

**Reducing student burglary victimisation using the Nudge approach**

Jason Roach, Ashley Cartwright, Kevin Weir, Steve Richards, and Matilda Weir.

1. *Jason Roach\** is a Professor of Psychology and Policing and the Director of the Applied Criminology and Policing Centre, at the University of Huddersfield.
  2. *Ashley Cartwright*, is a Senior Lecturer in Criminology and Policing in the Applied Criminology and Policing Centre, University of Huddersfield.
  3. *Kevin Weir*, is a Detective Superintendent with Durham Constabulary
  4. *Steve Richards* is an Inspector with Durham Constabulary
  5. *Matilda Weir* is a Durham Police Cadet.
- *Corresponding author J.roach@hud.ac.uk*

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**Abstract**

This paper presents a study employing nudge psychology to reduce burglary of properties in the twelve most victimised streets in the UK City of Durham. A bespoke survey was developed first, to raise residents' awareness of the high burglary rate, and second, to nudge them into reflecting on their burglary prevention behaviour. The findings showed that a majority of residents were not previously aware that they were residing on one of 12 most burgled streets in the City of Durham and that they stated that they would adopt more security conscious burglary prevention behaviours as a consequence of taking-part in the survey. Fewer burglaries were recorded in the 12 streets for the period during and soon after administration of the survey, compared with police recorded burglaries for the same 12 streets for the same period of months in the two years previously. Although the limitations of the present paper are readily acknowledged, as police reported no other burglary related interventions (including targeted 'burglar operations') in the period in question, it is tentatively suggested that the administration of the survey had indeed produced a positive 'nudge effect' on residents' burglary prevention behaviours. The paper concludes with some suggestions for how police might use the data gathered from this approach to develop future burglary prevention initiatives.

**Keywords:** Burglary, Crime Prevention, Nudge Psychology, Student Houses, Victimisation

### **Introduction**

Burglary as a category of crime, is considered by most people in the UK to represent the beginning of ‘serious crime’ (Roach and Pease, 2016; Pease 1988). According to the UK Office for National Statistics, Police recorded domestic and non-domestic burglary in England and Wales fell year-on-year, from 890,099 offences in the year ending March 2003 (the earliest time period for which data are directly comparable) to 401,101 in the year ending March 2016 (ONS website, 2019)<sup>1</sup>. According to the most recent figures, however, burglary in England and Wales increased slightly in the year ending March 2017 (411,536 offences), but nevertheless the general trend, in terms volume, has seen burglary in England and Wales fall by more than half in the past decade (ONS website, 2019).

Despite a fall in the volume of burglaries in England and Wales over the past ten years, the risk of burglary still appears to be highly disproportionate, with a significant number of people experiencing more burglaries than others, with some being ‘repeatedly victimised’ (Pease, 1998). One group identified as being at a heightened risk of burglary in the UK are university students. The 1999 British Crime Survey (BCS) found that 13 per cent of households headed by a student, aged between 16 and 24 years, had experienced a burglary (Aust and Kershaw, 2000) compared to 8 per cent of households where the head was also aged 16 to 24 years but was not a student (Simmons and Dodd, 2003). Indeed, those households headed by 16-24 year olds continue to be the most victimised age group (ONS, 2020) although to our knowledge, the Crime Survey for England and Wales no longer discriminates between students and non-students in this age-group.

<sup>1</sup> Found at <https://www.ons.gov.uk/peoplepopulationandcommunity/crimeandjustice/articles/overviewofburglaryandotherhouseholdtheft/englandandwales#what-are-the-long-term-trends>. Accessed at 10.30am on 7<sup>th</sup> May 2019.

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### *Preventing burglary*

Burglary prevention has a rich history of academic and practical thinking associated with it. Situational Crime Prevention (SCP), for example, developed by Ron Clarke in 1983 (Clarke, 1983) is concerned with developing practical measures to prevent crime by restricting the opportunities for its commission, primarily through manipulations of immediate environments (Hodgkinson & Farrell, 2017). SCP's theoretical underpinnings lie in routine activities theory (see Cohen & Felson, 1979) and rational choice theory (see Clarke & Cornish, 1985). The former of which seeks to explain how offenders encounter crime opportunities as part of their 'routine activities', and the second tries to explain offenders' 'rational' decision-making' in terms of deciding whether to act, by weighing up the potential rewards gained (e.g. money for selling stolen property) against the costs of committing the crime (e.g. getting caught and going to prison). Cornish and Clarke (2003) developed SCP further by increasing the methods for preventing crime to twenty- five, organised within the five categories: increasing the effort; increasing the risks; reducing the rewards; reducing provocations; and removing excuses. Each category comprised five different ways of preventing crime by manipulating environments to reduce opportunity, for example, putting off a would-be offender by 'increasing the effort' of committing a crime by 'target hardening' (Clarke 1982; Cornish and Clarke, 2003).

Since its inception in the 1980s, SCP has continued to inform many successful burglary reduction initiatives evidenced by systematic research and include CCTV, alley gating, hotspot policing, street lighting, neighbourhood watch (e.g. Sidebottom et al, 2017; Welsh & Farrington, 2009; Bennett, Farrington & Holloway, 2008).<sup>2</sup> Furthermore, in a recent article discussing the effectiveness of SCP through the analysis of seven systematic reviews, the

<sup>2</sup> initiatives can be found here <https://whatworks.college.police.uk/About/Pages/default.aspx> (accessed 12/06/2019)

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writers conclude that generally SCP interventions have proven successful at preventing crime (Weisburd et al, 2017).

‘Target hardening’ often parallels the way evolutionary processes have shaped the natural defences of many ‘preyed upon’ species, such as the tortoise, the rhinoceros and the elephant, whereby impenetrable shells and thick skin have evolved to protect them against the claws and teeth of would be predators.<sup>3</sup> In a similar way the security of a property is ‘hardened’ to make burglary more of a challenge, more of a risk and more effortful for would be burglars, thereby deterring them (at least in the short-term) from burgling a particular property (Hirschfield et al, 2010). Target-hardening has been found to be an effective measure of crime prevention in relation to domestic burglary victimisation (Forrester et al., 1988; Hamilton-Smith & Kent, 2005; Hirschfield, 2004; Millie & Hough, 2004) and is often a simple means by which individuals can take basic precautions to protect themselves from criminal victimisation (e.g. by ensuring that all doors and windows are shut and locked).

Although target hardening may continue to be a popular default position in crime prevention, when human beings forget (or refuse) to carry-out even the most basic of security features, such as locking doors and windows, then the crime prevention efforts of even the best ‘hardening technology’ are paralysed. The findings of an unpublished survey of student security behaviour conducted by the first author in 2012, found that UK students commonly neglect basic security behaviours when leaving their accommodation (Roach, 2012).

<sup>3</sup> These do not always protect the preyed but do generally, see for example Roach and Pease’s 2013, *Evolution and Crime* for a more detailed account than is provided here.

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This paper focuses on ways in which students might be ‘nudged’ into thinking about and adopting basic security measures to reduce their risk of burglary and of further burglary victimisation. A significant percentage of extant academic research suggests that residential burglary is not evenly distributed; instead, it is a crime where repeat and near repeat victimisation are an issue (Glasner et al, 2018). Repeat victimisation takes place when the same property is burgled more than once (often multiple times) with near repeat victimisation describing when properties in the immediate proximity of a recently burgled property become victimised (Morgan, 2001). Ken Pease offers two explanations for why these patterns of victimisation commonly occur, termed ‘flag’ and ‘boost’ (Pease, 1998). The flag explanation posits that offenders select their targets based upon specific characteristics that they share (e.g. no evidence of a security alarm) where repeat incidents are assumed to be independent of one another as the offender moves from one target to the next based upon the properties sharing these characteristics (Pease, 1998). The boost explanation differs in that it suggests that those offenders who repeatedly victimise residential properties do so because the offender has acquired specific knowledge of the property, for example, knowing the layout of the left-sided semi-detached houses on a street (e.g. the likely positioning of entrance and exit points) (Pease, 1998). The boost explanation is generally considered to be the more likely explanation for why repeat and near repeat victimisation consistently occurs in residential burglary. It also explains why individual offenders often victimise the same property (i.e. they know what is there to steal) and why the risk of burglary victimisation is significantly increased shortly after an initial burglary but decreases as time passes (Glasner et al, 2018).

The concepts of repeat victimisation and near repeat victimisation for burglary have become well established in UK police practice, evidenced by their common inclusion in the planning, development and implementation of many crime prevention interventions in the UK (Pease,

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Ignatans & Batty, 2018). One such prevention intervention is ‘super cocooning, which involves police visiting those residences in close proximity to the address where a burglary has recently occurred, to inform the occupants that they themselves are at an increased risk of victimisation in the near future (Pegram et al, 2018). Recent cuts to UK police budgets and resources, however, have arguably put pressure on such immediate and concentrated police responses to burglary.

### *Nudging down crime*

‘Nudge’, developed by Thaler and Sunstein (2008), states that human decision-making is susceptible to subtle ‘nudges’ which encourage prosocial behaviour. In their eponymous book ‘Nudge’ (Thaler and Sunstein, 2008) the authors demonstrate how simple ‘nudge psychology’ can be usefully employed in order to effectively encourage prosocial behaviour, such as increased organ harvesting through increased donations, increasing pension saving, and increasing tax returns. Thaler and Sunstein (2008) stress however that nudges do not remove individual choice, but simply re-arrange the choices available in such a way as to encourage uptake of the pro-social option. This, they argue, is the choice most of us would make in time, such as stopping smoking as opposed to carrying on endangering our health by smoking.

Nudges work on a rudimentary understanding of human decision-making processes and what influences them. According to eminent cognitive psychologists Daniel Kahneman and Amos Tversky (see Kahneman 2011, for an excellent precis of their work), there are two basic systems of human decision-making. ‘System one’, which is largely unconscious, such as acting on ‘instinct’ or ‘intuition’, and ‘system two’, which requires substantial effort, thought and calculation, and is commonly referred to as deliberate or rational decision-making (i.e. we have to engage in conscious thought). There are some situations of course which necessitate quick

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system one thinking (e.g. to run away from danger) and some which require of depth of thought (e.g. which university should I choose?).

Nudging essentially represents the employment of ‘psychological prompts’ designed to influence system one (unconscious thinking) by utilising numerous cognitive biases and heuristics (mental shortcuts). Roach et al., (2017) for example, suggest that if a shop assistant says to us, ‘that will be just £2’ when we purchase an item, which was £2 before we walked into the shop and which undoubtedly will still cost £2 a week later, then this represents a deliberate ‘sales nudge’. Why? Well the simple addition of the word ‘just’ can act as a nudge to our unconscious which encourages us to feel that we have got a good deal, that the item is cheaper in this shop and so influences us to shop there again<sup>4</sup>.

Adoption of the nudge approach has expanded exponentially since its initial inception, with many governments employing the approach for numerous campaigns such as encouraging citizens to live healthier lives and to become organ donors. In the UK, the Behavioural Insights Team (BIT) formally of the UK Cabinet Office, have developed a mnemonic for developing and employing nudges titled MINDSCAPE and is presented in table one.

### TABLE ONE HERE

Although the use of nudges has become increasingly common in public policy initiatives and economic research, their use within crime prevention remains neglected. A handful of examples include a study by Nettle and colleagues (2012) that evidenced a reduction in bicycle thefts on a university campus as a result of displaying ‘watching eyes’ on posters placed close

<sup>4</sup> For the interested reader we recommend Kahneman’s (2011) seminal book ‘*thinking fast and slow*’ for an excellent introduction.

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to bike-sheds. Another study by Sharma and Kilgallon-Scott (2015) suggests that thefts from shops can be reduced when signs declaring that ‘savings made from reductions in shop thefts will be donated to charity’ are displayed.

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and colleagues (2017) designed a ‘nudge inspired’ leaflet, in the UK city of Durham, to reduce thefts from ‘insecure’ (e.g. unlocked) vehicles, by encouraging drivers to be more security conscious (i.e. check their cars were locked and windows closed). Theft from insecure vehicles in one area had been a particular problem with up to 25% of all car thefts attributed to unlocked/open vehicles, with the demographic analysis of victims finding that vehicle owners tended to be parents with young families who had forgotten to lock their vehicle(s) while parked on their driveway overnight. The ‘Nudge leaflets’ were developed and distributed to increase the security conscious behaviour of this group and were found to have significantly reduced the percentage of thefts from insecure vehicles in both of the two ‘treatment’ areas by 9% and 7% (Roach et al., 2017). Although few in number, the initial success of applying the nudge approach to preventing crime, especially encouraging vehicle owners in Durham to think and behave in a more security conscious way (Roach et al, 2017) served to enthuse its use to reduce student burglary victimisation in a high-risk area of Durham City.

### *The present paper*

The present study presents a ‘nudge-based’ project developed in 2018 to reduce university student burglary victimisation in the 12 most victimised streets in the City of Durham. The research questions were:

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1. Will administering a bespoke nudge influenced ‘burglary and security awareness survey’ for the 12 most burglarised streets in Durham have a positive influence on residents’ thinking and behaviour about security?
2. Will administering the ‘nudge survey’ itself produce a reduction in burglaries in the 12 streets, at least in the short-term, compared with the reported figures for a similar time-period in previous years?
3. How might increased knowledge of who resides on the 12 streets gleaned from the survey inform burglary prevention and reduction initiatives in the future?

### **Method**

#### *Procedure*

Using hot-spot analysis, the 12 most burgled streets were identified for the City of Durham. They comprised a total of 272 dwellings. A bespoke survey was developed for face-to-face delivery with residents to gather data on their; demographics, social lives, knowledge of burglary rates in the area, common security thinking and behaviours, current contents insurance policies, and tenancy contracts. It is important to outline that all Police Cadets delivered the same survey questions using a survey transcript developed by the research team. Like many police-led crime reduction initiatives, the conducting of this survey was totally dependent on police resources and cadet availability. This meant that two sweeps of the twelve streets were conducted, a first in May 2017 and a second in October 2017 focused on capturing participants of dwellings unavailable or missed in the first.

It was hoped that simply by taking part in the survey (face-to-face) some residents’ thinking and behaviour regarding the security of their properties would be positively influenced (i.e. ‘nudged’). Three questions were included specifically in order to nudge them:

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*Nudge 1. Are you aware of the ‘negligence/ liability’ clause in your home contents insurance policy?*

*Nudge 2. What security measures do you employ?*

*Nudge 3. Do you know that you live on one of the 12 most burgled streets in Durham?*

The survey was completed by a team of Police Cadets, face-to-face with residents of the 12 streets. After the second sweep of data collection, the Police Cadets had surveyed one resident from 214 out of the total 272 properties, therefore achieving a completion rate of 78.67%.

### *Analysis*

Descriptive statistics, Pearson chi-square tests of association, and Cramer’s V measures of association were utilised in the present study to explore the survey data using IBM SPSS Statistics 26.

### *Ethics*

This study was designed in accordance with the British Psychological Societies Code of Human Research Ethics (2014) and approved by Durham Police Force and the University of Huddersfield.

## **Results**

### TABLE TWO HERE

Table two displays the demographic data relating to the surveyed 214 dwellings. As can be seen, 86.4% of dwellings were inhabited by students with over 98% of these having had previously lived in university halls of residence. Over half (55.8%) of student respondents stated that they were currently in the second year of their course. Most considered themselves as having ‘active’ social lives that often took them away from their dwellings in the evenings. The security implications of these findings are discussed later. The findings relating to specific survey questions are presented next.

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### *1. Have you ever been burgled? At this property?*

Residents were asked if they had ever been a victim of burglary. When comparing student and non-student dwellings, a significant association was found  $\chi^2(1,210) = 4.36, p < .037, v = .14$  indicating that 17.3% of students and 34.6% of non-student households had previously been a victim of burglary. This finding also emerged when exploring significant differences at their current address with 2.2% of students experiencing being burgled compared to 17.2% of non-student households  $\chi^2(1,210) = 7.08, p < .008, v = .19$ . However, it is important to bear in mind that this does not take into account time spent in the property and it is possible that student residences are cumulatively victimised more often it is just that students only reside in the properties for a very short period of time. No significant association was found between victimisation at the current address and the gender of the residents at the household  $\chi^2(2, 210) = 4.79, p > .091, v = .15$  despite 60% of residents who reported that they had been burgled at their current address found to be females.

### *2. Do you and your fellow residents have appropriate and current contents insurance policies?*

As can be seen in table two, only 56.1% of respondents in the 12 streets said they had a valid and current home insurance policy. Chi-square analysis was conducted to identify if student and non-student households differed in the likelihood of having home contents insurance, and the results indicated that non-student respondents were statistically more likely to have current home contents insurance than those in student households  $\chi^2(1,214) = 14.4, p < .001, v = .26$  with 89.3% of non-student respondents having contents insurance in place in contrast to 51.1% of student respondents. Further analyses of student answers found no statistically significant associations between having and not having current home contents insurance for; year of study,

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the number of residents in the household, or the gender make-up of the households  $p > .05$ , suggesting that that the low number of students with home contents insurance compared to non-student respondents could not be explained by simple resident differences in demographics. The most plausible explanation is that the transient nature of students' accommodation leads them to consider home contents insurance less necessary than non-student residents who had lived at the same property for far longer.

### *3. How important do you consider having current home contents insurance to be?*

To explore further the level of importance that all respondents placed upon having current home insurance, respondents were asked directly whether they considered home contents insurance a priority. 37.8% reported that it was a priority with 62.2% stating it is was not. A significant difference was again found between student respondents and the non-student respondents  $\chi^2(1,193) = 27.35, p < .001, v = .37$  highlighting that 82.1% of non-student residents prioritised home insurance as opposed to only 30.3% of students. Additional chi-square tests identified a significant difference between the number of residents within a household and whether home insurance was a priority  $\chi^2(3,190) = 14.87, p < .002, v = .28$  indicating that households with fewer residents tended to value home contents insurance significantly more than those living in larger households. A further breakdown showed that 81.8% of solo occupancy households prioritised home insurance, 58.3% of two-person households prioritised insurance, 39.1% of three to four- person households prioritised insurance and only 28.6% of five resident plus households prioritised home insurance. This suggests that the more people living in dwelling, the less likely they are to have home contents insurance. Why? Maybe because each resident thought that their fellow residents were covered and so that they were also insured by proxy? No further demographic variables produced significant findings  $p > .05$ .

### *4. Have you read and understood your home contents policy?*

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Of those who stated that they had home contents policies (115 households) 47.0% stated that they had not read their policy. Of these, non-student respondents reported that they had read their policies statistically significantly more than those in student households  $\chi^2(1, 115)=12.13, p<.001, v=.325$  (86.4% of non-student households stating that they had read their policy compared with 45.2% of student households). A significant difference was found regarding 'reading policies' and the number of residents reported in a household  $\chi^2(3, 113)=11.47, p<.01, v=.32$ , with respondents from smaller households more likely to have read their insurance policies than those living in larger households (75.0% of one resident households, 100% of two resident households, 46.2% of three to four resident households, and 45.6% of five or more resident households). No further significant findings emerged in regards to who reads their policy for the two further demographic variables available (gender and student year of study)  $p>.05$ .

### 5. *Are you aware of the 'negligence/ liability' clause in your home contents insurance policy? (Nudge 1)*

Respondents were asked whether they were aware of the negligence clause within their home insurance policies whereby the insurer reserves the right not pay out if they deem the claimant to have been negligent (e.g. left a door or window open). This was a deliberate 'nudge' to raise awareness that insurers are unlikely to compensate for 'insecure burglaries' (**Nudge 1**). The results indicated that 62.1% were not aware of this policy. A chi square analysis produced a significant difference  $\chi^2(1, 208)= 8.37, p<.004, v=.20$  with 67.6% of student respondents not being aware of this compared with only 38.5% of non-student respondents. A further significant difference was found in relation to the size of the household with regards to whether this effected respondents' knowledge of this clause  $\chi^2(3, 206)= 8.30, p<.040, v=.20$ , with

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50% of one-person households, 58.3% of two person households, 42.7% of three to four person households, and only 27.5% of five person plus households claiming that they were aware of this clause. No further demographic variables were significant in relation to being aware of this negligence clause within policies  $p > .05$ .

An additional question probed the respondents' understanding of their liability should they be burgled (i.e. they will be liable to cover the contents stolen and not their landlord). 86.1% participants reported that yes, they did understand that they would be liable. This was a repeat re-enforcement of **Nudge 1**. No significant associations emerged in relation to whether particular demographics of respondents knew more regarding the liability clauses of their tenancy agreements  $p = > .05$ .

### *6. What security measures do you currently employ? (Nudge 2)*

This section of questions was designed to assess residents' property related security thinking and behaviour. 97.2% of respondents reported that they routinely check that doors are locked prior to leaving. No significant differences were found regarding demographic variables such as whether they were student/non-student, male or female ( $p = > .05$ ).

When respondents were asked if they routinely checked their windows were locked prior to leaving their properties. 93.4% of respondents stated that they did as routine chi square analyses found no significant differences in regard to respondent demographics  $p = > .05$ . When asked whether they routinely check whether other residents are in prior to leaving the property 57.6% of respondents indicated that they did routinely. Chi-square analyses found no differences according to resident demographics  $p > .05$ .

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Student residents were asked whether they check bedroom doors are locked prior to leaving the property. 58.7% stated that they routinely do this. Chi square tests indicated no significant differences between the gender of the residents within the households or the number of residents within the student households and the reported levels of checking bedroom doors  $p > .05$ .

Next, respondents were asked if they had heard of 'property marking' (e.g. Smartwater and Propmark) a technology that invisibly marks items of high value so if stolen they can be easily be identified. Only 18.2% of the all residents' surveyed knew about property marking, but students were found to be significantly less likely to have known about it  $\chi^2(1, 211) = 8.74$ ,  $p < .003$ ,  $v = .20$ , with 84.9% of students admitting to not knowing what it was compared with 62.1% of non-student respondents. Chi-square analysis indicated a significant difference between knowing about property marking and the number of residents living in one household  $\chi^2(3, 211) = 12.51$ ,  $p < .006$ ,  $v = .24$ . 27.3% of one resident households, 50% of two resident households, 22.1% of three to four resident households, and 11.7% of five person plus resident households claimed to be aware of property marking. No additional significant findings emerged in relation to the gender of the households or the year of study for the students  $p > .05$ , with only 7.3% of all respondents indicating that they had used it. Additional chi square analyses indicated that non-student respondents were significantly more likely to have items marked than student respondents  $\chi^2(1, 191) = 19.27$ ,  $p < .001$ ,  $v = .31$  (only 4.2% of students having items marked compared with 29.2% of non-students). A significant difference was found  $\chi^2(3, 191) = 38.81$ ,  $p < .001$ ,  $v = .45$  demonstrating that 22.2% of one resident households, 50.0% of two person households, 4.2% of three person households, and 3.0% of five resident plus holds had items marked. No further significant findings occurred in relation to the use of property marking and the other demographic variables  $p > .05$ .

### *7. Do you know the rates for burglary in your street? (Nudge 3)*

When asked this question, 53.1% of residents indicated that they were not aware that they lived in a 'high-burglary area'. A statistically significant difference was identified in relation to gender  $\chi^2(2, 208) = 8.56, p < .014, v = .20$  whereby 63.4% of all female respondents were aware that they were living in a high burglary area compared with only 49.4% of mixed residences and 35.9% of all male residents. Additional chi-square analyses showed no other significant differences for the other resident demographic variables  $p > .05$ .

Fewer respondents were aware that their street was in fact one of the top 12 streets for burglary in Durham. Only 20.4% of participants knew this. Again, no significant differences were found regarding resident demographic variables  $p > .05$ . Perhaps unsurprisingly, 51.7% of residents indicated that they did not know that they lived on one of the 12 highest streets for 'insecure burglaries'. Chi square analyses were additionally run to explore the role of demographics and no significant differences were found ( $p = > .05$ ). The deliberate inclusion of this question was to act as a nudge, the hypothesis being that if this came as a surprise to them then they will become more motivated to improve their security behaviour. This is discussed more fully next.

### **Were the residents likely to change their behaviour through participation in the survey?**

Although it was hoped that conducting a face-to-face security survey would have a 'nudging effect' itself on residents' security thinking and behaviour, as previously stated, three explicit nudges were included

***Nudge 1.** Are you aware of the 'negligence/ liability' clause in your home contents insurance policy?*

***Nudge 2.** What security measures do you employ?*

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*Nudge 3. Do you know that you live on one of the 12 most burgled streets in Durham?*

In total, 78.7% of respondents surveyed indicated that by taking part in the survey it had made them think more about security and their 'burglary prevention behaviour'. A significant association emerged between student and non-student households and whether the survey had made the respondent think  $\chi^2(1, 211) = 6.21, p < .013, \nu = .17$  with 81.4% of student respondents stating the survey had made them think about their prevention behaviour compared with 60.7% of non-students. No further significant associations occurred between resident demographics (e.g. year of study for students, gender, number of residents) and whether the survey had made them think more  $p > .05$ . Regarding actual 'burglary prevention behavioural change', 62.7% of households reported that the survey would prompt them to improve/increase their security behaviour. No significant association was found between students and non-student residents regarding whether they stated that the survey would make them change their burglary prevention behaviour  $p > .05$ . Furthermore, no significant associations were found with regard to the gender of the respondents and whether the survey would make them change their behaviour.  $p > .05$ . A significant association was found in relation to the number of residents within each household  $\chi^2(3, 207) = 9.56, p < .023, \nu = .22$  with 20.0% of one resident households, 58.3% of two resident households, 61.0% of three to four resident households, and 68.5% of five resident plus households stating that the survey would change their behaviour. So was there any evidence that participating in the survey had actually nudged an increase in their security conscious and burglary prevention behaviour?

To explore this question, burglary rates were compared for the years 2015, 2016, and 2017 (i.e. when the survey was conducted). In order to compare the results appropriately the number of burglaries were extracted from police databases for burglaries committed from the 1<sup>st</sup> of May to December 31<sup>st</sup> for 2015, 2016, and 2017. The reason for selecting these dates was to match

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the period of time when the surveys were conducted in 2017. In 2015 four burglaries were committed, in 2016 eighteen burglaries and in 2017 three burglaries. The May to December (survey) period in 2017 saw a reduction in reported burglary of 25% when compared with the same period in 2015, rising to 83% compared with that of 2016. However, it must be acknowledged that due to the limited data available (2015 and 2016), the results should be taken with caution as the reduction in burglary could simply be the result of a ‘regression to the mean’ effect, which is common where the ‘averages’ of relatively small numbers are compared. Nevertheless, at face-value at least, there was some cause for optimism that the conducting of the survey had played some part in the reduction of reported burglary in the 12 streets of Durham in May to December 2017.

### **Discussion**

The findings of the present study suggest that by employing a ‘nudge influenced’ survey can indeed encourage residents to think more about their ‘security/burglary prevention behaviour’ and produce a seemingly corresponding reduction in (insecure) burglary victimisation of students. Although it is not discernible whether the greatest influence was attributable to any or all of the three explicit nudges, or simply taking part in the whole survey, further research is needed to ascertain how long any ‘nudging effect’ may last, before leaping to any grand conclusions that administering such a survey might serve to ‘immunise’ individuals and areas against burglary victimisation forever.

It is crucial to consider alternative explanations for the apparent reduction in reported burglaries in the 12 streets of Durham City. The reduction might, for example, have been as a result of the influence of ‘confounding factors’ which the study was unable to control for, such as the incarceration of a number of prolific burglars co-incidentally at the time of the present study. Indeed, this is crucial and future implementations of this approach need to

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compare burglary rates post intervention with longer periods of recorded burglary data in order to be able to identify any prevention effect with any great degree of certainty.

On a less pessimistic note, the data collected using the survey is currently being used by Durham police to better inform future burglary reduction initiatives within the twelve streets.

For example,

1. It was found that the overwhelming majority of residents in the 12 streets were students – although this was assumed by police, the survey provided evidence for the first time. This is an important finding in itself as the Crime Survey for England and Wales does not routinely delineate students as a highly victimised group. Furthermore, it was found that nearly all of the residents who identified as students had previously lived in halls of residences and it is hypothesised here that this is one of the possible explanations for why such high rates of victimisation occur. In halls of residences, security measures are often taken care of by security staff and prior to moving to university, by parents. Thus, when students move out of halls of residences into housing, they might not adequately adjust their behaviour to routinely implement security behaviours such as ensuring that doors and windows are locked prior to leaving. This suggests that investing time to educate students about burglary rates and personal security before they actually move out of Halls is likely to pay dividends in terms of reducing burglary victimisation, particularly in high-rate areas like the 12 streets. Moreover, although nudges to increase target-hardening would be beneficial to all residents of the 12 streets area, nudges aimed at improving insurance uptake and improving knowledge regarding insurance would be most beneficial to the student population with an emphasis on larger student households. This is an important finding to consider and certainly will be of interest to police forces and universities

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within the UK as insurance is certainly needed to minimise the effects of burglary victimisation.

2. The survey found that households reported thinking about burglary prevention after the survey was administered and reductions in burglary victimisation in the 12 streets occurred during and soon after the survey period. This finding of course might be the result of extraneous variables, but it is at least equally plausible that the survey had a positive effect making participants think more about crime and crime prevention. As Durham police have stated that there was no dedicated burglary operations or initiatives conducted in Durham City during the period of the study, this can be discounted as an extraneous variable when considering the findings. As a result, it is suggested here that nudges utilising information regarding crime rates within the area and risk of victimisation (as opposed to assuming that this is common knowledge) may be a good way of reducing burglary victimisation. Operating along the same lines as ‘super cocooning’ (Pegram, 2018) but likely to be less costly.

It must be thoroughly acknowledged that the present findings can only be generalised to the 12 streets of Durham in the UK, the reason being that victimisation will vary and differ in different areas (e.g. geographically, cultural make-up, types of property) and so the findings presented here are limited in this respect. We also acknowledge that as the survey was administered in two sweeps held some months apart, then some respondents in the second sweep may not in fact have been resident on that street when the first was conducted.

Although this might be seen potentially as a confounding variable, as most respondents were students anyway, with only one surveyed per property, we believe that any effect this might have had on the findings to be minimal.

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Other possible limitations, alluded to previously, is that the survey did not control for extraneous variables and therefore is not able to say exactly why it was burglary reduced in the 12 streets area. We freely accept that there are other plausible explanations for the drop in domestic burglary found on the twelve streets, such as the perceived increase in guardianship that both respondents and burglars may have experienced. Having ‘cops knocking on doors and asking about personal security’ is not seen to be a regular occurrence (in the UK at least). The purpose of the ‘increased police presence’ however, was to administer the survey and is unlikely to have increased otherwise. It is more pragmatic, therefore, for us to suggest that it was the conducting of the survey in its entirety which is likely to have had a burglary reduction effect and not simply to attribute it solely to the nudges within in changing the security behaviour of respondents’.

The police stated, however, that there was no significant increase in the number of known prolific burglars ‘locked-up’ during the period of the study or in the six months afterwards. Nor were there any particular initiatives implemented to reduce burglary in the 12 streets area during these periods. Therefore, it can be fairly concluded that a positive effect was achieved by conducting the survey for the research period and in the following six months.

Admittedly, this effect is likely to reduce with time as people move in and out of the 12 streets area, however the findings of this study were appropriately compared with same period for the two years previously, when it can be presumed students were equally transient. Further research is needed which focuses on student burglary victimisation across a wider time period for both during, prior and after, the administration of a burglary prevention survey, in order to obtain a fuller picture and to convincingly rule out that the reduction was not simply a regression to the mean. One of the recommendations from this small study was

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that it should prove beneficial for police to educate first year students about personal and home security before they leave the halls of residence (where security is done for them) and move out to inhabit the houses on the 12 streets (and other popular student residential areas) thereby empowering them to reduce the risk of burglary victimisation.

On a more positive note, conducting a bespoke survey of a particular area along the lines laid out in this study, should go some way to discouraging lazy crime reduction thinking often entailing the use of ‘cook book recipe’ generic initiatives to reduce burglary, in favour of a more bespoke, problem-orientated approach.

### **Conclusion**

What pragmatically can be taken from the present study? First, that police are advised to find out as much as they can about those living in areas of high burglary victimisation and then to use the data to tailor reduction initiatives accordingly, thereby avoiding ‘blanket’ generic responses that are often doomed to failure! Second, as we have endeavoured to show here, the act of asking burglary awareness and security behaviour questions, via a face-to-face doorstep survey, is likely to have a nudging ‘reductive’ effect itself, promising a win-win situation for minimal cost and effort. Three, that by adding explicit nudges (as questions) designed to influence a bespoke target audience (e.g. students) has been shown to at least support a positive security/ burglary prevention effect with residents, than by simply conducting a face-to-face survey per se. Put simply, effective nudging involves matching a desired message (be more burglary aware and security conscious) to a designated receiver (students living in the 12 streets) and delivered by an appropriate messenger (in this case police and police cadets).

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As this project was conducted in partnership with Durham Police, it was very much an example of ‘real world research’, and so subjected to various problems and limitations that prohibited the use of a more experimental method. We hope that its strength lies at least as much in highlighting what can be done if a problem-solving partnership approach is adopted, as much as its reductive impact on burglary in the twelve streets. We are not, therefore, claiming that the findings of this study suggest that taking a nudge approach is a panacea or ‘silver-bullet’ to reduce student burglary victimisation, as that would be fool-hardy – it is not. Even with all the security products in the world, if people forget or refuse to use them, then their effectiveness is compromised. This is perhaps where nudging can be most useful, as demonstrated by the 12 streets of Durham project.

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**Tables**

**Table 1.** MINDSCAPE (reproduced from Behavioural Insights Team)

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

**Table 2.** Demographic information relating to the residents of the properties

<i>Demographics</i>	<i>%, n</i>	<i>Excluded cases<sup>5</sup></i>
Number of Residents at Address	5.2% 1 resident (n=11)	3
	5.7% 2 residents (n=12)	
	36.5% 3-4 residents (n=77)	
	52.6% 5+ residents (n=111)	
Residents' Gender	42.1% mixed (n=88)	5
	39.2% all female (n =82)	
	18.7% all male(n=39)	
Student households	86.4% (n=185)	0
Percentage of students previously living in halls	98.4% (n=179)	35
Year of study	0.6% (n=1) First year	33
	55.8% (n=101) Second Year	
	33.1% (n=60) Third Year	
	8.9% (n=19) Fourth Year/Postgrad	
Non-student households	13.6% (n=29)	0
Vehicle at address	48.1% (n=103)	2
Valid home insurance policy in place	56.1% (n= 119)	2
Previous victims of Burglary	19.2% (n=41)	3
Previous victims of burglary at current address	6.1% (n=13)	3
Socialise at weekends	78.8% (n=160)	11
Out on weeknights	84.1% (n=175)	6
Often back late	77.2% (n=159)	8
Moving at the end of term	77.3% (n=157)	15

N=214

<sup>1</sup> Excluded cases refers to those where survey participants did not wish to answer the question.