
Priming	Our acts are often influenced by sub-conscious cues
Ego	We act in ways that make us feel better about ourselves

**Table 2. The MINDSCAPE reworked to nudge vehicle owners in the treatment areas.**

Nudge	Development of the leaflets
Messenger	Leaflets to be delivered by highly visible officers.
Incentives	Loss avoidance to be prominent e.g. insurers will not pay out for owner negligence.
Norms	They don't want to have the only vehicle on the street that is victimised.
Defaults	Locking your vehicle is what they would ordinarily do.
Saliency	Increase the relevance of the message by including photos of the streets involved.
Commitments	Feeling that commitment by the police should be reciprocated.
Affect	Reminder that their children's things may be also taken.
Priming	Reinforce that when parking at home remember to lock the car as normal.
Ego	Ensuring your vehicle is locked will make you feel better – it's harder for thieves.

**Table 3. Thefts from all motor vehicles and the percentage from insecure motor vehicles for the period 01/09/2012 to 31/08/2015, for the four nudge pilot areas.**

LSOA NAME	All TFMV	Insecure TFMV	Insecure Index	% Tot TFMV
Durham TREATMENT	43	18	337	41.9%
Chester-le-Street CONTROL	45	27	506	60.0%
Wear Valley TREATMENT	87	28	524	32.2%
Wear Valley CONTROL	26	18	337	69.2%

<sup>1</sup> <http://www.behaviouralinsights.co.uk/about-us/>. Accessed 24/11/2016

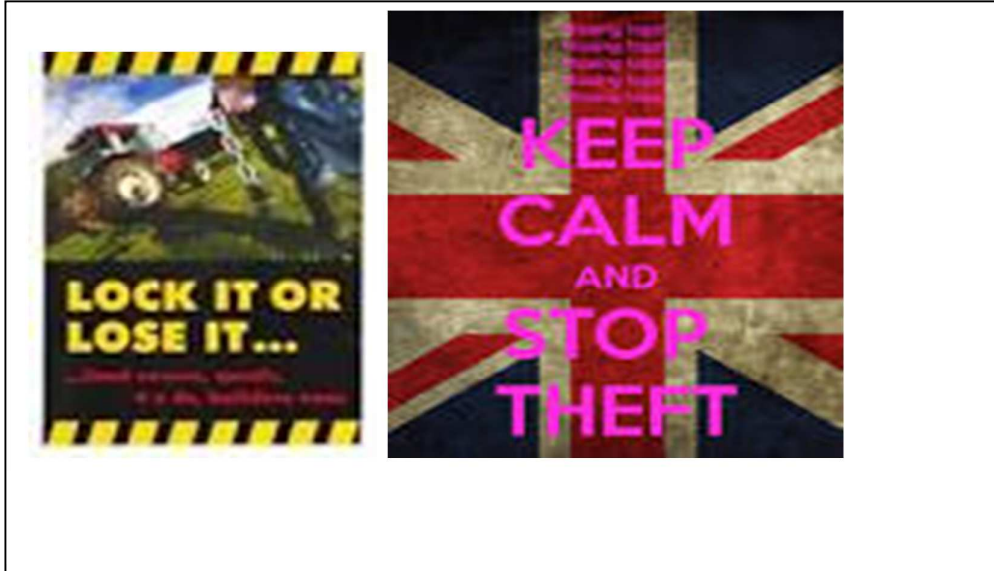
**Table 4. Thefts from all motor vehicles and the percentage from insecure motor vehicles for the period 01/10/2015 to 31/01/2016, for the four nudge pilot areas.**

LSOA NAME	All TFMV	Insecure TFMV	Insecure Index	% Tot TFMV
Durham TREATMENT	3	1	36	33.0%
Chester-le-Street CONTROL	19	8	286	42.0%
Wear Valley TREATMENT	16	4	143	25.0%
Wear Valley CONTROL	13	9	321	69.0%

For Peer Review

## Figures

Figure 1. Two examples of anti-theft leaflets used in the past.



1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

Figure 2. The two leaflets distributed in the treatment areas

More than a 1/3 of thefts from vehicles in your area involve unlocked cars. WHY? Because it's...

# EASY

- EASY** to forget to lock your car and close the windows at night.
- EASY** to assume that because it's parked on your driveway or outside your house that it's somehow safer.
- EASY** to leave your valuable possessions highly visible.
- EASY** to forget to register or securely mark the mobile phones, laptops, tablets and kid's games that you leave on the back seat.
- EASY** to forget to take your sat nav out of your car and remove the holder from the windscreen.
- EASY** for insurance companies to refuse to pay out when the car was unlocked, leaving you to foot the bill.
- EASY** for the thieves, as stealing from an unlocked car means that they are less likely to be seen and so more likely get away with it.

Thieves don't mind if it's your things they take so why make it EASY for them? KEEP YOUR THINGS!

More than a 1/3 of thefts from vehicles in your area involve unlocked cars. WHY? Because it's...

# EASY

- EASY** to forget to lock your car and close the windows at night.
- EASY** to assume that because it's parked on your driveway or outside your house that it's somehow safer.
- EASY** to leave your valuable possessions highly visible.
- EASY** to forget to register or securely mark the mobile phones, laptops, tablets and kid's games that you leave on the back seat.
- EASY** to forget to take your sat nav out of your car and remove the holder from the windscreen.
- EASY** for insurance companies to refuse to pay out when the car was unlocked, leaving you to foot the bill.
- EASY** for the thieves, as stealing from an unlocked car means that they are less likely to be seen and so more likely get away with it.

Thieves don't mind if it's your things they take so why make it EASY for them? KEEP YOUR THINGS!

review