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Burglars as Optimal Foragers: Exploring Modern-Day Tricks of the Trade

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Abstract

Based on semi-structured interviews with 23 incarcerated burglars, this paper details findings from a qualitative examination into how the principles of Optimal Forager Theory (to minimise time and effort, minimise risk of detection, and maximise reward) apply to the behavioural methods utilised by offenders. Findings included the use of 'serial targets' (to minimise time and effort), as well as offenders' ability to 'blend in' to their surroundings (to minimise risk of detection). To maximise reward, offenders used brands of consumables (evident from packaging found in residents' rubbish) as a proxy for wealth, as well as personal details gathered through residents' discarded mail to establish their ethnicity (for the targeting of Asian gold). The findings support the notion of 'dysfunctional expertise', and demonstrate how efforts to maximise time and effort, minimise reward, and maximise risk of detection for offenders can be used to develop crime prevention policy to reduce future burglaries.

Keywords: Residential burglary; Optimal forager theory; Offender decision-making; Target selection; Crime prevention

Introduction

Since the early works of Repetto (1974) and Shover (1973) in the US, and Maguire and Bennett (1982) in the UK, there has been a multitude of research studies examining the practices of domestic burglars. Such work has explored the practices of offenders prior to, during, and following the course of offences, and has helped to reveal indicators of

expertise amongst offenders. The current paper builds on this work, through revealing some of the more advanced, contemporary practices utilised by domestic burglars during the course of their offences. This work demonstrates clear application for policy, identifying potential points for intervention that may be utilised by both authorities and residents, to disrupt and/or prevent the occurrence of such offences in the future.

The current paper represents a novel approach to utilising the Optimal Forager Theory (OFT) framework, through a qualitative examination of the ways in which the principles of OFT: to minimise time and effort, to maximise reward, and to minimise risk of detection, are used by offenders to help shape and inform their behaviour and decision-making during the burglary process. The paper will firstly provide an overview of the literature surrounding burglary practice and expertise, before considering the principles of OFT and its application to burglary as well as crime prevention. The paper will then detail the methods used to gather information on the practices of burglars during the course of their offences. Following this, details of the techniques employed by offenders will be discussed in relation to each of the three strands of OFT. The paper will then touch on the implications of the findings for the purposes of crime prevention, considering the value, as well as the limitations of the work, before focusing on directions for future research.

Burglary behaviour and expertise

In the extant literature exploring burglary techniques, there is a body of work that illustrates the expertise and professionalism exhibited by some offenders. For example, through examining burglary features and locations, Maguire and Bennett (1982) identified a sub-sample of participants as being ‘high-level professionals’, who were likely to demonstrate a strong degree of planning in their offences. Nee and Meenaghan

(2006) similarly classified a sub-sample of offenders as 'planners' in their research with a sample of experienced domestic burglars; such individuals generally held some knowledge of the target, the occupants, and the potential rewards prior to the offence. However, only two participants out of this sub-sample were identified to have *methodically* planned for offences a number of weeks in advance (Nee and Meenaghan 2006); with the remaining members of this sub-sample having observed residents and gathering details of property contents for several days beforehand. Moreover, in their work into classifying offence styles and offender typologies, Fox and Farrington (2012) identified over a quarter of burglary offences from their sample as being highly organised in nature; for example, involving the use of tools, and the theft of largely high-value items.

It is important to note that examples of highly professional or sophisticated offenders found through previous research such as the aforementioned studies are not representative of the *majority* of offenders, as such high levels of sophistication have typically been found in smaller sub-samples of studies, as has been shown above. Indeed, previous research has identified a 'continuum' of expertise in relation to offending behaviour (Addis et al. 2019; Nee et al. 2015; Nee et al. 2019; Nee and Taylor 2000; Nee and Ward 2015), which should be borne in mind when considering offender practices.

More recent research has utilised the value of virtual environments to help understand distinctions in expertise across participant groups. For example, Nee et al. (2019) utilised a virtual environment (navigated using a laptop computer) with experienced burglars, offenders with no burglary experience, and non-offenders. They found that the experienced burglar group demonstrated greater expertise in the virtual

environment with regards to exploring the neighbourhood, time spent in higher-value areas of the property, as well as the targeting of smaller, higher-value goods when compared to their lesser-experienced counterparts (Nee et al. 2019).

Building on this work, van Sintemaartensdijk et al. (2020) developed an immersive virtual environment (using a virtual reality headset) to explore the impact of guardianship on residential burglary amongst a sample of burglars and non-burglars. They found that guardianship deterred both burglars and non-burglars alike, despite finding negligible effects based on the differing levels of guardianship. However, the research also discovered that the burglar group demonstrated greater efficiency in processing burglary cues when compared with non-burglars, reinforcing the distinction in expertise between burglar and non-burglar groups (van Sintemaartensdijk et al. 2020).

The above research provides support for the concept of 'dysfunctional expertise', coined by Nee and Ward (2015) in relation to offending behaviour. Specifically, dysfunctional expertise relates to the decision-making of the offender in and around the crime, illuminating the automatic, unconscious, cognitive processes that enable enhanced recognition of offence cues to assist offenders' target selection. In turn, these trigger cognitive-based schemas, and subsequent behavioural crime scripts (based on previous successful actions; Nee and Ward 2015). The development and emergence of such automated behaviours over time are the fruits of offenders' labour; their 'lived expertise', which has refined their ability to recognise specific offence-based/environmental-cues, and trigger cognitive schemas and behavioural crime scripts. Similar to the use of AI-technology in learning players' moves within video games, insights from learning theories and behavioural ecology (specifically, OFT) would

suggest that offenders learn from their experiences (Bernasco et al. 2015), and, in turn, evolve in their offending behaviour (Nee and Ward 2015). As such, this illustrates the value of principles taken from behavioural ecology in understanding the development of offender practices.

Burglars as foragers: Applications of OFT to burglary

Adopted from studies of animal ecology relating to foraging behaviours, OFT works on the premise that animals will forage for food sources in a manner that will: minimise effort/energy, maximise reward (food supply), whilst minimising risk of detection from predators (Krebs and Davies 1993). Faced with the pressures of environmental constraints and the strain of natural selection, animal species have developed various foraging strategies over time, in which they are able to balance the nutritional value from potential prey, with the time, effort, and risks associated with sourcing and consuming their targets (Bernasco 2009, 2010a).

Within the context of offending, OFT denotes that an offender will seek to maximise their reward, whilst minimising the time and effort involved, as well as minimising the risk of detection (Johnson and Bowers 2004a, b). Taking burglary as an example, offenders would seek to maximise their rewards through identifying target areas and properties that involve limited effort and time to access, that contain high-value items, and where the perceived risk of detection is low (Bernasco 2010a).

OFT is particularly valuable in understanding offending behaviour, as it merges the goal-oriented nature of Rational Choice Theory (Clarke and Cornish 1985), where rewards are maximised through the conscious, deliberate selection of targets, with a series of automated, unconscious processes that help to influence offenders' behaviour (Bernasco 2010a; Nee et al. 2019). OFT has previously been applied to studies of

criminal behaviour; often in relation to residential burglary (Bernasco 2006, 2010a; Bernasco and Nieuwbeerta 2005; Bernasco et al. 2015; Johnson 2014; Johnson and Bowers 2004a, b), though studies exploring the principles of OFT have also ventured into other crime types, including vehicle theft (Brantingham 2013); wildlife poaching (Pires and Clarke 2011); and maritime piracy (Townsley and Oliveira 2015). However, such work has predominantly taken a quantitative focus in exploring OFT principles; for example, examining the spatio-temporal clustering of crime (Bernasco et al. 2015; Johnson 2014; Johnson and Bowers 2004a), or exploring choice of offence locations (Bernasco 2006, 2010a; Bernasco and Nieuwbeerta 2005).

The nature of spatio-temporal clustering found within research examining OFT demonstrates clear links with the concepts of repeat and near-repeat victimisation (Bernasco et al. 2015), and consequently the application of OFT signifies clear potential for the purposes of crime prevention. One such study highlighting the value of OFT for the purposes of crime prevention is that of Johnson and Bowers (2004a), who examined burglaries across Merseyside to assess the degree of spatio-temporal clustering amongst offences in line with OFT. They found both temporal and spatial clustering of offences, with a greater number of offences occurring within one month and 400 metres from one another. OFT principles have subsequently underpinned burglary reduction initiatives introduced in UK cities in order to reduce levels of burglary. For example, the 'Trafford Model' was developed directly from Johnson and Bowers' (2004a) work, and subsequently implemented in the Trafford area of Manchester (Fielding and Jones 2012), and later in North-West Leeds (Leeds City Council 2013). In Trafford, this helped account for a 26.6% reduction in burglaries when compared with the previous 12-month period (Fielding and Jones 2012), and in North-West Leeds, the initiative

contributed to a 40% reduction in burglary figures between the 54 weeks pre- and post-initiative (Leeds City Council 2013). Nevertheless, these numbers should be read with caution, as it is difficult to establish that such falls can be wholly attributed to this initiative, and these figures do not necessarily account for the broader ongoing crime drop (Farrell et al. 2010, 2014), nor do they account for seasonal fluctuations. That being said, it is likely that this model, as based on OFT principles, did in part contribute to falling burglary figures during these periods.

Though the above initiatives help demonstrate how OFT can be used to understand clustering of burglary offences and inform subsequent crime reduction initiatives, the current paper will advance application of OFT, by using this theory as a framework with which to understand the behaviours and decision-making of burglars during the offending process. There is clear value to this work in supporting crime prevention efforts; for if we can begin to understand the behaviours and techniques utilised by offenders over time, this will ultimately help to support the detection/prevention/prediction methods used by police authorities.

The previous effectiveness of interventions (based on OFT principles) to address burglary suggests the potential presence of 'forager-like' behaviours amongst offenders within these localities. Consequently, the current study will help to provide a narrative for such 'forager' offenders, exploring the target selection and decision-making utilised by this group. To the authors' knowledge, the current study is the first to date that explores OFT and burglary through a qualitative lens, moving beyond the body of work that has focused heavily on OFT and quantitative analysis.

Data and Methodology

The research on which this paper is based took place between January and December 2015 in a city in the North of England, in the UK (hereon in referred to as 'Northern City'). To provide context to this work, the current research forms part of a wider project that explored the nature of burglary and burglary practices within the Northern City area. Set against a backdrop of high burglary levels and a series of austerity cuts across public services, the project took a localised focus, because of the importance of targeting (constrained) policing resources where they are needed most, alongside the value of tailored crime prevention advice. This wider project involved semi-structured interviews to explore offending practices, a property image task (to verify features that would attract/deter individuals when deciding on a suitable target), and a risk-taking questionnaire (to explore individuals' propensity for risk-taking). These three elements of the project were undertaken with a sample of 23 incarcerated male offenders with current or previous convictions for domestic burglary. The current paper reports on the findings based on the semi-structured interviews undertaken with this sample.

All participants were recruited from a Category B local prison. Access to the prison was granted through the National Offender Management Service (NOMS, now HMPPS). The proposed research was discussed initially with the prison's governor, who granted provisional approval for the project, subject to receipt of the necessary ethical approvals from NOMS and the University. Ethical approval was subsequently received from the University's Research Ethics Committee and NOMS in order to conduct the research.

This research sought to explore specifically how the principles of OFT apply to burglars' offending practices. Given the localised focus of this research, it was

important to speak to those with previous involvement in, or ties to, burglary within the Northern City area. Thus, potential participants with previous or current convictions for burglary (and links to burglary within the Northern City area) were identified using non-probability sampling (drawing on both purposive and snowball sampling approaches), through three key methods. Firstly, by staff in the prison's Offender Management Unit (OMU), who recommended individuals known to them through their OMU role. The second approach involved a search for individuals with current or previous convictions for burglary using official prison records. OMU staff made initial contact with these individuals, to introduce the research and establish their motivation to take part. Finally, one of the earlier research participants, who was familiar with a number of individuals in the prison, also helped to promote the project amongst their peers, which helped to generate a further snowball sample of suitable participants.

For those who expressed their interest to take part, the researcher, together with an officer from the prison's OMU, subsequently met with these individuals to check they remained willing and able to participate in the research, and to verify that they had ties to/experience of burglary within the Northern City area (the localised nature of the prison meant that the majority of individuals approached did confirm having ties to/experience of burglary within the Northern City area). This meeting also gave prospective participants the opportunity to ask any questions about the research prior to participation. All participants took part in the research voluntarily. No financial incentive could be offered to participants; nevertheless, the researcher was able to provide a comment that could be added onto an individual's wing record, to acknowledge their engagement during the research process.

The average age of participants was 34 years, and all participants held prior burglary convictions. Specifically, participants held an average of 17 convictions for burglary, for approximately 73 (known and recorded) burglary offences. A number of offenders also reported committing 100s (if not 1000s) of additional burglary offences which were not recorded (and for which they had not been caught). All participants reported that they had engaged in drug use in the time leading up to their current period of incarceration.

Interviews were predominantly conducted in the legal visits department of the prison, with two interviews conducted in wing offices. Prior to interviews taking place, the researcher discussed the nature of the project with participants and outlined what the interview process would entail. Following the framework agreed by the ethical review committees, it was made clear to participants that verbal consent would be sufficient in confirming that they understood what was being asked of them for the research, and to confirm that were happy to proceed on this basis. Written consent was not required, so that participants did not have to assign their name to anything, in order to help preserve anonymity.

Interviews were recorded through the use of hand-written notes due to security restrictions on the use of recording equipment within the prison. As a result, it was not possible to record all responses verbatim. Nevertheless, the authors are confident that the notes taken were sufficiently detailed to provide a clear picture on offenders' practices as discussed during interview. In addition, Sloan and Wright (2015) reflect on some of the sensitivities associated with the recording of interviews in prison, for example, in evoking memories of previous police interviews. In this regard, the fact that hand-written notes were used over recording equipment may in fact have been viewed

positively by participants, helping (in part) to put them at ease during the interview process.

Semi-structured interviews were chosen for this research to provide flexibility in exploring offenders' offending practices. Interviews explored the practices of offenders prior to, during, and following burglary offences, to help reveal the range/nature of techniques utilised by offenders. There are clear benefits to learning about offending practices through offender accounts; for example, in providing information not available through other means (Armitage 2018a). Furthermore, offenders are able to provide a first-hand account of their offending and experiences (Bernasco 2010b), with incarcerated samples also better placed to reflect on their experiences than active offenders in the field (Copes and Hochstetler 2010). Nevertheless, it is important to acknowledge at this juncture the risks associated with the use of offender accounts in research, and the potential for 'false narratives' to be provided by participants. For example, individuals may exhibit an element of bravado in their responses, or, conversely, 'downplay' the extent to which they may target certain properties, effectively under- or over-estimating (respectively) the effect of certain deterrent features (Armitage 2018b). This latter point could link to a desire to present a 'false morality' (Armitage 2018b; Shaw and Pease 2000), in which individuals may seek to mask, or minimise, elements of their offending that may be construed as morally wrong, such as targeting elderly residents. Though the authors acknowledged such risks, it was decided that accounts would not be verified against file information; not only as a consequence of limitations with the resources required for such verification, but also to help maintain participant rapport during interviews. Moreover, the use of additional

research elements (for example, a property image task) as part of the wider project could also be used as a means to help verify participants' responses.

Once interviews were transcribed, they were analysed using 'Ethnographic Content Analysis' (ECA), a qualitative form of content analysis developed by Altheide and Schneider (2013). Though initial categories are formed using ECA, this approach enables a greater degree of flexibility, as such categories can be revised during the analysis process, enabling fluid transition between the stages of analysis, conceptualisation and interpretation (Altheide and Schneider 2013). This approach was chosen to explore the target selection and behavioural practices prior to, during, and following burglary offences.

Findings

During interviews it emerged that offenders' behaviours were shaped prior to, during and following offences, in line with the three elements of OFT: to minimise risk of detection, to minimise the time and effort required during the crime itself, and to maximise the reward from an offence. Consequently, these strands of OFT will provide a framework with which to articulate the findings from this research, prior to considering the implications of these results for the purposes of enhancing crime prevention and community safety efforts.

Minimise time and effort

The first of the OFT principles, to minimise time and effort, is one that is thoroughly embedded across research in the context of burglary as based on offenders' target selection (Fielding and Jones 2012; Johnson and Bowers 2004a), and was prevalent in

the narratives of the burglars interviewed here. A key feature that emerged amongst offenders was the notion of a 'serial target', whereby offenders would repeatedly target particular properties that had security 'weak spots'. It also became apparent how offenders would minimise the effort involved through their journeys to and from offences, as well as making use of tools to help facilitate their crimes.

Serial targets

In accordance with previous studies (Johnson et al. 1997; Trickett et al. 1992), burglars revealed that they would often focus on serial targets, whereby repeat and/or near-repeat offences were committed for the same, or nearby, targets. Various property cues such as poor security, limited visibility and guardianship may increase the attractiveness of targets to burglars, which may lead to the occurrence of near-repeat burglaries as a consequence of the 'boost' of vulnerability given to such properties following an initial offence (Townsley et al. 2003; Tseloni and Pease 2003). In addition to near-repeats, the narratives from interviews also revealed the presence of serial targets through *repeat* offences, where offences against the same property were committed. Previous work has argued how prior victimisation is the strongest predictor of repeat victimisation (Pease 1998). For some, the question of whether they would commit a repeat offence against a property stemmed from the perceived level of reward on offer: '*Did one or two* [burglaries] *in the street, then left* [it] *a year or so, depends how well I did out of them in terms of rewards etc.*' (Participant Five). Some offenders who discussed repeat offences also described how they would wait a period of time for the residents to replace their goods prior to targeting them again: '*Repeats? Some properties - are easy. Leave it for a month, they'll replace it, do a second, and third time*' (Participant 11).

The concept of a serial target emerged a number of times during interviews, supporting the links between OFT and repeat/near-repeat victimisation (Bernasco et al. 2015; Johnson and Bowers 2004a). Despite the general reward-centred drivers, there was also evidence that security (or lack thereof) played a role in the prevalence of repeat offences: '[Burgle same property?] *Once or twice, 'cos easy. Took them two/three times to get a burglar alarm*' (Participant 14), and:

> [Burgle same properties?] More than once. […] Always have decent stuff in. Sometimes they have a key I take, then take it back there and use it. Normal [non-student] house, if I used keys - after second burglary, when [a property's residents] found that [there was] no forced entry, they would change the locks. Student houses - they wouldn't bother changing the locks. Could do this five/six times over (Participant Ten).

Though previous work has identified repeat or serial victimisation levels as being particularly high within high-crime areas (Trickett et al. 1992), Hirschfield et al. (2010) found that whether or not a property had been subject to target hardening measures may be more important in understanding repeat victimisation than merely being in high-crime areas. Specifically, they found that a number of properties who had been subject to target hardening measures, but were in high-crime areas, did not encounter repeat victimisation, which raises the importance of tailoring target hardening measures at the individual property-level (Hirschfield et al. 2010).

The most popular demographic group targeted by offenders was students, with over a third (35%) of offenders targeting student areas. As such, it appears that this group could be classified as a serial target in their own right, due to the apparent ease and lack of effort required to commit such offences against this group: '[Student area] - *full of new people every year, lazy, students - don't care re: money, easy pickings,*

like throwing bread for birds, throwing laptops for criminals' (Participant Four). It emerged during interviews that students were viewed as demonstrating apathy and a 'laissez-faire'-type attitude towards property security, which, ultimately, made things rather straightforward for offenders to target student properties. It is important to note that most offenders in the study lived in the Northern City locality, which, like many cities in the UK, comprises a considerable student population; in other places the student demographic might not feature so heavily in the offenders' awareness.

Journeys to/from crime

It transpired during the interviews that there was not one specific mode of travel used by offenders to and from an offence, however the reported means of travel were considered typical. Walking was reported by over four-fifths of offenders (83%) as being a popular mode of travel. Offenders' choice of transport appeared to be heavily governed by convenience, to help ensure smooth passage to and from offences, whilst ensuring minimum effort, as has been illustrated within the context of other offences (Meaney 2004):

> Walking about and see where ended up. Walk/bus/lift with mates. [Adjoining student areas] - very security lacking, no security the lot of 'em [students] - fresh pickings for everyone [every year] - not clued up on area and what it's like - loads of people operate up those areas. People leave doors wide open/windows open – [leaves] temptations (Participant 20).

What became evident amongst participants was the apparent sense of 'alert opportunism' (Bennett and Wright 1984), through which their desire to offend was 'omnipresent', and offenders were essentially 'primed' to offend as fortuitous opportunities emerged (Jacobs et al. 2003). Topalli (2005) describes the notion of

constantly scanning for aspects of the environment that provide opportunities to apply our skills, which, when coupled with the desire for financial gain, means that offenders can quickly transition into a sense of alertness and readiness for action, awakening from a 'state of hibernation' (Jacobs et al. 2003: 680).

Cars were also identified as a popular means of transport, reported by over half (57%) of the sample, dependent on what was required following an offence: '*Sometimes walk. Sometimes car - if thought had more stuff. Sometimes get a lift, and then would pick us up. Depends what we could carry etc. Sometimes friends' cars, sometimes stolen, with false plates. Didn't take cars from house*' (Participant Nine). Moreover, 43% of offenders specifically reported taking cars from a property on their return from an offence:

> Drive to offence - my car. If got another car, drive my car, took stolen car away - put somewhere safe. Then take my car back and walk back to stolen car. On way back, park it [stolen car] somewhere away from house. Go back next morning, drive past in my car, check still there (Participant 19).

Offenders also reported using stolen cars specifically for the purpose of offences: '*Always travel in the car. Have a car between you. Meet up with people, then go to* [offence]. *For a hardcore burglary, bought stolen car, put legit plates on.*' (Participant Seven), and '*Go up in stolen car, back in different car*' (Participant 23). Again, this appeared to be a matter of convenience for offenders, who would walk to an offence but then take a car for the return journey: '*Walk to offences, sometimes drive away…drive home with goods, and then drop the car*' (Participant 16). For offenders choosing to use cars to and/or from offences, there appeared to be two key reasons underpinning this: firstly, the use of vehicles to facilitate the disposal of specific goods away from offences; and secondly, the use of vehicles to target properties further from

home that would yield greater reward (Snook 2004).

Interestingly, the use of taxis was also identified as a popular mode of transport away from a property, being reported by over a third (35%) of offenders. Again, this option appeared to be utilised when it was most convenient for offenders: '*If too much to carry, may ring taxi from round the corner - street, couple of streets away…Taxis? They don't care what you're doing, even if it looks dodgy*' (Participant Ten). This was of particular interest, in highlighting the potential apathy amongst taxi drivers in reporting on the occurrence of criminal activity, whilst highlighting a potential point of intervention.

Use of tools

A further approach utilised by offenders during offences was the use of tools to enhance ease of access to a property: '[How important is security?] *If couldn't get in, use crowbar. Tools with you - rucksack with me. Have been caught with* [tools] *by Police before*' (Participant One), and '[Security?] *Mole grips - snap PVC. Can do it. Pop window. Bit more risky, with them all* [tools]' (Participant Six). This last quote illustrates the concept of using specific tools (known as 'mole grips') to gain access to properties through UPVC doors/windows. The use of mole grips was indeed raised by many offenders as a means to circumvent UPVC doors that comprise of Euro Cylinder profile locks.

However, the risk of being caught in possession with tools was also recognised by offenders: '*Didn't take tools, because if caught, straightaway done with intent*' (Participant Nine). As a result, offenders described attempts to access properties *without* the use of tools where possible: '[Tools?] *Screwdrivers, hammers, bricks - if could get in without them, would*' (Participant 22). Hence, with the carrying of tools there

appears a clear contradiction between two of the three main principles of OFT; though they help to minimise time and effort, they may subsequently increase the risk of detection (if caught in possession with these). Nevertheless, it emerged during interviews that offenders could often access tools as needed within the gardens of properties they were looking to target (or at least within the vicinity of such properties): '*Sometimes something* [other tools] *in the garden they can use - if not, then next door etc.*' (Participant 14), and '*Within ten gardens, always a tool you can use*' (Participant Four).

Maximise reward

Within the context of acquisitive offences such as burglary, offenders seek to maximise their profits. During interviews there emerged two key ways in which this was achieved: firstly, by being selective about the locations and demographic group(s) targeted during their offending; and secondly, by gathering intelligence on potential victims, using such information to help understand and exploit targets.

Areas targeted: based upon socio-economic status, proximity and ethnicity

The majority of offenders stated they would often target areas close to their homes. However, during interviews it also emerged that the areas targeted most were those demonstrating a high level of affluence, with 70% of respondents reporting that they would target more affluent, or 'posher' areas: '*Posh estate - lot of goods. Prefer to burgle them. Posh side - not as hard as you'd think it would be* [to burgle]' (Participant Three), and '*Go for posher estates. Avoid council houses. Go to* [affluent residential areas], *go to nicer areas. Would target - expensive houses, nice cars, BMW, Mercedes, 50-inch TVs*' (Participant One).

Such a preference amongst offenders challenges the viewpoint that properties in more deprived areas may be at greater risk of burglary, and supports previous work which has found that offenders may travel from their home to a more affluent area in order to commit a burglary offence (Wiles and Costello 2000). However, during interviews it appeared that the targeting of deprived properties was more likely to be a side-effect of distance decay and familiarity: '*Usually don't travel too far. Stay within* [Northern City] *area. Get to know it, grown up there, know escape routes. Drive round and know areas,* [friends] *drop us off in different places. Stay around the local area*' (Participant 11). This supports the work of Chamberlain and Boggess (2016), who discovered that offenders would tend to target areas perceived as similar to theirs, as well as those that were closer geographically.

The second most popular demographic group targeted was those of Asian ethnicity. In discussing their preference towards this demographic, some individuals referred to another Northern city they would target because of the high Asian population in this area (hereon in referred to as 'Multicultural Northern City'). Just under a third (30%) of offenders reported this demographic group as being a popular target: '*Would travel about 10/15 miles tops, to* [adjoining residential areas in Multicultural Northern City]. *High Asian population all over. Anywhere in* [Multicultural Northern City], *always something going on*' (Participant Seven). One of the key beliefs underpinning this preference was the notion that those of Asian ethnicity do not believe in keeping money in banks: '*Lot of Asians* - [they] *don't believe in banks - [they own] Asian gold/jewellery* – [in Multicultural Northern City], [it is] *well known. Paper chasing* [money], *large amounts of gold. Take everything from them*' (Participant Four). One

individual described how he would travel much further afield to target those of Asian descent, recounting how the available rewards warranted such time and effort:

> From [Multicultural Northern City], offend in [Multicultural Northern City], but done [burglaries] all over the country. Lot of Asians - masterminds. Sunday morning - Muslims and Sikhs at church - prayer times. Muslims - greedy, don't like banks. Found soft 22/24 carat [gold] before. Go for money, jewellery, cars, black shiny TVs etc. (Participant 21).

As such, this would suggest that the time and effort spent by offenders was somewhat proportionate to the perceived reward on offer. This supports the notion of 'strategic foraging', in which offenders will travel a greater distance for higher reward (Felson 2006).

Understanding victims through intelligence gathering

In considering the demographics of potential victims, offenders demonstrated their ability to understand victims through a process of intelligence gathering based on a multitude of cues, in a bid to maximise reward. One such example involved discovering the ethnicity of residents within a property, whereby one participant described a rather strategic approach to checking whether individuals in a property were of Asian ethnicity: '*I would go through bins, to check ethnicity etc.* [through residents' surnames on post]*, if Asian etc., could go for jewellery*' (Participant 21). This demonstrates a simple yet shrewd method of checking the ethnicity of a property's residents, with a view to establishing potential reward (in this case, Asian gold). Nevertheless, together with the view shared by some offenders that those of Asian ethnicity do not believe in using banks, these beliefs indicate the presence of stereotypical attitudes based on offenders' previous experiences with this demographic

group. Beyond investigating the ethnicity of potential victims, the same offender described how he would seek to understand a victim's persona to help advance his cause: '*If people bothered about putting alarm on, things won't be on their* [the burglars'] *side, get to know their* [the residents'] *persona*' (Participant 21). This indicates how offenders will seek to gain a greater understanding of residents of potential burglary targets, based on their assessment and recognition of property cues (Nee 2015), to help support their decision-making, and ensure that any subsequent reward is maximised.

The scanning, assessment and recognition of offence-based cues identified across participants aligns with the notion of 'dysfunctional expertise' posited by Nee and Ward (2015). As part of the intelligence gathering process on potential victims, participants were also able to establish information about their level of affluence, thus verifying whether they would make a suitable target:

> Look at garden, if well kept, house itself looks clean, inclined to have a look. Cars - have a look. When put together, [you] get a sense of how many people [are] living there and [their] ages. Look in bin and see what wrappers gone in, see brands in them (Participant 20).

This quote illustrates a simple, yet efficient, means of assessing the potential wealth of a property's residents and their suitability for targeting. These findings move beyond the 'out of sight' literature not to advertise goods available, but instead demonstrate an effective approach adopted by offenders to assess victims' level of affluence. This also builds on previous work where offenders sought to make sense of environmental cues when weighing up prospective targets (Nee et al. 2019).

What is important to recognise at this point is how the perceived nature of a property, for example, the state of the garden, was a key proxy used by offenders. This

was suggested to be governed by an attraction to properties and gardens that were well-kept and maintained, indicating the contents of the house to be worthwhile of further investigation. This presents a direct challenge to Wilson and Kelling's (1982) Broken Windows Theory, which suggests that properties/areas deemed 'unkempt' by offenders actually indicate a sense of apathy amongst residents/homeowners, inviting further criminal activity. The findings presented here run counter to this, supporting other recent work in this area (Armitage and Joyce 2016).

Minimise risk of detection

The sophistication demonstrated by offenders in successfully executing their offences became particularly apparent whilst discussing strategies used to evade detection by the police and subsequently minimise their risk of detection. Two key themes emerged during interviews that illustrated how offenders minimised their risk of detection by the authorities: 'Blending in', and 'Visibility/Cover'.

Blending in

It transpired during interviews that offenders actively made efforts to blend into their surroundings, so as not to draw unnecessary attention to themselves: '*It is all about not being out of place*' (Participant Two), and '*Anything to lower the risk of people giving you a second glance and noticing you*' (Participant 11). Through further exploration, it became apparent how offenders would act or dress in a certain way to help them blend in: '*I will try and blend in, if no-one thinks I'm out of place there, dress smart, not be shifty/suspicious*' (Participant 12). The importance of not drawing attention to oneself, and the efforts to blend in with the surroundings reported here mirror those within recent research (Nee et al. 2019). One individual described how

they would actively try to avoid people who may remember them, and subsequently increase their risk of detection: '*Worse is people - people walking dogs, people remember you and notice you. Just make no eye contact*' (Participant Six). The need for offenders to blend into their surroundings also impacted on the type of goods taken from a property, as well as the way in which individuals could transport these: '*Take smaller stuff, if* [you carry] *smaller bags - favourites - small, easy to conceal - blend into your surroundings*' (Participant 20).

Visibility/Cover

Nearly four-fifths (78%) of offenders reflected on how visibility/cover played a key role in their selection of an appropriate burglary target: '*Wouldn't just start attacking door in full view of that neighbourhood'* (Participant Seven), and '[Visibility?] *Very important. Avoid if very visible. If secluded, out of the way, nine times out of ten - go for that. If neighbours can see - avoid. If out in the open, wouldn't go near it*' (Participant 11). This indicates the value of guardianship in deterring burglars from residential properties, which would increase the risk of detection, supporting previous work into this domain (van Sintemaartensdijk et al. 2020).

Offenders identified how the time of the offence was often key to minimising their vulnerability during the burglary process: '*Visibility? Normally do it* [commit burglaries] *about 3/4am. 5/6am I'm moving* [returning home]. *People going to work*' (Participant Four), and '[Offend] *on a morning only. Knew they're out, on school run etc.*' (Participant 15). Other means of ensuring visibility was minimised included, where possible, avoiding cameras, or targeting properties set back from the main road: '*Avoid cameras - sometimes hard, if lot of cars, main road, lot busy. If house on its own - good*' (Participant One), and '[Properties] *need to be covered/have long drive*

etc…but have done [burglaries] *with no cover. Sometimes don't give a toss, you get a time limit*' (Participant 22). This last quote holds particular implications for crime prevention, in that issues such as occupancy or indeed cover may not be of primary importance *if* there is a sufficient window of opportunity with which to commit the offence without risking the threat of detection. This may particularly be pertinent with regards to 'sneak-in' offences. This also relates back to the perpetual state of 'alert opportunism' offenders may find themselves in, engaging in offending when presented with a favourable opportunity (Bennett and Wright 1984).

The use of natural shrubbery was identified by offenders as an important means of enhancing cover/minimising the visibility of offenders: '*Rather offend in darkness. Bushes/fences are an advantage*' (Participant Six), and '*Very important. Go for cover, bushes/trees etc.*' (Participant 14). This signifies the importance of cover for offenders in enhancing their ability to commit burglary offences whilst minimising the risk of detection (Maguire and Bennett 1982).

Of additional interest was the influence of a seasonal effect; for example, Bonfire Night, which provided cover during the commissioning of their offences: '*Bonfire Night - great cover for burglars. Rain - good for cover. Trees in people's gardens too*' (Participant 11). This notion of seasonality amongst burglars' offending appeared a key facet in influencing target selection of offenders, as based on the time of year and individual events taking place (Hird and Ruparel 2007).

Discussion and Conclusion

The aim of this research was to advance our understanding into the contemporary practices used by offenders during the course of domestic burglary offences, using the

OFT as a theoretical framework in which to illuminate offender practices. This research moves beyond previous quantitative work (Bernasco 2010a; Johnson 2014; Johnson and Bowers 2004a) in which OFT has been used as a theoretical framework to explore the spatio-temporal target selection and clustering of offences, by demonstrating how the three principles on which OFT is based can be used to influence and shape the techniques used by 'forager' offenders during the burglary process.

The findings presented here provide support to the 'dysfunctional expertise' model proposed by Nee and Ward (2015), in which a series of automatic, unconscious processes enable offenders to recognise offence cues in their selection of potential targets, which, in turn, activate cognitive schemas and automated crime scripts, to support individuals in carrying out offences. Within the current study, this included developing understanding of victims' approaches to security; for example, whether residents set their alarms, and thus the extent of care/security precautions taken in securing their property, akin to the principles of territoriality and defensible space (Brown and Altman 1983). Of particular note is how offenders would use simple yet shrewd means of understanding more about potential victims to establish whether a property was worth targeting. Examples of this included going through a property's bins in order to establish an occupant's surname, and subsequently their ethnicity (particularly with regards to the targeting of Asian gold). Further examples included using residents' rubbish as a proxy for wealth, in which the brands of consumables thrown out by residents were used to establish the level of affluence within a property, and thus the (perceived) level of wealth on offer. Though previous research has highlighted the use of different proxies for wealth, i.e., types of cars, or property size

(Bernasco 2006), to the authors' knowledge this is the first study which has brought to light this particular method for establishing affluence.

One key finding is that targets of serial victimisation often exhibited an apparent 'laissez-faire'-type attitude towards property security, as security vulnerabilities remained and allowed for the continued targeting of properties by offenders. In accordance with the work of Bowers et al. (2004), the interviews presented here highlight how offenders would capitalise on an apparent sense of apathy and failure amongst residents to take sufficient steps to secure their properties.

According to the principles of OFT, offenders will act in a way that will seek to maximise their reward, whilst minimising the time and effort involved, and minimising the risk of detection. However, it became apparent during interviews that the time and effort taken by offenders during the course of their offences may well increase as the perceived reward increased, lending further support to the OFT model of offending (Bernasco 2009), and specifically the notion of 'strategic foraging' (Felson 2006).

Though this paper has illustrated some of the contemporary, novel techniques utilised by offenders during the course of their offences, it remains important to acknowledge the limitations with the current work. It is expedient to note at this point that since the fieldwork on which this research is based was conducted, there may be additional emerging methods utilised by offenders that are not illustrated here. Furthermore, in light of limitations surrounding the current sample, there are likely to be additional novel methods that were used by offenders around the time of data collection which were not captured through the current work. Specifically, it is acknowledged that with a sample size of 23, drawn from one particular region in the UK, it may be difficult to generalise these findings more widely. Moreover, the nature of sampling employed

may mean that participants were not necessarily representative of all burglars within the prison (or local area). Future work into this topic could be enhanced through greater stratification of the sample; for example, by age, or number of burglary convictions/level of expertise, to help ensure future samples are more representative of the burglar population (within and outside of the prison).

Concerns regarding the generalisation of the sample also relate to the fact that this research was based on an incarcerated population, thereby questioning the extent to which the findings may be applied to active offenders in the field. Prior research with active offenders has critiqued the use of prison-based samples, for example, in terms of participants' recall, and the validity of findings from 'unsuccessful' burglars who have been arrested and convicted of their offences (Cromwell, Olson, and Avary 1991; Wright and Decker 1994). That being said, previous studies have found considerable consistency in the decision-making and behaviours of incarcerated and community samples (Copes and Hochstetler 2010; Nee et al. 2019). Moreover, a number of participants in the current sample reported that they had committed 100s more burglary offences which were not recorded, and for which they had never been caught. As such, the offences for which participants had been caught only appeared to account for a small proportion of their overall offences, in line with the low detection rates (16%) identified by Smith et al. (2013) for domestic burglary in England and Wales, thereby challenging the argument of such participants being deemed 'unsuccessful' offenders.

It also remains prudent to recognise that all participants within the sample reported using drugs, albeit with different substances and to varying degrees. For a number of participants, they described how this made up a central component of their day; for example, in helping them to function, or through enabling them to offend.

Though previous research has illustrated the prevalence of substance use amongst burglar samples (Cromwell, Olson, Avary, and Marks 1991; Wright and Decker 1994), it is important to acknowledge the potential impact that substance use may have on individuals' offending practices and target selection. Nonetheless, Nee et al. (2019) argue how the rarity of burglars being detained at the scene, together with low detection rates, may in fact suggest that the use of substances does not (substantially) affect skill levels during the burglary act itself. Indeed, in their study into the role of drug use in affecting the decision-making of burglars, Cromwell, Olson, Avary, and Marks (1991: 315) found that the majority of respondents reported being 'better burglars' whilst under the influence of drugs during a burglary offence. Nevertheless, it should still be acknowledged that the views shared within prison and whilst not under the influence of substances may differ to those shared as active offenders in the field (Armitage 2018b), as the prison environment provides greater opportunity to reflect on burglary practices (Copes and Hochstetler 2010).

The risks associated with the use of offender accounts in research have been acknowledged earlier in this paper; for example, with regards to the use of 'false narratives' and 'false morality' being presented within (and potentially driving) individuals' accounts (Armitage 2018b; Shaw and Pease 2000). It transpired during the research that such concerns were not wholly unwarranted, particularly with regards to the concept of 'false morality'. For example, a sense of morality often appeared to emerge initially within interviews, through which a number of offenders reported that they would not target certain groups (such as the elderly), due to the vulnerable nature of this group and the respect they had for them, drawing parallels with the findings of Taylor (2014). For some participants, this was substantiated during a later stage of the

research, i.e., during the property image task. However, for others, such an apparent sense of morality appeared to be lacking in depth, as became evident during subsequent research tasks. For example, though some offenders initially described during interviews how they would avoid properties with elderly residents, during the later property image task they affirmed that they would target a property which was widely identified by a number of participants as belonging to elderly residents. Moreover, a handful of participants reported that they would avoid targeting elderly victims for fear of such individuals being in poor health, which may risk, for example, the onset of a heart attack. It was unclear in such instances whether such concerns were borne out of genuine consideration for the victim(s), or as a result of the desire for self-preservation, to avoid being charged with more severe offences (if targeting such individuals resulted in a victim's subsequent death, brought on by the stress of a burglary incident). In any event, the use of false narratives may potentially skew the implications of the findings, and therefore when analysing offender accounts, it is important to consider the use of additional methods to help verify the authenticity of such accounts, as well as understanding individuals' motivations for engaging with the research (Armitage 2018a).

The reasons for participants' engagement in the current project may be wide-ranging; from the opportunity of a break from their routine, to support work that will enhance our knowledge of burglary processes, to a willing ear interested to learn about their offending experiences. In any event, given such uncertainty around the reasons driving individuals' participation, the sampling approaches chosen did not appear to (unusually) bias against any particular character traits/MOs. Nevertheless, as noted in the work of Armitage (2018a), in light of such ambiguity, the findings drawn from this

work should be considered alongside a wider body of research exploring burglary practices.

Despite the limitations acknowledged, this paper has demonstrated how the tenets of OFT can be applied to understand the practices, and decision-making of, offenders during the course of burglary offences. As such, the current work offers a unique qualitative contribution to the OFT literature, detailing the *narratives* of optimal foragers; for example, with regards to the sub-conscious cues, schemas and behavioural scripts enacted by offenders at specific targets (Nee et al. 2019). In doing so, this work demonstrates clear implications for policy in supporting crime prevention efforts.

Implications for crime prevention

Clear policy implications are derived from this research. Of the three strands of OFT: to minimise time and effort; to maximise reward; and minimise risk of detection; it is perhaps the former strand which offers greatest application for the purposes of crime prevention (and particularly at the individual property-level; Hirschfield et al. 2010). Specifically, steps taken by residents may subsequently help to *increase* the time and effort required to access a property, and thus may help to deter prospective offenders.

Maximising time and effort

Though a number of offenders reported on the value of tools in assisting with their offences, they also acknowledged the potential dangers with being caught in possession of such implements, and thus reported often 'making do' with what was available during the course of an offence. One simple approach which may help to disrupt this process would be to raise awareness amongst residents of offenders' use of tools found 'ad hoc', to ensure they do not leave any items that could be used as a tool on their

property, so as not to inadvertently support the facilitation of an offence.

The concept of a serial target has substantial implications for crime prevention. If burglars discover a security 'weak spot' within properties, their repeated use and targeting of that property (and associated 'weak spots') transcends the targeting of just that property alone. Rather, it exploits a sense of complacency of a property's residents towards security. Moreover, this demonstrates offenders' ability to exploit the attitudinal cues of residents themselves, and portrays a sense of sophistication beyond that found previously in work into burglar expertise (Nee and Meenaghan 2006). Therefore, whilst addressing any shortfalls in security for such properties remains key, of primary importance (and which would subsequently underpin such enhancements) is the need to address such apathy amongst residents with regards to property security and the (lack of) steps taken to address security 'weak spots'. This remains a crucial issue to explore; for if we can understand why individuals may demonstrate such levels of apathy, we can seek to understand what factors may support individuals to take ownership for their own security.

A number of offenders described making use of 'mole grip' tools in order to access properties with UPVC windows. The use of such tools to access Euro Cylinder profile locks (often used on UPVC doors) is a well-known method of access, recognised across both criminal justice agencies and offenders alike, as identified through previous work (Armitage 2018a, b). Nevertheless, such locking mechanisms can be upgraded to incorporate 'anti-snap' locks/cylinders, designed to withstand attempts to snap these locks. Such an upgrade in security approach has been viewed as an effective means of enhancing security for residents (Armitage 2018a).

Minimising reward

In order to help minimise reward for offenders and take steps to dissuade offenders, residents would be advised to take the standard security precautions as are often publicised to local communities (West Yorkshire Police 2019). This includes ensuring property is secure, and not having expensive items 'on show'. Though it would not be suggested that residents consider buying different brands of goods so as to discourage potential burglars, this research has helped raise awareness of the steps that may be taken by offenders to gather intelligence on potential victims. This work also highlights the importance of ensuring that any documentation containing personal details is securely disposed of, i.e., through shredding any personal correspondence.

Maximising risk of detection

It is clear from this research that the concept of cover remains a key influencing factor in establishing the suitability of a potential target. Thus, if residents can ensure their property is visible, in line with approaches such as CPTED and Defensible Space, this would help reduce cover for offenders and subsequently make them think twice before targeting a property. Enhancing security measures in place; for example, the use of security cameras and alarms, would also help to deter offenders and increase the risk of detection. Property marking possessions may also enhance the risk of detection for offenders, disrupting the stolen goods market (and thus demand) for such items.

Of particular interest was the fact that taxis could also safely be used as a means of transport away from an offence, as offenders had utilised the perceived sense of apathy amongst taxi-drivers to their advantage, to help facilitate their offences. However, should it be possible to increase the scope of reporting by taxi drivers, this

may, at best, help lead to the detection of potential burglary suspects, and, at worst, make the escape of offenders from a crime scene more difficult. This may be facilitated by taxi companies working in partnership with local authorities/councils, to help support crime prevention efforts as per the best interests of the community.

Directions for future research

The current paper has revealed some of the more novel, contemporary practices utilised by offenders during the course of their offences. Future work in this area would benefit from further research to assess the extent to which the findings presented here may be replicated elsewhere, for example, in different geographical locations, as well as with a broader (and more representative) research sample. Moreover, it would be of value to explore the extent to which some of the behavioural features identified across offenders in the present research may apply to other offence types, and, if so, whether there may be similar points for targeted intervention. However, the effectiveness of crime prevention initiatives will, in part, be governed by offender perceptions of these. Consequently, future research into the effectiveness of crime prevention initiatives and offenders' perceptions of these will help to ensure that any such schemes have a greater chance of success.

Utilising the development of contemporary technologies may also help to reveal information on the decision-making processes of offenders during the course of offences. This would likely include simulated 'walkthroughs' with offenders using virtual reality, building on the work of van Sintemaartensdijk et al. (2020), to help establish a real-time evaluation of burglary cues to further understand the decision-making process of offenders during the course of their offences.

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