



Using Behavioural Insights to Raise Awareness on Domestic Burglary Prevention

Research report

May 2022

Robin Cuypers

Pieter Raymaekers

Steven Van de Walle



Research commissioned by the EUCPN Secretariat



With the financial support of the European Union's Internal Security Fund - Police

Contents

Executive summary	I
Introduction: Using behavioural insights to raise citizens' awareness of domestic burglary risks	1
1. What are behavioural insights in public policy?	3
2. How do behavioural insights work? Behavioural science theories	5
2.1. <i>Dual process theory</i>	5
2.2. <i>The elaboration likelihood model</i>	6
2.3. <i>Fear-based messaging and protection motivation theory</i>	7
3. How do we categorise behavioural insights? A taxonomy for behavioural insights	10
4. How do we evaluate behavioural measures based? The EMMIE framework	12
5. Evaluating burglary prevention measures using behavioural insights	14
5.1. <i>Neighbourhood watch</i>	14
5.2. <i>Security surveys</i>	20
5.3. <i>Police advice (including super cocooning)</i>	23
5.4. <i>Police labels</i>	27
6. Conclusion	31
6.1. <i>Neighbourhood watch</i>	33
6.2. <i>Security surveys</i>	33
6.3. <i>Police advice</i>	34
6.4. <i>Police labels</i>	35
6.5. <i>General recommendations for crime prevention measures</i>	35
6.6. <i>Final conclusion</i>	37

Executive summary

Goal

The goal of this report is to provide policymakers with an overview of behavioural insights and interventions that aim to increase citizens' awareness of domestic burglary prevention and encourage them to take prevention measures. In the report, we construct an evaluation framework and provide recommendations for four policy measures: neighbourhood watch groups; security surveys; police advice and police labels. We evaluate these measures using behavioural models, the Taxonomy of Choice Architecture Techniques and the EMMIE framework.

Outline

The applying of behavioural insights is a multidisciplinary and multipurpose approach to public policy that combines theories, frameworks and methods from the behavioural sciences. Knowledge of actual human behaviour challenges the ideal-type economic and policy models of rational choice. Behavioural public policy builds on the premise that peoples' individual decision-making is boundedly rational and influenced by different factors, such as emotions, habits, social norms, heuristics, cognitive biases, contextual features and the physical environment. Policymakers can consider these behavioural factors (e.g., cognitive biases) when designing policies (e.g., nudges) to encourage citizens to take domestic burglary prevention measures.

First, we examine three behavioural science theories. We start with the dual process theory, which distinguishes two systems of decision-making. System 1 is mostly unconscious and intuitive, while system 2 is more conscious and deliberate. Second, the elaboration likelihood model describes two pathways for altering a person's attitude, namely the central route and the peripheral route. While attitude change through the central route is longer-lasting, it also requires more effort. In the peripheral route, attitude change occurs through more unconscious means, such as the attractiveness of the message. Third, protection motivation theory states that people's behaviour is based on their evaluation of a threat (e.g. becoming the victim of a burglary) and the possible responses to manage the threat (e.g. burglary prevention measures).

The Taxonomy of Choice Architecture Techniques is used to categorise burglary prevention measures into three main categories. First, the measures can target the information surrounding a decision that people must make, such as framing information or making it more visible. Second, measures can target the structure of the decision that people must make by changing the default choice. Third, the measures can provide assistance to people when they make a choice, for example, by providing well-timed reminders.

Finally, we use the EMMIE framework to analyse four burglary prevention measures. This framework consists of five dimensions.

1. Effect: What are the size, direction and reliability of an effect related to a measure?
2. Mechanisms/mediators: What are the underlying mechanisms that explain how a measure achieves its effect?
3. Moderators/contexts: What impact does the context of the measure have on its effect?
4. Implementation: What impact does the implementation of the measure have on its effect?
5. Economic considerations: What are the economic costs of the measure?

Prevention measures and policy recommendations

Neighbourhood watch groups

The first burglary prevention measure is neighbourhood watch, in which a community actively participates in increasing the safety and quality of life of its neighbourhood. Examples are patrolling through the neighbourhood, creating online groups to report suspicious behaviour, or providing information to the police about suspicious behaviour.

The main findings and recommendations are:

- Investigate how neighbourhood watch groups impact the neighbourhood, the amount of social control and social relations;
- Use neighbourhood watch groups in higher-status neighbourhoods since they are more effective, while in lower-status neighbourhoods, neighbourhood watch groups can mainly be used to gather information;
- Involve both police and residents in implementing neighbourhood watch groups; and
- Neighbourhood watch groups are negatively influenced by fear of crime of residents, false or unnecessary information being shared, and excessive reporting by team members. Educate watch team members about the consequences of fear of crime.

Security surveys

Security surveys use nudges to make people reflect on their own burglary prevention behaviour. By directly contacting people with a survey that contains information about burglaries in their neighbourhood, security surveys aim to nudge people towards taking more prevention measures.

The main findings and recommendations are:

- Security surveys work by reminding people about the amount of burglary and about their prevention behaviour;
- Security surveys that target students are more effective in making people contemplate their burglary prevention behaviour; and
- The impact of the survey could differ depending on whether the police administers the surveys or someone else.

Police advice

Police can give advice to victims of burglary to encourage victims to take burglary prevention measures. The police can also target the victim's neighbours, which is called 'super cocooning'.

The main findings and recommendations are:

- Police advice is more effective in high-status neighbourhoods;
- The impact of policy advice differs depending on whether the target group consists of burglary victims, neighbours to burglary victims, or non-neighbours;
- The police should give advice close to the first burglary, because the likelihood of repeat burglary decreases over time; and
- The 'Train, Track, Feedback' approach should be used to organise advice giving. Police officers are trained, tracked in the field, and then given feedback about their performance. Active involvement of supervisors is recommended.

Police labels

Police labels promote burglary prevention measures by awarding labels to houses that comply with certain security rules.

The main findings and recommendations are:

- The implementation of police labels requires the involvement of politicians, police and local actors;
- The impact of the police label can differ depending on whether it targets individuals, neighbourhoods or urban planners and building practitioners;
- The impact of the police label differs depending on whether it is the police or a different organisation that awards the label; and
- Police labels can increase vehicle theft in the area.

We conclude that behavioural insights and evidence-informed behavioural interventions can enrich and enhance the traditional toolbox to raise citizens' awareness of domestic burglary prevention and to encourage citizens to take sound burglary prevention measures. These behavioural instruments should not be implemented in isolation but as part of a larger package including various types of instruments. We recommend the simultaneous use of behavioural and traditional prevention measures, targeting both the intuitive and the reflective, the conscious and the unconscious, and the rational and emotional underpinnings of people's decision making processes.

Introduction: Using behavioural insights to raise citizens' awareness of domestic burglary risks

The prevention of domestic burglary is a European priority.¹ To reduce the number of domestic burglaries, prevention activities can directly target (potential) criminals.² An example is burglary prevention through environmental design and urban planning to make it more difficult for burglars to commit burglaries.³ Burglary prevention measures can also focus on (potential) victims. Many burglary prevention measures, such as keeping windows and doors locked or installing security systems, can be taken by potential victims themselves. Therefore, policy efforts have focused on raising awareness and on encouraging (potential) victims to invest in domestic burglary prevention.⁴ Such awareness raising can be done through traditional measures, such as providing factual information about burglary and burglary risks. Concurrently, the use of behavioural insights and 'nudges' has become more popular to raise awareness.⁵

Traditional awareness campaigns are not always very effective. While these campaigns can potentially increase awareness among citizens, actually reaching and convincing citizens is challenging and depends on different factors. The message should be brief and relevant and should be repeated to increase retention.⁶ The message should be delivered through multiple media and addressed to the right target group.⁷ The awareness campaign should also be combined with other burglary prevention initiatives.⁸

Behavioural insights and evidence-informed behavioural interventions can serve as alternatives and complements to traditional information awareness campaigns. The goal of this report is to provide policymakers and practitioners with an overview of tangible and applicable behavioural insights and evidence-informed behavioural interventions to raise citizens' awareness of domestic burglary prevention.

This report consists of six parts. We first explain what behavioural insights into a public policy imply. Subsequently, we provide an overview of key behavioural science theories relevant to the field of domestic burglary prevention. We then introduce the Taxonomy of Choice Architecture Techniques and apply it to burglary prevention awareness. This section is followed by an introduction to the EMMIE evaluation framework.

The main part of the report then consists of an evaluation of awareness-raising measures by examining three elements:

1. We examine whether the measure is based on underlying behavioural science models and relates to the range of behavioural insights;
2. We examine whether the measure can be placed in the Taxonomy of Choice Architecture Techniques; and
3. We evaluate the measures against the criteria of the EMMIE framework.

We end this report with a conclusion on the evaluation of the measures and recommendations on how to use these measures as burglary prevention awareness tools.

This report was prepared by the KU Leuven Public Governance Institute and was commissioned by the European Crime Prevention Network.

Methodological note

This report triangulated three data types.

1. Analysis of existing academic literature on behavioural insights and prevention awareness using scientific databases, such as Scopus, Springer, Proquest and Taylor & Francis. We focused on behavioural science theory and models to comprehend how the different measures could use behavioural insights for burglary prevention awareness.
2. Analysis of existing policy evaluations and experiments that have used behavioural insights into crime and/or burglary prevention awareness.
3. Five interviews with experts on the measures presented in this report. These experts have been involved in the implementation of a behavioural awareness-raising measure or its evaluation.

1. What are behavioural insights in public policy?

Behavioural public policy combines theories, frameworks and methods from the fields of psychology, behavioural economics, sociology and neurosciences. Public policy has always been closely connected with the study of human behaviour. Indeed, identifying the psychological mechanisms underpinning citizens' behaviour is considered a crucial prerequisite for effective policy-making.⁹

Over the past decade, we have witnessed a widespread behavioural turn in analytical perspectives and policy interventions.¹⁰ The Organisation for Economic Co-operation and Development is convinced that behavioural approaches in public policy are more than "a fashionable short-term foray" and that they "have taken root in many ways across many countries around the world and across a wide range of sectors and policy areas".¹¹

The insights of behavioural scientists challenge the ideal-type models of rational choice and utilitarian calculus.¹² Behavioural public policy builds on the premise that peoples' individual decision-making is boundedly rational and influenced by different factors, such as emotions, habits, social norms, heuristics, cognitive biases, contextual features and the physical environment.¹³ Policymakers can consider these behavioural factors when designing policies to encourage citizens to take domestic burglary prevention measures.

For example, status quo bias explains why people often choose the default path of least resistance and are reluctant to change.¹⁴ According to this bias as applied to burglary prevention, people would more often choose not to implement prevention measures simply because it is the status quo option, and it requires no effort. Another example is present bias, with which people value an immediate reward over a future reward, even if the immediate reward would be smaller.¹⁵ Therefore, the amount of money saved by not investing in burglary prevention could have a higher perceived value compared to the future reward of not being burglarised. A final example is optimism bias, presuming that people are inclined to underestimate negative events.¹⁶ People might underestimate the chance of becoming a victim of domestic burglary and are therefore hesitant to take prevention measures.

Policymakers can harness this knowledge about actual human behaviour to design realistic and effective policy measures for burglary prevention. The spectrum of behaviourally informed policy instruments is broad, including among other components information simplification to reduce the cognitive burden on citizens, risk reduction advice and social proof campaigns.¹⁷

Nudges are certainly the most prominent type of behavioural intervention. According to the definition of Thaler and Sunstein (2008, p.6) a nudge is "any aspect of the choice architecture that alters people's behaviour in a predictable way without forbidding any options or significantly changing their economic incentives".¹⁸ In a way, nudges such as the rearrangement of products, painted signalling on the floor, social norms in government communication, well-timed reminders, and all sorts of labels have become part of our everyday life.¹⁹


The behavioural insights approach to policy includes, but does not limit itself to, a catalogue of cognitive biases and nudging techniques. Behavioural public policy can be considered a pluralist, multipurpose approach that fosters the application of a behavioural insights throughout the entire policy process and in combination with more traditional policy tools such as regulatory and monetary measures targeting the rational and conscious decision-making processes of citizens.²⁰ The distinction between conscious and unconscious cognitive choice processes is often explained via dual process theory.²¹ We examine the dual process theory and other paramount behavioural science theories in the following section.

2. How do behavioural insights work? Behavioural science theories

As we have mentioned in the previous section, behavioural insights are based on theories and ideas from economics, psychology and sociology. In this section, we briefly introduce some of the main theoretical ideas behind behavioural insights.

2.1. Dual process theory

According to dual process theory, there are two cognitive systems of decision-making.²² System 1 is mostly unconscious and brings about instinctive decisions. System 2 is conscious decision-making, in which people actively deliberate on a choice. However, the dual process picture is more nuanced since both systems are not sharply separated from each other. Rather, the distinction between systems 1 and 2 is more fluid, interactive and iterative between habitual and deliberate behaviours.²³ Behavioural insights usually target system 1 thinking by harnessing cognitive biases and unconscious decision-making. In this way, people's decisions are guided towards a certain choice.²⁴ Behavioural insights work independently from using measures that aim to alter people's choices through rational decision-making. Measures such as mandates or economic incentives alter the costs and benefits related to a certain choice. By influencing these factors, people can rationally decide whether the choice is in their best interests. Behavioural insights, in contrast, target unconscious, less rational decision-making.²⁵ For example, when people have an emotional, social or unconscious response to potential burglary, they can unconsciously decide to buy security equipment without rationally weighing the costs and benefits, therefore deciding based on system one (unconscious decision-making) and not system two (conscious decision-making).



← System 1	→ System 2
Fast	Slow
Unconscious	Conscious
Automatic decisions	Complex decisions
Little effort	More effort




Figure 1. Systems 1 and 2²⁶

2.2. The elaboration likelihood model

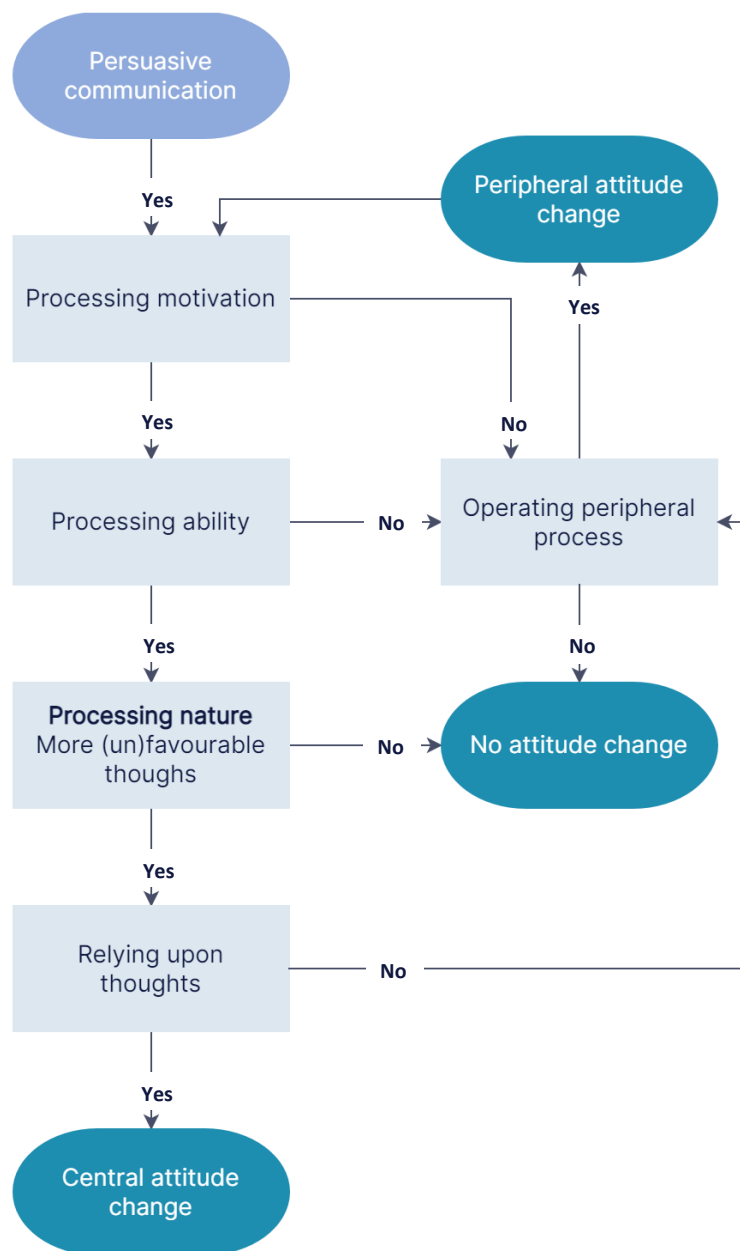


Figure 2. Elaboration likelihood model²⁷

The elaboration likelihood model builds on dual process theory and uses it to describe possible changes in the attitude of a person.²⁸ It provides a central and peripheral route towards persuading a person.²⁹ When receiving persuasive communication, people can follow one of these routes resulting in attitude change. The central route is the result of rational and conscious thinking and creates a longer-lasting attitude and behaviour changes. In contrast, the peripheral route is the result of intuitive associations, often devoid of rationality and logic but influenced by the attractiveness of the message. Attitude changes through the peripheral route are often shorter-lasting than changes through the central route. In Figure 1, the routes are referred to as cognitive structure change and peripheral attitude shift.³⁰

When a person receives a message, he or she can process the information using the central or peripheral route. The amount of elaboration (in other words, the level of thought) is dependent on psychological processes that cause a person to use a lower (peripheral route) or higher (central route) amount of elaboration. Since changes via the peripheral route would generally be shorter-lasting, they would not be as effective as changes via the central route. Additionally, attitude changes in the central route are able to more accurately predict behaviour.³¹ Whether people take the central or peripheral route depends on the ability and opportunity to contemplate the message (understanding the message), the motivation and interest to contemplate (wanting to understand the message) the message and the attitude towards the message (have positive or negative emotions towards the message).³² These factors are also represented in Figure 1.

When there is an attempt to persuade people, the message can be communicated to target the central or peripheral route. To change attitudes about crime prevention, many elements must be present to cause cognitive structure change via the central route. This is not the case for peripheral attitude shifts.³³ Understanding this distinction can help to explain the limited effectiveness of some measures. For instance, burglary prevention awareness campaigns often have limited effectiveness, which could be attributed to people often lacking the motivation to process the information received during the campaign.³⁴ Therefore, awareness campaigns could also target a peripheral shift by implementing very noticeable and clear measures. Posters that evoke a strong emotional response, for example, could have an effect by creating a peripheral shift rather than a cognitive structure change via the central route because emotional decision-making occurs more unconsciously.

Understanding the routes could help in creating messages that are more effective and last longer. For example, burglary prevention measures that use messages targeting the peripheral route would be shorter-lasting and would have a lesser predictive quality. However, the elaboration likelihood model has been criticised for regarding the two routes as exclusive.³⁵ According to newer models, information can be processed both consciously and unconsciously, which would imply two things for burglary prevention measures. First, policymakers can use measures that appeal to the conscious and unconscious decision-making of people. For example, regarding burglary prevention awareness raising, they can place posters that provide factual information (targeting the central route) and allude to social responsibility (targeting the peripheral route). Second, since peripheral route attitude changes are shorter-lasting, repetition of measures could be more important for behavioural insights than for other, traditional measures that do not use the peripheral route.³⁶

2.3. Fear-based messaging and protection motivation theory

In addition to general behavioural science theories, there are also more specific behavioural science theories to explain how behavioural insights can help in altering people's choices. These theories often focus on a specific psychological factor, such as an emotion or a more intuitive thinking pattern. One example is the use of fear to convey a message. Fear-based messaging uses a person's fear of crime to obtain a certain

behaviour from the person. Fear of crime refers to a person’s fear of becoming a crime victim.³⁷ A person can experience this fear of crime on a temporary basis (e.g. fear of being robbed while walking in a dimly-lit alleyway) or on a more permanent basis (e.g. constant fear of experiencing a burglary).³⁸ Temporary fears, known as situational fear of crime can, in the long term, add to the creation of a more permanent, dispositional fear of crime.³⁹ Next, the person can have an affective or emotional experience linked to the perception of the threat of crime. Fear of crime is then expressed by fearful behaviour.⁴⁰ For instance, when people are afraid of a burglary, they can be nudged towards taking crime prevention actions.

However, an important caveat with using fear-based messaging consists of the negative consequences and side effects that fear can have for individuals. Not only can fear cause psychological issues such as anxiety and distrust, but it can also cause unwanted negative behaviours (such as limiting social activities or drug use).⁴¹ We should always consider these negative consequences when using fear-based messaging.

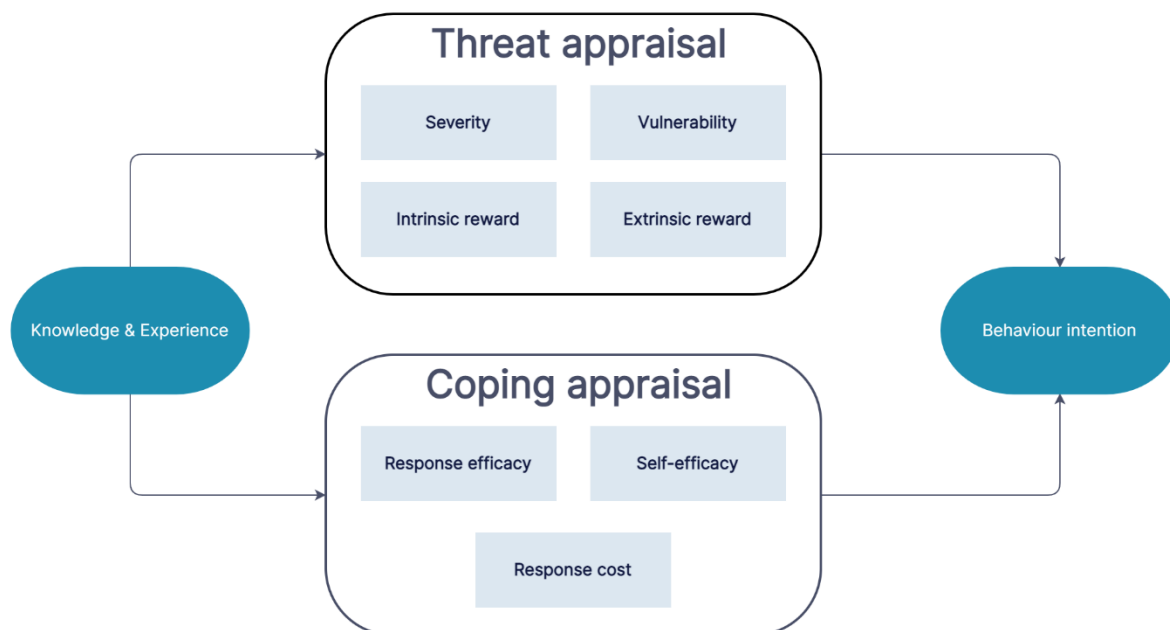


Figure 3. Protection motivation theory⁴²

Protection motivation theory is often used to better understand responses to fear. This theory states that people try to protect themselves as a response to fear. People use their knowledge and experience to assess or appraise situations, which can be done through threat appraisal and coping appraisal. With threat appraisal, people estimate the degree of harm of the threat (severity) and the probability of it occurring (vulnerability). Threat appraisal is the result of combining the severity and the probability of a threat after subtracting the positive rewards related to not responding to the threat (e.g. saving money by not buying security equipment). With coping appraisal, the person attempts to cope with or eliminate the threat through a certain behaviour. This strategy is the combination of response efficacy and self- efficacy after the response costs are subtracted. Response efficacy is the belief that the behaviour will work in eliminating or coping with the threat, while self-efficacy is a person’s belief that he or she can actually perform the behaviour. The response costs are the costs associated with performing the behaviour.⁴³

To minimise potential negative consequences, it is possible to use protection motivation theory and guide people in their appraisals. Information about the probability of crime can put the fear of crime into perspective and support people with their threat appraisal. By presenting coping mechanisms to people and convincing them of their effectiveness in response to fear-based messages, people can also be helped with their coping appraisal.⁴⁴ For example, when spreading messages about the prevalence of burglaries in a certain area, the negative consequences of fear caused by these messages could possibly be reduced by providing solutions for the burglary problem alongside the fear-based message, thus targeting response efficacy. A solution could be the installation of security devices or remembering to keep doors and windows locked. Emphasising the low costs of certain security devices can decrease the perceived response cost, and stressing the simplicity of installing such devices can target self-efficacy, because it could be easier for people to believe that they could install them. Research suggests that these coping mechanisms are even more effective in creating prosocial behaviour than fear-based messages themselves.⁴⁵

3. How do we categorise behavioural insights? A taxonomy for behavioural insights

We use a Taxonomy of Choice Architecture Techniques to categorise different measures to raise awareness about domestic burglary prevention.⁴⁶ This taxonomy consists of three main categories, subdivided into nine different techniques. The taxonomy has been specifically designed to classify different applications of behavioural insights. We explain the categories of the taxonomy and illustrate them with examples relevant to domestic burglary.

Category	Technique
A. Decision information	A 1 Translate information <i>Includes: reframe, simplify information</i>
	A 2 Make information visible <i>Includes: make own behaviour visible (feedback), make external information visible</i>
	A 3 Provide social reference point <i>Includes: refer to descriptive norm, refer to opinion leader</i>
B. Decision structure	B 1 Change choice defaults <i>Includes: set no-action default, use prompted choice</i>
	B 2 Change option-related effort <i>Includes: increase/decrease physical/financial effort</i>
	B 3 Change range or composition of options <i>Includes: change categories, change grouping of options</i>
	B 4 Change option consequences <i>Includes: connect decision to benefit/cost, change social consequences of the decision</i>
C. Decision assistance	C 1 Provide reminders
	C 2 Facilitate commitment <i>Includes: support self-commitment/public commitment</i>

Table 1. Choice architecture categories and techniques⁴⁷

The first category is decision information. This category focuses on the information available to persons and the way in which this information is presented.⁴⁸ The presentation of the information can affect the unconscious thinking of people and affect their behaviour, which can be accomplished by translating the information, for instance by reframing or changing the information format or by simplifying the given information.⁴⁹ An example is comparing the high rate of burglary on a person's street to the average burglary rate of the entire city.⁵⁰ This presentation reframes the information and can influence the behaviour of the residents. Policymakers can also make information visible, for example by using illustrations depicting people's behaviour, which makes their own behaviour visible to themselves.⁵¹ Furthermore, social reference points can be provided, for instance by referring to descriptive norms, such as the number of citizens who already take burglary prevention measures, or by referring to the message of opinion leaders.⁵² Police officers could for example present residents with information on the effectiveness of a burglary prevention measure, since citizens can regard them as figures of authority with knowledge of the subject, thus making the information more valid in the eyes of the residents. Not only the message but also the messenger matter.

The second category is decision structure. This category focuses on the options presented to people and how the arrangement of these options can influence behaviour. One can influence behaviour, for example, by changing the default option. Doing so does not limit the choices of people, but changes the choice selected 'by default'.⁵³ For example, instead of allowing people to sign up to participate in a security check by the police department of their home, the police can automatically make an appointment. Instead of letting people proactively register themselves for a security check (opt in), they would have to indicate they do not want a security check (opt out).⁵⁴

The third category is decision assistance. This category focuses on assisting people in their choices and helping them to implement the behaviours that they actually want to perform. One way is to provide people reminders of desired options. For example, after giving people information about the importance of security devices, they can be reminded on a continuous basis. Next, facilitating commitment in public as well as in private can influence behaviour. For example, policymakers can hold a forum on the creation of a neighbourhood watch group, at which residents are invited and then publicly asked whether they want to be involved. This process can encourage people to publicly precommit to engagement in the neighbourhood watch group, which can influence their willingness to actually become involved.⁵⁵

4. How do we evaluate behavioural measures based? The EMMIE framework

In the previous section we categorised measures using behavioural insights to raise awareness of domestic burglary prevention and we examined the underlying theories. To evaluate the measures consistently, policymakers and practitioners can rely on the EMMIE framework. The EMMIE framework has been explicitly designed to evaluate crime prevention measures grounded in evidence-based findings.⁵⁶ It uses five dimensions that are deemed important for crime prevention, represented in Figure 3. These dimensions are:

- Effect;
- Mechanisms/mediators;
- Moderators/contexts;
- Implementation; and
- Economic considerations.⁵⁷

We evaluate crime prevention measures based on two scoring systems: the scoring of the measure itself, known as the EMMIE-E score, and the scoring of the research that examined the measure, known as the EMMIE-Q score. To exemplify these systems, one can contemplate research showing that a certain measure has a large, significant effect (EMMIE-E), but this research is considered to be of poor quality (EMMIE-Q).⁵⁸

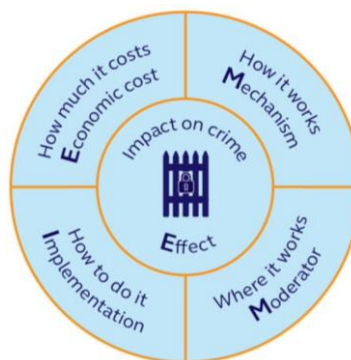


Figure 4. The EMMIE framework⁵⁹

The first dimension indicates the size and direction of an effect and the reliability of this effect. For example, a specific policy measure can cause a decrease in crime. However, if the measure would have an unanticipated effect of increasing crime in surrounding areas it would lower the overall effectiveness of the measure. Research should consider both internal and external validity⁶⁰, as well as unintended side effects, such as crime displacement.⁶¹

The second dimension indicates the mechanisms and mediators influencing the functioning of a given measure. This dimension contains the underlying mechanisms/mediators that explain why a specific measure has a certain effect (or lack thereof).⁶² EMMIE-E scoring refers here to the amount of information about the underlying mechanisms, while EMMIE-Q scoring measures how well designed and empirically examined these mechanisms are.⁶³

The third dimension refers to the moderators and contexts of the different measures. They include the context in which a measure is applied and the effect that this context can have on the functioning of the measure. Moderators/contexts are often measured by determining differences in the effect of the measure concerning certain subgroups. These subgroups can, among others be different locations, different crimes or different segments of the population.⁶⁴

The fourth dimension concerns the implementation of the measures and refers to the components of the implementation of a measure that are necessary to replicate the effect of the measure when it is implemented elsewhere. Possible components could be the design of certain objects needed for an intervention, communication about the intervention or the organisation responsible for the implementation of the intervention. Since policymakers can implement many measures in different ways, this dimension can also include information about the type of implementation that achieves the best results.

The fifth and final dimension of the EMMIE framework consists of the economic considerations surrounding the measure, more specifically, the cost of implementing the measure. This cost includes an estimated quantification of the cost of a measure itself, as well as a cost-effectiveness and cost-benefit analysis to contextualise the cost of the measure.⁶⁵ Cost-effectiveness analysis weighs the results of a measure versus the costs invested to obtain this result. Therefore, it is possible to contextualise the results of a measure by indicating how much the results would cost.⁶⁶

5. Evaluating burglary prevention measures using behavioural insights

In this section, we present four burglary prevention measures with a focus on citizens and their burglary prevention behaviour: neighbourhood watch, security surveys, police advice and police labels. We evaluate these measures using the EMMIE Framework and underlying behavioural theories (see Table 2). The EMMIE framework provides a score from 0 to 4, where 0 stars indicates no available information, and 4 stars indicates strong evidence, based on quality research from multiple sources with a well-rounded methodology. For example, multiple studies with a substantiated methodology provide strong evidence that a certain measure is highly effective. These studies also provide information on additional effects of the measure that have been empirically tested and confirmed by different studies. In this situation, the measure receives a high score on 'Effect'.⁶⁷

5.1. Neighbourhood watch

Neighbourhood watch is a general term referring to activities in which residents of a community aim to improve the safety and quality of life in neighbourhoods.⁶⁸ Citizens can for instance participate by patrolling the neighbourhood, by reporting suspicious situations to the police or by educating residents about crime prevention.⁶⁹ Recently, there has also been an increase in online neighbourhood watch groups, in which residents can post about suspicious activity in a social media group.⁷⁰ Whilst neighbourhood watch is not a behavioural initiative in se, it can contain behavioural insights into its functioning, such as in educating citizens, convincing citizens of the amount of burglary in their neighbourhood or reminding citizens about burglary through regular patrols.

Behavioural Theory

Protection motivation theory explains how neighbourhood watch initiatives function through threat appraisal and coping appraisal, for instance by educating residents, encouraging residents to join a social initiative, and reminding residents of the amount of burglary in their neighbourhood.⁷¹ First, neighbourhood watch groups can show the severity and vulnerability of residents by educating them about how much harm can be done with a burglary and the extent to which burglary is present in their neighbourhood. This information increases the perceived risk of becoming a victim of crime for residents and affects their threat appraisal. Research shows that the higher the perceived risk is, the higher that the perceived threat and willingness to change behaviour are (in this case, to join a neighbourhood watch group). Second, neighbourhood watch groups can also provide residents with solutions to this threat of burglary and provide coping mechanisms. Belief in online neighbourhood watch groups increases the perceived effectiveness (or response efficacy) of burglary prevention measures and therefore the willingness to change behaviour.⁷² Another element of coping appraisal is self-efficacy. Residents should believe that they can contribute to the initiative, for example by providing relevant information or actively patrolling. Convincing residents about the importance of these factors increases participation in neighbourhood watch groups.⁷³ Neighbourhood watch

initiatives can use these factors, not only to increase participation, but also to educate other residents and convince them to take effective target hardening measures.

We should remark, however, that neighbourhood watch is a complex measure that also influences other levels of decision-making. According to community engagement theory, for example, there are community factors that could influence participation in neighbourhood watch groups, such as sense of community and participation in the neighbourhood.⁷⁴ Furthermore, beliefs in institutional agencies that are part of the neighbourhood watch initiative, such as police, also have an effect.⁷⁵

Type of Behavioural insight

Neighbourhood watch groups can use different choice architecture techniques to influence resident behaviour.⁷⁶ First, they influence decision information. Neighbourhood watch groups can make information visible (A1) by directly contacting residents and organising events on burglary prevention measures.⁷⁷ Second, they can influence decision structure by changing the social consequences of the decision to take burglary prevention measures (B4). By increasing social cohesion and providing information about the effect of burglary prevention measures on the entire neighbourhood, they can focus on the consequences of the social environment of the resident.⁷⁸ Finally, neighbourhood watch groups can provide decision assistance by reminding residents about the importance of burglary prevention (C1). These reminders can take the form of organising events or regularly patrolling.⁷⁹ Furthermore, encouraging citizens to join a neighbourhood watch group can also induce public commitment (C2). People then publicly show their willingness towards this group to make efforts concerning burglary prevention. Therefore, neighbourhood watch groups facilitate commitment to burglary prevention through the social character of the group.⁸⁰

Effect

In general, neighbourhood watch groups can be effective in reducing crime, including burglary.⁸¹ Additionally, the use of social media neighbourhood watch groups can reduce burglary, although these initiatives are more recent and have not been rigorously researched.⁸² A 2008 meta-analysis⁸³ found an average effect of 26 crimes prevented for every 100 crimes.⁸⁴ A later revision of this meta-analysis still shows that crime decreased by 16% on average (or that crime increased by 19% in areas without neighbourhood watch).⁸⁵ However, many studies also show inconclusive effects on crime reduction.⁸⁶ Although the meta-analysis does not find that neighbourhood watch groups increase the amount of crime, some evidence contradicts this outcome.⁸⁷ The revised version of this meta-analysis, for example, shows that there can be an association with increased crime in some cases.⁸⁸

Examinations of neighbourhood watch groups most often measure the amount of crime reduction. Studies with a transparent analysis clearly show a reduction in crime.⁸⁹ There are also multiple meta-analyses, strengthening the evidence that neighbourhood watch is effective.⁹⁰ However, studies still suffer from limitations. First, neighbourhood watch initiatives often contain multiple activities, such as patrolling, creating social media groups, and organising events. When these initiatives are tested for their effectiveness, it is often not possible to measure the effectiveness of the distinct individual activities.⁹¹ Second, research often limits measurements of effectiveness to crime reduction in the neighbourhood where the watch group is active, while they do not consider surrounding

areas. Some studies found that there does not seem to be a displacement⁹² or diffusion⁹³ effect, although they still have limited results.⁹⁴ Third, research often measures crime reduction through official recorded crime rates.⁹⁵ However, since neighbourhood watch groups encourage citizens to be alert and provide information to the police, this could lead to more reports of crime and render the crime rate an inaccurate measurement.⁹⁶

Mechanisms

There are several mechanisms that explain how neighbourhood watch groups have an effect on crime prevention.

The first mechanism explains crime prevention through visible deterrence. The active patrolling of watch teams might deter potential burglars.⁹⁷ While studies have found reductions in the number of burglaries after the creation of neighbourhood watch groups, it is difficult to attribute this reduction to deterrence through active patrolling.⁹⁸

Second, crime prevention can occur by providing information to the police and authorities, which can aid in policework.⁹⁹ Furthermore, evidence suggests that it might also improve the relationships between residents and police, in turn allowing police to operate more effectively.¹⁰⁰

Third, neighbourhood watch groups can induce crime prevention through social control, namely by directly intervening when 'undesired behaviour' is committed.¹⁰¹ However, in practice, neighbourhood watch teams often do not directly intervene in crime or disorder situations.¹⁰² Direct intervention also appears to undermine the social relations that the teams have built in the neighbourhood, which can have a negative impact on social control.¹⁰³

Finally, neighbourhood watch can prevent crime by informing residents about security and safety issues. They can, for example, organise events or patrols in which they provide residents with information about the most important crime prevention measures, although events are more effective than patrols regarding this matter.¹⁰⁴ This measure, combined with the use of social media groups to report suspicious activity, also has a short-term effect on the alertness of residents. Alert residents are more likely to take crime prevention measures; thus, neighbourhood watch groups can have a significant effect.¹⁰⁵ Here, we note a caveat about fear-based messaging. In particular, inadequate use of these initiatives by neighbourhood watch groups can cause residents to have a fear of burglary. Watch groups should be aware of this effect and prevent the negative consequences of fear of burglary.¹⁰⁶

While we can identify many potential mechanisms, research into the effectiveness of specific mechanisms is scarce.¹⁰⁷ Some evidence seems to suggest that providing information to residents and to the police and authorities is the most important activity, although there are no studies that have tested this relationship in isolation, without the presence of other activities.¹⁰⁸ Research on the mechanisms is still severely lacking, and there is a need for empirical studies on the specific mechanisms contained in neighbourhood watch.

Moderators

Research can accurately identify two moderators.

First, the status of the neighbourhood (or the rate of crime in the neighbourhood) impacts the effectiveness of neighbourhood watch. In the Netherlands, for example, multiple reductions in the number of burglaries have been witnessed immediately after the creation of neighbourhood watch groups in higher-status neighbourhoods.¹⁰⁹ However, this effect does not seem to be present in lower-status neighbourhoods. We can attribute this difference to two factors. First, policymakers often subject lower-status neighbourhoods to more stringent crime measures, such as active police patrolling. In such areas, neighbourhood watch groups, which are a softer measure, have a lesser impact compared to these harder measures. Second, residents of lower-status areas are often less willing to participate in neighbourhood watch groups because there is less belief that these groups will work in reducing burglary rates. This doubt leads to fewer participants, in turn reducing the effectiveness of the neighbourhood watch groups.¹¹⁰ Residents of lower-status areas are also less present in social media watch groups.¹¹¹ Apart from this difference, neighbourhood watch teams in low-status neighbourhoods do have one advantage compared to their high-status neighbourhood counterparts. Criminals often do not regard neighbourhood watch groups in low-status neighbourhoods as a threat, because they have a less noticeable impact in the area, making it easier for the group to gather more valuable information.¹¹²

Second, neighbourhood watch groups are often part of a larger programme consisting of multiple initiatives (such as property marking¹¹³ or government information campaigns), once again making it difficult to attribute effectiveness to neighbourhood watch groups.¹¹⁴ However, there seems to be no significant impact on effectiveness when neighbourhood watch groups are part of a programme also consisting of property marking or security surveys.¹¹⁵ Multiple neighbourhood watch initiatives have been implemented without a larger programme, and these initiatives still seem to be effective.¹¹⁶ The interactions between neighbourhood watch groups and initiatives, other than property marking or security surveys, have not yet been thoroughly measured.

Neighbourhood watch initiatives operate in many different contexts, rendering comparisons between them difficult. For example, initiatives in the USA and Canada reduce much more crime (47 per 100 crimes) than UK-based initiatives (15 per 100 crimes).¹¹⁷ A potential moderator therefore is location. The initiatives also vary greatly in size, which could also explain the difference in effectiveness. Although research often includes some context for neighbourhood watch initiatives, there still remain many contextual factors that have not been compared, making it difficult to determine which moderators actually have an effect. Empirical research focused on specific moderators could facilitate understanding of the impact of different contexts.

Implementation

Neighbourhood watch is a complex initiative that policymakers can implement in many ways.

First, implementation and continuous engagement in neighbourhood watch seems to be dependent on the fear of crime. The amount of fear of crime determines the resident engagement in the initiative. This fact has two implications. First, increased fear of crime could lead to more behaviour attempting to increase social control, such as through direct intervention during crime or disorder situations. This form of direct interventions can lead to an increase in reported crime.¹¹⁸ Second, when neighbourhood watch is effective in reducing crime, it could also lead to a reduction in the fear of crime. A lower fear of crime reduces engagement in the neighbourhood watch initiative, in turn reducing the effectiveness of the initiative.¹¹⁹ This means that engagement in neighbourhood watch groups solely based on fear of crime could decrease the effectiveness of the initiative.

Second, cooperation between organisations is an important factor in implementation. The most important organisations are collectives of residents and the police (since these are most often involved in neighbourhood watch). Neighbourhood watch initiatives initiated by the public are more effective than initiatives solely initiated by the police.¹²⁰ Public support of residents for neighbourhood watch groups is necessary to achieve crime reduction.¹²¹ Initiatives of residents that do not involve other organisations, such as police or private security businesses, also seem to be less effective.¹²² Therefore, the neighbourhood watch initiative is most effective when both the police and the residents are involved. Neighbourhood watch should also be coordinated at the level of the residents. When there is no coordinating stakeholder resident, groups are prone to fall apart.¹²³

Third, there are some important caveats when implementing neighbourhood watch. Neighbourhood watch groups should be aware of the behaviour of team members, because research shows this behaviour can harm the social relations and sense of security. False or unnecessary information often plagues neighbourhood watch initiatives, whether this information is delivered to police and authorities or shared among social media groups.¹²⁴ An excessive amount of reporting, also known as 'report deformation', can lead to excessive social control, which could be harmful to police effectiveness and social relations.¹²⁵ When citizens engage in behaviour to counteract disorder in the neighbourhood, they are inclined to use social stereotypes and stigmatise particular groups. This is also the case for neighbourhood watch groups, especially in high-status neighbourhoods.¹²⁶

Economic costs

Because of the variety in neighbourhood watch groups, it is impossible to extract precise monetary information. Economic costs are mostly absent from neighbourhood watch evaluations.¹²⁷ Costs depend on the activities in the neighbourhood watch initiative, the organisation that is responsible for the initiative, who is funding the initiative, and the amount of cooperation with other organisations, such as regular meetings with police.¹²⁸ When neighbourhood watch groups are based on fund-raising by residents and involve lower police cooperation, they can be implemented with relatively low costs.¹²⁹

Summary

We provide a summary of the different evaluation elements in Table 2.

General Theory	Taxonomy	Effect	Mechanism	Moderator	Implementation	Economic Cost
<ul style="list-style-type: none"> - Protection motivation theory - Community engagement theory 	<ul style="list-style-type: none"> - Making information more visible - Reframing information - Changing social consequences - Providing reminders - Facilitating commitment 	<p>***</p> <ul style="list-style-type: none"> - Crime reduction in general, although crime increase is possible 	<p>**</p> <ul style="list-style-type: none"> - Visible deterrence - Providing information to police and authorities - Direct intervention - Informing residents about security 	<p>*</p> <ul style="list-style-type: none"> - Status/crime rate of neighbourhood - No interaction with other activities, although very limited evidence 	<p>**</p> <ul style="list-style-type: none"> - Fear of crime - Cooperation between organisations - Daily practices of neighbourhood watch team members 	<p>*</p> <ul style="list-style-type: none"> - Dependent on activities, organiser, amount of cooperation, ...

Table 2. Evaluation of Neighbourhood watch

5.2. Security surveys

'Security surveys' refers to a newly developed nudging technique that uses surveys to provide information to potential burglary victims and to cause them to reflect on their burglary prevention behaviour. The survey gives people current information about the burglary rate in their area and aims to nudge them towards taking more burglary prevention measures.¹³⁰ Since this is a very recent technique, research on security surveys remains very limited.

Behavioural Theory

According to the elaboration likelihood model, security surveys can create attitude change via the peripheral route. Peripheral attitude change occurs more unconsciously and has fewer requirements than central attitude change. People must be able and motivated to process the information that they are given to create central attitude change. Peripheral attitude change happens unconsciously, for example by simply reminding people of a topic such as burglary prevention. The security survey aims to make people contemplate their own prevention behaviour by simply reminding them about burglary and not by simply providing a list of rational arguments about burglary prevention measures. An emotional response can also induce peripheral attitude change.¹³¹ Further information about the presence of burglary in the area, which the survey provides, can lead to an emotional response and therefore induce peripheral attitude change.

Protection motivation theory also helps to explain how security surveys work. Information about burglary in the area could increase the perceived likelihood of becoming a burglary victim (vulnerability), making it more likely for people to engage in coping measures. The survey can also help in providing coping mechanisms for the perceived threat by causing people to contemplate prevention measures that they themselves can take (self-efficacy).¹³²

Choice architecture technique

The choice architecture of the security survey is based on two techniques. First, the survey influences decision information by rendering information about the amount of burglary more visible (A1). The survey mentions that the person lives in an area with the most burglary within a certain region. Second, the survey gives decision assistance by providing reminders (C1) about the occurrence of burglary and the existence of prevention measures, by asking questions about these topics in the survey. Both techniques aim to cause people to reflect on their own burglary prevention measures.¹³³

Effect

The results from a 2020 study show that a security survey caused 79% of the people to think about their burglary prevention behaviour, and 63% would increase this behaviour.¹³⁴ The study also measured a 25% reduction in burglary in the area.¹³⁵ However, there is no certainty that this reduction is connected to the use of the security survey or that other factors could be responsible for it, since the research does not take external variables into account. Furthermore, there is only a single study that explicitly measures security surveys that use nudge, which is very limited. More empirical testing is

necessary to properly determine whether security surveys are effective, including other factors of effectiveness, such as diffusion¹³⁶ or fading of effectiveness over time.

Mechanisms

The survey of the 2020 study is based on previous studies of bicycle locking behaviour.¹³⁷ Here, policymakers prevented bicycle theft by nudging people towards securing and/or locking their bicycle, lowering the opportunity for theft.¹³⁸ These studies use nudges with a similar goal as in the security survey, and they are effective measures in reducing crime by increasing crime prevention measures. They achieve this goal by reminding people about theft, theft prevention measures and the ease of implementing these measures.¹³⁹ Similarly, this survey aims to remind people of these topics concerning burglary.¹⁴⁰ However, no empirical testing is present regarding the mechanisms of security surveys. Therefore, we cannot be certain that this mechanism is in fact the underlying mechanism.

Moderators

The most important moderator that we can identify is the target group of the current burglary security survey research, namely students. Unlike in the general population, multiple studies find that students often neglect very basic burglary prevention measures, such as locking doors and windows.¹⁴¹ The security survey can target areas with many students and their neglect of burglary prevention measures.¹⁴² Targeting students is based on targeting people with a higher risk of repeat victimisation.¹⁴³ Some studies indeed find that student accommodations have a higher repeat victimisation risk, but there are also studies that find the exact opposite.¹⁴⁴ Regardless of whether students are a relevant target group, in the 2020 study, researchers compared students and nonstudents and found significant results with both groups, although more students than nonstudents indicate that the survey made them ponder their burglary prevention behaviour.¹⁴⁵ This means that effectiveness does not seem to depend on the target group being students. However, security surveys that target students are more effective in making people contemplate their prevention behaviour.

Implementation

A factor of implementation is the actor that administers the survey. In the 2020 study, this was the police.¹⁴⁶ People can regard the police as an authority figure, and the presence of such a figure can affect the information that they provide. Therefore, the presence of an authority figure and not only the content of the survey could affect the effectiveness of the survey.¹⁴⁷ More studies of the effect of police and other implementation factors are necessary before we can draw conclusions.

Economic costs

We have not found information about the economic cost of security surveys. Costs can be dependent on who administers the survey, for example volunteers or police. Apart from this point, security surveys are expected to have relatively low costs, especially when people are contacted automatically via online methods.

Summary

We provide a summary of the different evaluation elements in Table 3.

General Theory	Taxonomy	Effect	Mechanism	Moderator	Implementation	Economic Cost
<ul style="list-style-type: none"> - Peripheral attitude change - Protection motivation theory 	<ul style="list-style-type: none"> - Making information more visible - Providing reminders 	<p>**</p> <ul style="list-style-type: none"> - Crime reduction, although very limited evidence 	<p>**</p> <ul style="list-style-type: none"> - Based on nudging people towards reflection - Underlying mechanism has been shown to be effective 	<p>*</p> <ul style="list-style-type: none"> - Students as target group 	<p>*</p> <ul style="list-style-type: none"> - Police administering the survey can possibly impact effectiveness 	<p>/</p> <ul style="list-style-type: none"> - No information about economic costs

Table 3. Evaluation of security surveys

5.3. Police advice (including super cocooning)

Burglary prevention programmes often use police to give prevention advice to victims of burglary to prevent repeat victimisation.¹⁴⁸ Targeted police advice is a form of hot spots policing¹⁴⁹, in which there is a focus on targets with a higher crime concentration. Police advice aims to convince victims to take more burglary prevention measures.¹⁵⁰ This burglary prevention advice is often part of a larger context of police response to burglary, with police also conducting a criminal investigation and providing information about the burglary case.¹⁵¹ When police provide advice to victims, but also to neighbouring residents of this victim, it is called 'super cocooning'. Super cocooning aims to contact more people with a greater risk of victimisation.¹⁵² Indeed, neighbouring residents of burgled residences also experience a greater likelihood of burglary victimisation, called 'near repeat victimisation'.¹⁵³

Behavioural Theory

When we look at behavioural theory, we find the importance of fear of crime in burglary victims. Victims are more likely to experience a greater fear of crime compared to different times when they were not recently the victim of an offense.¹⁵⁴ This fear of crime can, however, be situational and not permanent.¹⁵⁵ When fear of crime remains for a longer period of time, it can become more permanent. Police then can give advice when fear of crime is still only situational.

Fear of crime also plays a part in protection motivation theory. Experiencing a burglary can impact the perceived risk of a person becoming a victim of a burglary (vulnerability). Additionally, it can show a person the ways in which burglary can have a harmful effect, as the person has become a victim him- or herself (severity). In other words, becoming a victim of burglary can increase the perceived threat of a subsequent burglary. The police advice, then, aids people in thinking about ways to cope with this threat, namely taking prevention measures. The police can convince people which measures work (response efficacy) and that people can prevent burglary by their prevention behaviour (self-efficacy).¹⁵⁶

Choice architecture technique

Police advice mostly aims to influence decision information, for instance, by giving prevention advice that frames prevention measures positively (A1). Since there are many prevention measures to choose from, police advice can simplify information (A1) by offering the most effective preventive measures and explaining why they are beneficial. Furthermore, people can see police officers as authorities on the subject. This provides a social reference point for people (A3), who regard the information to be trustworthy because it comes from a source of authority.¹⁵⁷

Effect

Information about police advice effectiveness is still quite limited.¹⁵⁸ Police advice appears to increase belief in burglary prevention measures by potential burglary victims without necessarily increasing their fear of crime.¹⁵⁹ In general, areas where police give advice experience a reduction in burglary rate, although the amount of reduction varies.¹⁶⁰ The strongest evidence for police advice comes from an analysis of a large-scale Australian

project, in which researchers examined the effect of only police advice to burglary victims and found that repeat victimisation decreased from 13% to 8% within the year that police gave advice.¹⁶¹ Super cocooning also seems to be effective, although strong evidence is once again limited.¹⁶² Different initiatives find a different amount of burglary rate reduction, ranging from 7% to 30%. These initiatives often coincide with other activities, however, significantly impacting the strength of the evidence because these activities could also be responsible for the decrease in burglary rate.¹⁶³

There are also a series of studies that find no or very limited effectiveness of advice.¹⁶⁴ A meta-analysis¹⁶⁵ shows that some police advice can fail to convince people to take prevention measures.¹⁶⁶ However, this conclusion is based on results from police advice concerning many types of crime and is not exclusive to residential burglary. When we only consider residential burglary, we can conclude that there is a reduction in residential burglary with the presence of police advice.¹⁶⁷

Measuring the effectiveness of police advice is prone to methodological problems. First, police advice is often part of a larger programme, containing multiple crime prevention initiatives. For example, some studies consider super cocooning initiatives to be effective in decreasing the burglary rate, while there are other activities implemented simultaneously. Therefore, these other activities could also have caused the burglary rate reduction.¹⁶⁸ Second, there is still a lack of research on the additional effects of police advice. However, many studies have been done on effects of hot spots policing.¹⁶⁹ Since targeted police advice is a form of hot spots policing, some information can be gained from general hot spots policing research. For example, a meta-analysis shows that there is a small possibility of a diffusion effect¹⁷⁰ when using hot spots policing.¹⁷¹ However, further research is still necessary to examine whether this case also obtains specifically for police advice. For example, some evidence suggests that, compared to police advice, general hot spots policing has a larger but more short-term effect.¹⁷²

Mechanisms

No clear mechanisms of police advice have been the subject of empirical research. Different studies are available on the impact of police advice on victims' fear of crime and coping strategies, satisfaction with police and burglary prevention behaviour. However, they have not yet analysed how police advice exactly changes the burglary prevention behaviour of the victim, whether we can attribute this change to police presence, the timing of the information or a different factor.¹⁷³ Further research could therefore provide information on the elements of police advice that are essential for effectively modifying behaviour.

Moderators

We can identify three moderators.

First, police advice is more effective in areas where there is a lower amount of crime. There seems to be a larger reduction in repeat burglary victimisation in areas with a lower crime rate. This relationship is true although research shows that repeat victimisation is more prevalent in low-status neighbourhoods, which have higher crime rates, compared to high-status neighbourhoods, which have lower crime rates.¹⁷⁴

A second moderator of police advice is the group of citizens that the police target. Police advice initiatives almost exclusively contact people with an increased risk of becoming victims of burglary. Research shows that victims of burglary are at a higher risk of becoming victims of another burglary compared to people who have not been victims.¹⁷⁵ Therefore, police advice targets victims of burglary, since they have a high chance of repeat victimisation.¹⁷⁶ Super cocooning also includes neighbouring residences of the victims, since they also seem to experience an increased risk of victimisation.¹⁷⁷ One study finds this to be the case for residences within 400 metres of the burglary, although exact measurements have not yet been rigorously tested and are likely dependent on the area where the burglary took place.¹⁷⁸

Third, police advice is most effective when it is provided close to the time of the first offense. It appears that police should give advice as soon as possible after the first burglary, because victims are still experiencing the psychological effects of the burglary and will take advice more seriously.¹⁷⁹ Furthermore, the increased risk of victimisation for neighbours of burglary victims is higher when the burglary has happened recently. For example, some studies indicate it is highest within one week of the burglary taking place and remains high for two months after the burglary, meaning that the police should give advice quickly, so people can take prevention measures during this period of highest risk.¹⁸⁰

Implementation

Unlike many other measures, police officers directly give information to citizens. Therefore, these police officers must be compliant with the given rules on how to most effectively convince citizens to take burglary prevention measures.¹⁸¹ There are some parameters to ensure that police officers are compliant.¹⁸² First, supervision by higher officers improves compliance. Second, direct feedback and active involvement from supervisors appear to do the same.¹⁸³ Other police advice programmes suggest that these forms of supervision, especially in early stages, can improve compliance and therefore effectiveness.¹⁸⁴ Empirical testing of compliance with police advice remains limited.¹⁸⁵ However, there is evidence to suggest that the 'Train, Track, Feedback' approach can help in implementing policy initiatives that depend on front-line workers.¹⁸⁶ In this approach, police officers are trained on giving police advice. Then, supervisors track officers to measure whether they are actually compliant. Finally, supervisors give feedback to police officers about the measured compliance during tracking.¹⁸⁷ This approach can help increase compliance with police advice, including when compared to less involved trainings.¹⁸⁸

Economic costs

The economic costs of police advice are very difficult to determine. Police advice is one of many police activities. Research on the costs of police advice should therefore investigate the amount of time and money that the police allocate to this task, but this information is not yet available.¹⁸⁹

Summary

We provide a summary of the different evaluation elements in Table 4.

General Theory	Taxonomy	Effect	Mechanism	Moderator	Implementation	Economic Cost
<ul style="list-style-type: none"> - Situational fear of crime - Protection motivation theory 	<ul style="list-style-type: none"> - Translating information - Providing social reference point 	<p>**</p> <ul style="list-style-type: none"> - Crime reduction, although limited evidence 	<p>/</p> <ul style="list-style-type: none"> - No mechanisms clearly identified 	<p>**</p> <ul style="list-style-type: none"> - Crime rate of neighbourhood - Potential repeat victimisation as target - Time between first offence and advice 	<p>***</p> <ul style="list-style-type: none"> - Compliance by police officers 	<p>/</p> <ul style="list-style-type: none"> - No information about economic costs

Table 4. Evaluation of police advice

5.4. Police labels

The use of police labels is a measure that aims to promote burglary prevention measures by awarding labels. Police can inspect a house or create certain rules about security measures, and then provide a label that shows a residence is secure based on the measures in place. Most information on police labels stems from two large projects, namely Secured by Design in the United Kingdom and Police Label Secure Housing in the Netherlands. These projects involve multiple public organisations and citizens and include different activities.¹⁹⁰ Although these initiatives are large-scale and can use financial, legal and other rational incentives, unconscious decision-making facilitated by behavioural insights can also convince people to take preventive measures.¹⁹¹

Behavioural Theory

Police labels mostly appeal to the rational and conscious thinking of citizens to increase prevention behaviour. However, multiple behavioural models suggest that labelling measures can influence both conscious and unconscious behaviour.¹⁹² One goal of police labels is for the label to be known by the largest number of people.¹⁹³ While people can rationally choose to adhere to a police label, reminders of the existence of the label and the risk of burglary can also convince them. By reminding people about the existence of the label and how many other people already have them, the decision about acquiring a label could change from a solely rational to a partially unconscious and automatic one.¹⁹⁴

Next, a police label also provides a list of burglary prevention measures that policymakers deem to be effective and how to implement them. Doing so lowers the amount of cognitive effort a person must exert to take for burglary prevention. When we examine protection motivation theory, we find that this reduction in effort (or response cost) could more to lead people acquiring a police label as a coping mechanism for potential burglary.¹⁹⁵

Choice architecture technique

Police labels could use many choice architecture techniques to increase burglary prevention measures. First, a label can influence decision information by simplifying information (A1) and clearly stating the measures that people should implement and how. Furthermore, since awareness of the police label is often widespread, it can act as a social reference point for people (A3), by which people trust that the measures required to acquire the label are effective in reducing burglary. Second, the police label can influence decision structure by acting as a standard or default option (B1). When people see a police label as a standard for new residences, it could increase the number of labels that people acquire. Instead of having to actively take steps to acquire a label, the label can become standard practice. Finally, by increasing awareness about the label, policymakers can assist people in their decision on prevention measures. Indeed, every time the label reminds people about the existence of burglary and measures to avoid it (C1), it also details the prevention measures that can best help people.¹⁹⁶

Effect

Since measurements of police label effectiveness mostly stem from two large programmes, it is difficult to accurately identify how effective police labels are.¹⁹⁷ In both programmes, strong reductions in burglary have been found.¹⁹⁸ Residents with the Police Label Secure Housing have an 80% lower risk of burglary, and for new residences the risk is even 95% lower. The amount of burglary reduction fluctuates over the years. Notably, the number of people who attain a police label has decreased. While we could partially explain this outcome by the reduction in new residences being built, the reduction in awarded police labels is still significant. There is no research on why fewer people feel encouraged to obtain the police label.¹⁹⁹ The effectiveness of Secured by Design also seems to fluctuate. An evaluation between 1994 and 1998 noticed a continuous rise in effectiveness.²⁰⁰ However, only since 1996 did residences with the label experience fewer burglaries than residences without the label. Additional and more recent studies use multiple methods to support that the police label in the UK is an effective method to reduce burglary and is therefore quite strong evidence.²⁰¹

Limited information is available on the additional effects of police labels. Research found a remarkable displacement²⁰² effect during a Police Label Secure housing project. In neighbourhoods with the police label, the amount of vehicle theft was 148% higher compared to neighbourhoods without the police label.²⁰³ This effect also seems to be present with Secured by Design initiatives.²⁰⁴ Next, there is also limited evidence showing that although the UK police label led to greater crime reduction, the amount of crime also increased significantly faster in the long-term after the initial reduction.²⁰⁵ When evaluated over a 10-year period, crime increased faster in police label residences near the end of this period compared to residences without the label. Another study found a similar problem.²⁰⁶

Mechanisms

There are multiple possible mechanisms of police labels.

First, police labels deter burglary through a list of environmental design choices, reducing the opportunities for burglary.²⁰⁷ Research has shown many times that environmental design is effective in reducing the burglary rate.²⁰⁸ To achieve this goal, police labels stimulate people to take burglary prevention measures.²⁰⁹ The existence of the police label gives people information about which measures prevent burglary and can also raise awareness. A survey shows that 85% of Dutch people are familiar with the Dutch police label.²¹⁰ Next, police labels aim to support people in demanding secure residences from architects and urban planners. Indeed, the Police Label Secure Housing provides people with clearly structured demands that they can make when a residence is being built or more greatly secured. In this way, the police label encourages prevention measures by making it easier for people to realise how and which prevention measures can help, and by improving communication about security issues between clients and architects/urban planners.²¹¹

Second, police labels are directed not only towards individuals, but also towards larger complexes and even neighbourhoods.²¹² By creating such a joint initiative between multiple residents, a police label can improve social control and cohesion. This outcome

changes the social environment of the person and could motivate them to take burglary prevention measures.²¹³

Third, some elements of the police label can create a sense of 'involvement' of residents in their neighbourhoods. This mechanism is based on the idea that attractive neighbourhoods create more involved residents. Involved residents can then be more alert and make more efforts towards the neighbourhood, for example through burglary prevention behaviour.²¹⁴

Policy documents about police label projects show multiple possible mechanisms. However, there is only limited empirical evidence showing that police labels indeed work because of these mechanisms, in contrast with the mechanisms of environmental design that police labels encourage. Research on the police labels themselves, however, is lacking.²¹⁵ Further research could empirically test these different mechanisms.

Moderators

Police label studies mention two possible moderators.

First, we should note that these projects target not only citizens, but also urban planners and building practitioners.²¹⁶ There is no information about whether targeting citizens or urban planners and building practitioners is more effective.

Second, the effectiveness of police labels depends on location. For example, an evaluation of the Police Label Secure Housing found that the amount of reduction of burglary in residences with the label differs by large amounts.²¹⁷ The reason for this difference has not yet been the subject of investigation.

Although we can identify some potential moderators, there is no empirical evidence showing why these moderators have an effect. More testing is necessary to determine exactly how the context of police labels impacts their effectiveness.

Implementation

Both police label projects have existed for a long time and have undergone significant changes.²¹⁸ Since 2005, for example, the police no longer awards the Police Label Secure Housing. Building plan advisors have now taken over this role.²¹⁹ This reform reportedly led to a drastic reduction in the number of police labels that were awarded. In the UK, both the police and building advisors award Secured by Design labels simultaneously.²²⁰ Multiple ministries have also conducted the implementation of the Police Label Secure Housing in the Netherlands. Implementation also depends on whether local authorities want to work on police labels in their area.²²¹ Therefore, implementation in a different country without ministerial, police or local authority cooperation might not be as successful. There is, however, no research into how different forms of cooperation impact the effectiveness of police labels.

The large scale of police label projects does have an advantage. Policymakers have created a handbook with guidelines for Dutch projects, which could make it easier for other countries to implement a police label, as a handbook with a theoretical background is available.²²²

Furthermore, the quality of implementation depends on whether the police label is always given to residences that have actually procured the required security measures. For example, not all neighbourhoods with a Police Label Secure Housing have actually fulfilled the necessary requirements.²²³ The impact of this discrepancy on the effectiveness of the police label is not yet clear.

Economic costs

There are no economic costs available about organising a police label project. These projects are large operations with multiple actors and initiatives. The costs also do not pertain to a single organisation, since multiple public and private organisations are involved in a police label project. There is some information about the police label costs for citizens available. The Police Label Secure Housing in the Netherlands has an average cost of €1.500. People with a police label often mention this cost as a negative element.²²⁴ To comply with UK Secured by Design regulations, the costs seem to range between €82 and €236.²²⁵

Summary

We provide a summary of the different evaluation elements in Table 5.

General Theory	Taxonomy	Effect	Mechanism	Moderator	Implementation	Economic Cost
<ul style="list-style-type: none"> - Both conscious and unconscious thinking - Protection motivation theory 	<ul style="list-style-type: none"> - Simplifying information - Social reference point - Changing choice default - Providing reminders 	<p>***</p> <ul style="list-style-type: none"> - Strong crime reduction evidence, but only two projects 	<p>**</p> <ul style="list-style-type: none"> - Encouraging prevention measures - Improving social control and cohesion - Improving neighbourhood involvement 	<p>*</p> <ul style="list-style-type: none"> - Citizens and urban planners/architects as target groups - Location 	<p>*</p> <ul style="list-style-type: none"> - Cooperation with police and local authorities - Large-scale project - Residences with labels don not always meet requirements 	<p>*</p> <ul style="list-style-type: none"> - No information about policy costs - The cost for citizens is known

Table 5. Evaluation of Police Labels

6. Conclusion

In this report, we evaluated four different measures that use behavioural insights to encourage people to take burglary prevention measures. In the evaluation, we examined the underlying behavioural theory, and situated the measure in the Taxonomy of Choice Architecture Techniques. We also evaluated the measure using the EMMIE framework. Table 6 presents a final summary of the four policy measures.

Measure	General Theory	Taxonomy	Effect	Mechanism	Moderator	Implementation	Economic cost
Neighbourhood watch	<ul style="list-style-type: none"> - Protection motivation theory - Community engagement theory 	<ul style="list-style-type: none"> - Making information more visible - Reframing information - Changing social consequences - Providing reminders - Facilitating commitment 	<p>***</p> <ul style="list-style-type: none"> - Crime reduction in general, although crime increase is possible 	<p>**</p> <ul style="list-style-type: none"> - Visible deterrence - Providing information to authorities - Direct intervention - Informing residents about security 	<p>*</p> <ul style="list-style-type: none"> - Status/crime rate of neighbourhood - No interaction with other activities, although very limited evidence 	<p>**</p> <ul style="list-style-type: none"> - Fear of crime - Cooperation between organisations - Daily practices of neighbourhood watch team members 	<p>*</p> <ul style="list-style-type: none"> - Dependent on activities, organiser, amount of cooperation, ...
Security surveys	<ul style="list-style-type: none"> - Peripheral attitude change - Protection motivation theory 	<ul style="list-style-type: none"> - Making information more visible - Providing reminders 	<p>**</p> <ul style="list-style-type: none"> - Crime reduction, although very limited evidence 	<p>**</p> <ul style="list-style-type: none"> - Based on nudging people towards reflection - Underlying mechanism seems to be effective 	<p>*</p> <ul style="list-style-type: none"> - Students as target group 	<p>*</p> <ul style="list-style-type: none"> - Police administering the survey can possibly impact effectiveness 	<p>/</p> <ul style="list-style-type: none"> - No information about economic costs
Police advice	<ul style="list-style-type: none"> - Situational fear of crime - Protection motivation theory 	<ul style="list-style-type: none"> - Translating information - Providing social reference point 	<p>**</p> <ul style="list-style-type: none"> - Crime reduction, although limited evidence 	<p>/</p> <ul style="list-style-type: none"> - No mechanisms clearly identified 	<p>**</p> <ul style="list-style-type: none"> - Area crime rate - Potential repeat victimisation as target - Time between first offence and advice 	<p>***</p> <ul style="list-style-type: none"> - Compliance by police officers 	<p>/</p> <ul style="list-style-type: none"> - No information about economic costs
Police labels	<ul style="list-style-type: none"> - Both conscious and unconscious thinking - Protection motivation theory 	<ul style="list-style-type: none"> - Simplifying information - Social reference point - Changing choice default - Providing reminders 	<p>***</p> <ul style="list-style-type: none"> - Strong crime reduction evidence, but only two projects 	<p>**</p> <ul style="list-style-type: none"> - Encouraging prevention measures - Improving social control and cohesion - Improving neighbourhood involvement 	<p>*</p> <ul style="list-style-type: none"> - Citizens and urban planners/architects as target groups - Location 	<p>*</p> <ul style="list-style-type: none"> - Cooperation with police and local authorities - Large-scale project - Residences with labels don not always meet requirements 	<p>*</p> <ul style="list-style-type: none"> - No information about policy costs - The cost for citizens is known

6.1. Neighbourhood watch

Neighbourhood watch refers to activities in which residents of a community aim to improve the safety and quality of life in neighbourhoods. Citizens can use social media groups, patrols or events to discuss suspicious activity and offer prevention advice. The behavioural theory of neighbourhood is based on increasing the severity and vulnerability factors of citizens while also increasing response efficacy. Neighbourhood watch can make information visible, change the social consequences of burglary prevention decisions, increase social cohesion and facilitate public commitment.

We find that generally, neighbourhood watch is effective in reducing the burglary rate, although it is unsure which specific activities of neighbourhood watch are actually effective. We identified four mechanisms, namely visible deterrence through active patrolling, aiding in criminal justice by providing information to the police, increasing social control through direct intervention, and increasing prevention measures by informing citizens. Although there is limited evidence, this last mechanism seems to be the primary mechanism towards a decrease in the burglary rate and an increase in prevention measures. We also identified two moderators, showing that neighbourhood watch groups are more effective in higher-status neighbourhoods and that being part of a larger crime prevention programme likely does not impact effectiveness. Next, we found that the amount of fear of crime, cooperation with other relevant organisations and the behaviour of neighbourhood watch team members seem to be important during the implementation of the measure.

Recommendations:

- Investigate how neighbourhood watch groups impact the neighbourhood, the amount of social control and social relations;
- Use neighbourhood watch groups in higher-status neighbourhoods, since they are more effective, while in lower-status neighbourhoods, neighbourhood watch groups can mainly be used to gather information;
- Involve both police and residents in implementing neighbourhood watch groups; and
- Neighbourhood watch groups are negatively influenced by fear of crime of residents, false or unnecessary information being shared, and excessive reporting by team members. Educate watch team members about the consequences of fear of crime.

6.2. Security surveys

A security survey provides people with questions and information about burglary and prevention measures, and aims to nudge people towards taking more prevention measures. Security surveys can create a more unconscious, peripheral attitude change by presenting information about the amount of burglary in the area and reminding people of the possibility of becoming a burglary victim. It also aims to increase the perceived risk of becoming a burglary victim (the vulnerability of the person).

We find that security surveys seem to be effective in reducing the burglary rate, although we can only base this finding only on very limited evidence. More studies are needed to conclusively indicate whether security surveys are effective. Security surveys can target students, since they more often neglect prevention measures and the surveys can more easily make students contemplate their burglary prevention behaviour. Current research on security surveys involves the police administering the surveys, which can impact the way in which people receive the content of the survey, because they can regard the police as an authority figure.

Recommendations:

- Target a group that neglects basic prevention measures (e.g., students) to increase the chance that they will contemplate their prevention behaviour; and
- Allowing police to administer the security survey could cause people to regard the information from the survey as more trustworthy.

6.3. Police advice

Police advice refers to prevention advice that the police give to victims of burglary. This process aims to prevent repeat victimisation. When the police also give advice to neighbours of the victim, we call this 'super cocooning'. Becoming a crime victim can impact the perceived risk of the person once again becoming a burglary victim (vulnerability), and it shows how burglary can impact their lives (severity). The police can provide the person with mechanisms to cope with this perceived threat of burglary by encouraging prevention measures and by advising people regarding the measures that are best suited for them. They also serve as an authority figures or a social reference point to increase the validity of the information that they provide.

Police advice is generally effective and works better in high-status neighbourhoods. Policymakers most often use it to target people with a higher risk of victimisation, and it is more effective when it occurs close to the time of the first burglary, as the increased repeat burglary chance gradually decreases. Policymakers receive positive results when they train, track and give feedback to their police officers to increase compliance among officers administering the survey.

Recommendations:

- Use police advice in high-status neighbourhoods since it is more effective;
- Use police advice to target both victims of crime and their neighbours since it is effective in both situations;
- The police should give advice close to the first burglary, because the chance of repeat burglary decreases over time; and
- The 'Train, Track, Feedback' approach should be used to organise advice giving. Police officers are trained, tracked in the field, and then given feedback on their performance. Active involvement of supervisors is recommended.

6.4. Police labels

Police labels aim to encourage burglary prevention measures by awarding a label to citizens who take certain prevention measures. Police labels are often large projects, in which policymakers design rules and then award the label when citizens fulfil these rules. Behavioural theories indicate that police labels can influence unconscious decision-making by reminding people of burglary rates and prevention measures and by lowering the amount of effort needed to take prevention measures (response cost). Police labels can simplify the choice of prevention measures, provide a social reference point in society, remind people about the existence of prevention measures, and serve as a standard to which people want to abide by regarding standards.

Police labels are often large projects that are effective, but fluctuate through time depending on the project. They also affect the amount of vehicle theft in neighbourhoods with a police label project. Police labels aim to improve prevention behaviour but also social control and cohesion by targeting neighbourhoods. They however target not only individual residents and neighbourhoods but also urban planners and practitioners, especially concerning new residences. The effectiveness of police labels depends on the area where the residence is located, although no information is available regarding why these differences exist. Implementing police labels depends on multiple actors, since they are often large projects. Political, police and local actors are necessary to successfully implement police label projects.

Recommendations:

- The implementation of police labels requires the involvement of political, police and local actors;
- Individuals, neighbourhoods and urban planners and building practitioners should be targeted, since the impact of the label can depend on the target group; and
- Police labels are more effective when the police awards them.
- When implementing police labels, vehicle theft can increase in the area.

6.5. General recommendations for crime prevention measures

Based on behavioural theories and the application of these theories on burglary prevention measures, there are some recommendations that we can apply to the use of behavioural insights in crime prevention measures in general.

First, **think before you talk**. Policymakers should not only take into account the message itself, but also the way in which they present this to decision makers. Messages should be framed so they are easily understandable, clear and noticeable. The choice that is preferred (in this case: taking burglary prevention measures) should also be presented as positively as possible. Policymakers can contextualise information by making comparisons (e.g. burglary rate in a neighbourhood compared to the city), they can make

information more visible (e.g. directly contacting citizens), they can provide social reference points (e.g. letting authority figures present the information) or they can provide reminders (e.g. regular patrols to remind people about burglary risks).

Second, **take into account the entire decision-making process**. Applying behavioural theories before presenting a message can provide policymakers with opportunities to improve their message and increase its effectiveness. Protection motivation theory, for instance, shows that showing the threat of burglary can be more effective when possible coping mechanisms are also provided. These coping mechanisms can show which burglary prevention measures are effective, how people can reduce burglary risk themselves and which advantages the measures can bring. The elaboration likelihood model shows that messages can be more effective when they target both the central and peripheral route, for instance by providing factual information and alluding to social responsibility concerning burglary prevention measures.

Third, **be careful with fear**. Some messages have the ability to evoke an emotional response. This can unconsciously lead to more desired behaviour and can therefore be used to enhance the message. However, be careful with fear and fear-associated emotions, as this is very unpredictable and can have significant negative side effects.

Fourth, **make it easy** for decision makers to make the desired choice. Policymakers can use defaults to let people choose the right option by default (or force people to opt out of the desired choice instead of having to opt in), and they can reduce complexity by presenting a clear message and reducing the effort that people have to take to choose the desired option. It is also possible to make it more difficult for people to refuse a certain choice, for instance by facilitating public commitment during an event.

Lastly, **context matters**. The physical and social environment of the decision maker are important elements, as these can be used to nudge people towards a certain choice. Policymakers can mention social environments and norms and appeal to people's moral conscience. The origin of the message also impacts the message itself, for instance when it is given by an authority figure. Furthermore, the timing of the message impacts effectiveness. It can be more effective when people most often need it, for example right after having become a victim of a crime. This also applies to the context of the measure itself, since a different implementation or application might impact its effectiveness. Therefore, it is recommended to consult existing research and similar initiatives prior to implementation.

6.6. Final conclusion

We conclude that behavioural insights and evidence-informed behavioural interventions can enrich and enhance the traditional toolbox to raise citizens' awareness of domestic burglary prevention and to encourage citizens to take sound burglary prevention measures. These behavioural instruments should not be implemented in isolation but as part of a larger package including various types of instruments. We recommend the simultaneous use of behavioural and traditional prevention measures, targeting both the intuitive and the reflective, the conscious and the unconscious, and the rational and emotional underpinnings of people's decision making processes.

References

- ¹ Europol (s.d.). *ORGANISED PROPERTY CRIME*. Retrieved October 24 2021 from <https://www.europol.europa.eu/crime-areas-and-trends/crime-areas/organised-property-crime>
- ² Tilley, N., Pease, K., Hough, M., & Brown, R. (1999). *Burglary prevention: Early lessons from the Crime Reduction Programme*. Retrieved from <https://thestacks.libaac.de/bitstream/handle/11858/1066/1-fr.pdf?sequence=1>
- ³ Crowe, T. (2000). *Crime Prevention Through Environmental Design. 2nd edition*. Boston: Butterworth – Heinman; Crowe, T., & Fennelly, L.J. (2013). *Crime Prevention Through Environmental Design. 3rd edition*. Oxford: Elsevier; Geason, S., & Wilson, P.R. (1988). *Crime Prevention: Theory and Practice*. Canberra: Australian Institute of Criminology; Jeffery, C.R. (1977). *Crime Prevention Through Environmental Design*. Beverly Hills: Sage Publications.
- ⁴ Farrell, G., & Pease, K. (2001). Why Repeat Victimization Matters. In G. Farrell & K. Pease, *Crime Prevention Studies: Repeat Victimization* (pp. 1-4). Boulder: Lynne Rienner Publishers; Maguire, M., Wright, R., & Bennett, T. (2010). Domestic burglary. In F. Brookman, M. Maguire, H. Pierpoint & T. Bennett, *Handbook on crime*. London: Willan.
- ⁵ Nettle, D., Nott, K., & Bateson, M. (2012). 'Cycle Thieves, We are Watching You': Impact of a Simple Signage Intervention Against Bicycle Theft. *PLoS ONE*, 7(12), e51738; Roach, J., Cartwright, A., Weir, K., Richards, S., & Weir, M. (2020). Reducing student burglary victimisation using the Nudge approach. *Crime Prevention and Community Safety*, 22(2), 364-380.
- ⁶ Barthe, E. (2006). *Crime Prevention Publicity Campaigns*. Retrieved from <https://cops.usdoj.gov/RIC/Publications/cops-p099-pub.pdf>
- ⁷ Barthe, E. (2006). *Crime Prevention Publicity Campaigns*. Retrieved from <https://cops.usdoj.gov/RIC/Publications/cops-p099-pub.pdf>; O'Keefe, G., Mendelson, H., Reid-Nash, K., Henry, E., Rosenzweig, B., & Spetnagel, H. (1984), Taking a Bite Out of Crime - The Impact of a Mass Media Crime Prevention Campaign. Retrieved from <https://www.ojp.gov/ncjrs/virtual-library/abstracts/taking-bite-out-crime-impact-mass-media-crime-prevention-campaign-0>
- ⁸ Barthe, E. (2006). *Crime Prevention Publicity Campaigns*. Retrieved from <https://cops.usdoj.gov/RIC/Publications/cops-p099-pub.pdf>; Johnson, S., & Bowers, K. (2004). The Burglary as a Clue to the Future: The Beginnings of Prospective Hot-Spotting, *European Journal of Criminology*, 1, 237-255.
- ⁹ Lourenço, J.S., Ciriolo, E., Almeida, S. & Troussard, X. (2016). *Behavioural insights applied to policy: European Report 2016*. EUR 27726 EN; doi:10.2760/903938
- ¹⁰ Strassheim, H., & Beck, S. (2019). *Handbook of Behavioural Change and Public Policy*. Edward Elgar Publishing. Feitsma, J.N.P. (2019). *Inside the behavioural state*. The Hague: Eleven International Publishing.
- ¹¹ OECD (2017). *Behavioural Insights and Public Policy: Lessons from Around the World*, p.13.
- ¹² Leong, C., & Howlett, M. (2020). Theorizing the behavioral state: Resolving the theory-practice paradox of policy sciences. *Public Policy and Administration*, <https://doi.org/10.1177/0952076720977588>; Sent, E. M. (2004). Behavioral economics: How psychology made its (limited) way back into economics. *History of Political Economy*, 36(4), 735–760. <https://doi.org/10.1215/00182702-36-4-735>
- ¹³ Battaglio, R. P., Belardinelli, P., Bellé, N., & Cantarelli, P. (2019). Behavioral Public Administration ad fontes: A Synthesis of Research on Bounded Rationality, Cognitive Biases, and Nudging in Public Organizations. *Public Administration Review*, 79(3), 304–320.

<https://doi.org/10.1111/puar.12994>; Grimmelikhuijsen, S., Jilke, S., Olsen, A. L., & Tummers, L. (2017). Behavioral Public Administration: Combining Insights from Public Administration and Psychology. *Public Administration Review*, 77(1), 45–56. <https://doi.org/10.1111/puar.12609>

¹⁴ Samuelson, W., & Zeckhauser, R. (1988). Status quo bias in decision making. *Journal of Risk and Uncertainty*, 1, 7–59.

¹⁵ Takeuchi, K. (2011). Non-parametric test of time consistency: Present bias and future bias. *Games and Economic Behavior*, 71, 456–478.

¹⁶ Sharot, T. (2011). The optimism bias. *Current Biology*, 21(23), R941–R945.

¹⁷ Strassheim, H. (2020). The Rise and Spread of Behavioral Public Policy: An Opportunity for Critical Research and Self-Reflection. *International Review of Public Policy*, 2(1), 115–128. <https://doi.org/10.4000/irpp.897>

¹⁸ Thaler, R., & Sunstein, C. (2008). *Nudge: Improving Decisions about Health, Wealth and Happiness*. New Haven: Yale University Press.

¹⁹ John, P. (2018). *How Far to Nudge? Assessing Behavioural Public Policy*. Edward Elgar Publishing Limited.

²⁰ Raymaekers, P., & Brans, M. (2020). Nudging in perspectief: De verbreding van gedragsinzichten in beleid. *Beleidsonderzoek Online juni 2020*. Ewert, B. (2020). Moving beyond the obsession with nudging individual behaviour: Towards a broader understanding of Behavioural Public Policy. *Public Policy and Administration*, 35(3), 337–360. <https://doi.org/10.1177/0952076719889090>

²¹ Kahneman, D. (2011). *Thinking, Fast and Slow*. London: Allen Lane.

²² Tversky, A., & Kahneman, D. (1992). Advances in Prospect Theory: Cumulative Representation of Uncertainty. *Journal of Risk and Uncertainty*, 5(4), 297–323.

²⁴ Hoang Van Khanh, D., & Tham, S. (s.d.). Behavioural insights. In A. Shroff, T.J. Ping, E. Tan, D. Hoang Van Khanh, S. Tham, L. Wai Yan, L. Yong Long & E. Liow, *Evidence-based Policymaking in Singapore: a Policymaker's Toolkit* (pp. 25–36). Retrieved from <https://www.csc.gov.sg/docs/default-source/resources/evidence-based-policymaking.pdf>;

Hansen, P.G. (2017). The Definition of Nudge and Libertarian Paternalism: Does the Hand Fit the Glove?. *European Journal of Risk Regulation*, 7(1), 155–174;

OECD (2017). *Behavioural Insights and Public Policy: Lessons from Around the World*. Retrieved from https://www.oecd-ilibrary.org/governance/behavioural-insights-and-public-policy_9789264270480-en;jsessionid=gVLHOXIMCN5zU-RPulyADd_d.ip-10-240-5-126;

Roach, J., Cartwright, A., Weir, K., Richards, S., & Weir, M. (2020). Reducing student burglary victimisation using the Nudge approach. *Crime Prevention and Community Safety*, 22(2), 364–380.

²⁵ Hansen, P.G. (2017). The Definition of Nudge and Libertarian Paternalism: Does the Hand Fit the Glove?. *European Journal of Risk Regulation*, 7(1), 155–174; Kahneman, D. (2011). *Thinking, Fast and Slow*. London: Allen Lane; Thaler, R., & Sunstein, C. (2008). *Nudge: Improving Decisions about Health, Wealth and Happiness*. New Haven: Yale University Press.

²⁶ Based on Kahneman, D. (2011). *Thinking, Fast and Slow*. London: Allen Lane.

²⁷ Guyer, J., Briñol, P., Petty, R., & Horcajo, J. (2019). Nonverbal Behavior of Persuasive Sources: A Multiple Process Analysis. *Journal of Nonverbal Behaviour*, 43(3), 1–29. Process Analysis.

²⁸ Petty, R., & Cacioppo, J.T. (1986a). *Communication and Persuasion: Central and Peripheral Routes to Attitude Change*. New York: Springer.

²⁹ Petty, R., & Cacioppo, J.T. (1986b). The Elaboration Likelihood Model of Persuasion. *Advances in Experimental Social Psychology*, 19(1), 124–205.

³⁰ Ibid.

³¹ Ibid.

³² Griffin, E. (2011). *A First Look at Communication Theory. 8th edition*. McGraw-Hill: New York.

³³ Petty, R., & Cacioppo, J.T. (1986b). The Elaboration Likelihood Model of Persuasion. *Advances in Experimental Social Psychology*, 19(1), 124–205.

-
- ³⁴ Barthe, E. (2006). *Crime Prevention Publicity Campaigns*. Retrieved from <https://cops.usdoj.gov/RIC/Publications/cops-p099-pub.pdf>
- ³⁵ Kitchen, P., Kerr, G., Schultz, D., McColl, R., & Pals, H. (2014). The elaboration likelihood model: review, critique and research agenda. *European Journal of Marketing*, 48(11/12), 2033–2050.
- ³⁶ Barthe, E. (2006). *Crime Prevention Publicity Campaigns*. Retrieved from <https://cops.usdoj.gov/RIC/Publications/cops-p099-pub.pdf>
- ³⁷ Gabriel, U., & Greve, W. (2003). The Psychology of Fear of Crime. Conceptual and Methodological Perspectives. *British Journal of Criminology*, 43(3), 600-614.
- ³⁸ Cattell, R. B., & Scheier, I. H. (1961). *The meaning and measurement of neuroticism and anxiety*. New York: The Ronald Press.
- ³⁹ Frijda, N. H. (1993). Moods, emotion episodes, and emotions. In M. Lewis & J. M. Haviland (Eds.), *Handbook of emotions* (pp. 381–403). New York: The Guilford Press.
- ⁴⁰ Gabriel, U., & Greve, W. (2003). The Psychology of Fear of Crime. Conceptual and Methodological Perspectives. *British Journal of Criminology*, 43(3), 600-614.
- ⁴¹ Amerio, P., & Roccato, M. (2004). A predictive model for psychological reactions to crime in Italy: an analysis of fear of crime and concern about crime as a social problem. *Journal of Community & Applied Social Psychology*, 15(1), 17-28.
- ⁴² Based on Xiao, H., Li, S., Chen, X., ... Okafor, C. (2014). Protection Motivation Theory in Predicting Intention to Engage in Protective Behaviors against Schistosomiasis among Middle School Students in Rural China. *PLoS Neglected Tropical Diseases*, 8(10), e3246.
- ⁴³ Floyd, D.L., Prentice-Dunn, S., & Rogers, R.W. (2000). A Meta-Analysis of Research on Protection Motivation Theory. *Journal of Applied Social Psychology*, 30(2), 407-429; Rogers, R. W. (1975). A protection motivation theory of fear appeals and attitude change. *Journal of Psychology*, 91(1), 93–114.
- ⁴⁴ Reid, L., Roberts, J., & Hilliard, H. (2007). Fear of Crime and Collective Action: An Analysis of Coping Strategies. *Sociological Inquiry*, 68(3), 312-328; Rogers, R. W. (1975). A protection motivation theory of fear appeals and attitude change. *Journal of Psychology*, 91(1), 93–114.
- ⁴⁵ Ruiter, R., Kessels, L., Peters, G., & Kok, G. (2014). Sixty years of fear appeal research: Current state of the evidence. *International Journal of Psychology*, 49(2), 63-70.
- ⁴⁶ Münscher, R., Vetter, M., & Scheuerle, T. (2016). A Review and Taxonomy of Choice Architecture Techniques. *Journal of Behavioral Decision Making*, 29(5), 511-524.
- ⁴⁷ Ibid.
- ⁴⁸ Münscher, R., Vetter, M., & Scheuerle, T. (2016). A Review and Taxonomy of Choice Architecture Techniques. *Journal of Behavioral Decision Making*, 29(5), 511-524; Thaler, R., & Sunstein, C. (2008). *Nudge: Improving Decisions about Health, Wealth and Happiness*. New Haven: Yale University Press.
- ⁴⁹ Ibid.
- ⁵⁰ Roach, J., Cartwright, A., Weir, K., Richards, S., & Weir, M. (2020). Reducing student burglary victimisation using the Nudge approach. *Crime Prevention and Community Safety*, 22(2), 364-380.
- ⁵¹ Münscher, R., Vetter, M., & Scheuerle, T. (2016). A Review and Taxonomy of Choice Architecture Techniques. *Journal of Behavioral Decision Making*, 29(5), 511-524; Thaler, R., & Sunstein, C. (2008). *Nudge: Improving Decisions about Health, Wealth and Happiness*. New Haven: Yale University Press.
- ⁵² Ibid.
- ⁵³ Ibid.
- ⁵⁴ Ibid.
- ⁵⁵ Ibid.
- ⁵⁶ Johnson, S., Tilley, N., & Bowers, K. (2015). Introducing EMMIE: an evidence rating scale to encourage mixed-method crime prevention synthesis reviews. *Journal of Experimental Criminology*, 11, 459-473.
- ⁵⁷ Ibid.
- ⁵⁸ Ibid.

-
- ⁵⁹ College of Policing (s.d.). *Crime Reduction Toolkit*. Retrieved September 4th 2021 from <https://whatworks.college.police.uk/toolkit/Pages/Toolkit.aspx>
- ⁶¹ Johnson, S., Tilley, N., & Bowers, K. (2015). Introducing EMMIE: an evidence rating scale to encourage mixed-method crime prevention synthesis reviews. *Journal of Experimental Criminology*, *11*, 459-473.
- ⁶² Ibid.
- ⁶³ Ibid.
- ⁶⁴ College of Policing (s.d.). *Crime Reduction Toolkit*. Retrieved September 4th 2021 from <https://whatworks.college.police.uk/toolkit/Pages/Toolkit.aspx>; Johnson, S., Tilley, N., & Bowers, K. (2015). Introducing EMMIE: an evidence rating scale to encourage mixed-method crime prevention synthesis reviews. *Journal of Experimental Criminology*, *11*, 459-473.
- ⁶⁵ Johnson, S., Tilley, N., & Bowers, K. (2015). Introducing EMMIE: an evidence rating scale to encourage mixed-method crime prevention synthesis reviews. *Journal of Experimental Criminology*, *11*, 459-473.
- ⁶⁶ McDougal, C., Cohen, M., Perry, A., & Swaray, R. (2008). *Benefit-Cost Analyses of Sentencing: A Systematic Review*. Norway: Campbell Collaboration.
- ⁶⁷ Johnson, S., Tilley, N., & Bowers, K. (2015). Introducing EMMIE: an evidence rating scale to encourage mixed-method crime prevention synthesis reviews. *Journal of Experimental Criminology*, *11*, 459-473.
- ⁶⁸ Sagar, T. (2005). Street watch: Concept and practice. *The British Journal of Criminology*, *45*(1), 98-112.
- ⁶⁹ Lub, V. (2018) Neighbourhood Watch in a Digital Age. *Crime Prevention and Security Management*. Cham: Palgrave Macmillan.
- ⁷⁰ Schreurs, W., Franjkić, N., Kerstholt, J., De Vries, P. (2020). Why do citizens become a member of an online neighbourhood watch? A case study in The Netherlands. *Police Practice and Research*, *21*(1), 1-15.
- ⁷¹ Rogers, R. W. (1975). A protection motivation theory of fear appeals and attitude change. *Journal of Psychology*, *91*(1), 93-114.
- ⁷² Jackson, J., Allum, N., & Gaskell, G. (2006). Bridging levels of analysis in risk perception research: The case of the fear of crime. *Forum qualitative Sozialforschung*, *7*(1), 20; Kanan, J., & Pruitt, M. (2002). Modeling fear of crime and perceived victimization risk: The (in) significance of neighborhood integration. *Sociological Inquiry*, *72*(4), 527-548.
- ⁷³ Schreurs, W., Franjkić, N., Kerstholt, J., De Vries, P. (2020). Why do citizens become a member of an online neighbourhood watch? A case study in The Netherlands. *Police Practice and Research*, *21*(1), 1-15.
- ⁷⁴ Schreurs, W., Franjkić, N., Kerstholt, J., De Vries, P. (2020). Why do citizens become a member of an online neighbourhood watch? A case study in The Netherlands. *Police Practice and Research*, *21*(1), 1-15.
- ⁷⁵ Schreurs, W., Franjkić, N., Kerstholt, J., De Vries, P. (2020). Why do citizens become a member of an online neighbourhood watch? A case study in The Netherlands. *Police Practice and Research*, *21*(1), 1-15; Stoutland, S. (2001). The multiple dimensions of trust in resident/police relations in Boston. *Journal of Research in Crime and Delinquency*, *38*(3), 226-256.
- ⁷⁶ Münscher, R., Vetter, M., & Scheuerle, T. (2016). A Review and Taxonomy of Choice Architecture Techniques. *Journal of Behavioral Decision Making*, *29*(5), 511-524; Thaler, R., & Sunstein, C. (2008). *Nudge: Improving Decisions about Health, Wealth and Happiness*. New Haven: Yale University Press.
- ⁷⁷ Lub, V. (2018) Neighbourhood Watch in a Digital Age. *Crime Prevention and Security Management*. Cham: Palgrave Macmillan.
- ⁷⁸ Sampson, R., Raudenbusch, S., & Earls, F. (1997). Neighborhoods and violent crime: A multilevel study of collective efficacy. *Science*, *277*, 918-924.
- ⁷⁹ Lub, V. (2018) Neighbourhood Watch in a Digital Age. *Crime Prevention and Security Management*. Cham: Palgrave Macmillan.

⁸⁰ Münscher, R., Vetter, M., & Scheuerle, T. (2016). A Review and Taxonomy of Choice Architecture Techniques. *Journal of Behavioral Decision Making*, 29(5), 511-524; Thaler, R., & Sunstein, C. (2008). *Nudge: Improving Decisions about Health, Wealth and Happiness*. New Haven: Yale University Press.

⁸¹ Akkermans, M., & Vollaard, B. (2015). *Effect van het WhatsApp-project in Tilburg op het aantal woninginbraken: Een evaluatie*. Tilburg: Tilburg University; Bennett, T., Farrington, D., & Holloway, K. (2008). The Effectiveness of Neighbourhood Watch: A Systematic Review. *Campbell Systematic Reviews*, 4(1), 1-46; Holloway, K., Bennett, T., & Farrington, D. (2013). *Does Neighborhood Watch Reduce Crime?*. Washington, DC: U.S. Department of Justice; Tomson, L., Belur, J., & Giorgiou, N. (s.d.). Evidencing the impact of Neighbourhood Watch. Retrieved from https://discovery.ucl.ac.uk/id/eprint/10081976/7/Tompson_Evidencing-the-impact-of-Neighbourhood-Watch%20%281%29.pdf

⁸² Akkermans, M., & Vollaard, B. (2015). *Effect van het WhatsApp-project in Tilburg op het aantal woninginbraken: Een evaluatie*. Tilburg: Tilburg University.

⁸³ A meta-analysis is an academic technique that uses statistics to combine the results of different studies and review the quality of these studies (Crombie, I., & Davies, H. (2001). *What is meta-analysis?*. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.734.6596&rep=rep1&type=pdf>).

⁸⁴ Bennett, T., Farrington, D., & Holloway, K. (2008). The Effectiveness of Neighbourhood Watch: A Systematic Review. *Campbell Systematic Reviews*, 4(1), 1-46.

⁸⁵ Holloway, K., Bennett, T., & Farrington, D. (2013). *Does Neighborhood Watch Reduce Crime?*. Washington, DC: U.S. Department of Justice; Tomson, L., Belur, J., & Giorgiou, N. (s.d.). Evidencing the impact of Neighbourhood Watch. Retrieved from https://discovery.ucl.ac.uk/id/eprint/10081976/7/Tompson_Evidencing-the-impact-of-Neighbourhood-Watch%20%281%29.pdf

⁸⁶ Bennett, T., Holloway, K., & Farrington, D. (2006). Does neighborhood watch reduce crime? A systematic review and meta-analysis. *Journal of Experimental Criminology*, 2(4), 437-458.

⁸⁷ Huck, S., & Kosfeld, M. (2004). The Dynamics of Neighborhood Watch and Norm Enforcement. *SSRN Electronic Journal*, 117(516), 270-286; Bennett, T., Farrington, D., & Holloway, K. (2008). The Effectiveness of Neighbourhood Watch: A Systematic Review. *Campbell Systematic Reviews*, 4(1), 1-46.

⁸⁸ Holloway, K., Bennett, T., & Farrington, D. (2013). *Does Neighborhood Watch Reduce Crime?*. Washington, DC: U.S. Department of Justice.

⁸⁹ Bennett, T., Farrington, D., & Holloway, K. (2008). The Effectiveness of Neighbourhood Watch: A Systematic Review. *Campbell Systematic Reviews*, 4(1), 1-46; Holloway, K., Bennett, T., & Farrington, D. (2013). *Does Neighborhood Watch Reduce Crime?*. Washington, DC: U.S. Department of Justice; Lub, V. (2018). Neighbourhood Watch: Mechanisms and Moral Implications. *The British Journal of Criminology*, 58(4), 906-924.

⁹⁰ Bennett, T., Farrington, D., & Holloway, K. (2008). The Effectiveness of Neighbourhood Watch: A Systematic Review. *Campbell Systematic Reviews*, 4(1), 1-46; Holloway, K., Bennett, T., & Farrington, D. (2013). *Does Neighborhood Watch Reduce Crime?*. Washington, DC: U.S. Department of Justice; Lub, V. (2018). Neighbourhood Watch: Mechanisms and Moral Implications. *The British Journal of Criminology*, 58(4), 906-924.

⁹¹ Akkermans, M., & Vollaard, B. (2015). *Effect van het WhatsApp-project in Tilburg op het aantal woninginbraken: Een evaluatie*. Tilburg: Tilburg University; Bennett, T., Farrington, D., & Holloway, K. (2008). The Effectiveness of Neighbourhood Watch: A Systematic Review. *Campbell Systematic Reviews*, 4(1), 1-46; Lub, V. (2018). Neighbourhood Watch: Mechanisms and Moral Implications. *The British Journal of Criminology*, 58(4), 906-924.

⁹² Crime displacement is the movement of crime from one area (be it a place, time, target, offense or method) to another as a result of blocking criminal opportunities. For example, when a certain neighbourhood has better security, burglars can choose to relocate their

criminal activities to another neighbourhood (Eck, J. (1993). The Threat of Crime Displacement. *Problem Solving Quarterly*, 6(3), 1-7.).

⁹³ Crime diffusion occurs when crime is reduced beyond the specific target population. For example, increased security in a certain neighbourhood might reduce crime in the entire region, and not just the neighbourhood (Eck, J. (1993). The Threat of Crime Displacement. *Problem Solving Quarterly*, 6(3), 1-7.).

⁹⁴ Akkermans, M., & Vollaard, B. (2015). *Effect van het WhatsApp-project in Tilburg op het aantal woninginbraken: Een evaluatie*. Tilburg: Tilburg University.

⁹⁵ Bennett, T., Farrington, D., & Holloway, K. (2008). The Effectiveness of Neighbourhood Watch: A Systematic Review. *Campbell Systematic Reviews*, 4(1), 1-46.

⁹⁶ Yarwood, R. (2012). Neighbourhood Watch. In S. Smith, M. Elsinga, L. O'Mahony, O.S. Eng, S. Wachter & M. Eastaway (Eds.), *International Encyclopedia of Housing and Home (Volume 5)* (pp. 90-95). Oxford: Elsevier.

⁹⁷ Bennett, T. (1990). *Evaluating Neighborhood Watch*. *Cambridge Studies in Criminology LXI*. Aldershot: Gower; Bennett, T., Farrington, D., & Holloway, K. (2008). The Effectiveness of Neighbourhood Watch: A Systematic Review. *Campbell Systematic Reviews*, 4(1), 1-46; Lub, V. (2018). Neighbourhood Watch: Mechanisms and Moral Implications. *The British Journal of Criminology*, 58(4), 906-924; Newburn, T. (2007). *Criminology*. Portland: Willan Publishing; Rosenbaum, D. (1987). The Theory and Research Behind Neighbourhood Watch: Is It a Sound Fear and Crime Reduction Strategy?. *Crime and Delinquency*, 33, 103-34; Yarwood, R. (2012). Neighbourhood Watch. In S. Smith, M. Elsinga, L. O'Mahony, O.S. Eng, S. Wachter & M. Eastaway (Eds.), *International Encyclopedia of Housing and Home (Volume 5)* (pp. 90-95). Oxford: Elsevier.

⁹⁸ Bennett, T., Farrington, D., & Holloway, K. (2008). The Effectiveness of Neighbourhood Watch: A Systematic Review. *Campbell Systematic Reviews*, 4(1), 1-46; Lub, V. (2018). Neighbourhood Watch: Mechanisms and Moral Implications. *The British Journal of Criminology*, 58(4), 906-924.

⁹⁹ Bennett, T. (1990). *Evaluating Neighborhood Watch*. *Cambridge Studies in Criminology LXI*. Aldershot: Gower; Bennett, T., Farrington, D., & Holloway, K. (2008). The Effectiveness of Neighbourhood Watch: A Systematic Review. *Campbell Systematic Reviews*, 4(1), 1-46; Lub, V. (2017). *Neighbourhood Watch in a Digital Age: Between Crime Control and Culture of Control*. Cham: Springer; Yarwood, R., & Edwards, B. (1995). Voluntary action in rural areas: the case of neighbourhood watch. *Journal of Rural Studies*, 11(4), 447-459.

¹⁰⁰ Fleming, J. (2005). 'Working Together': Neighbourhood Watch, Reassurance Policing and the Potential of Partnerships. *Trends & Issues in Crime and Criminal Justice (No. 303)*. Retrieved from <https://www.aic.gov.au/sites/default/files/2020-05/tandi303.pdf>

¹⁰¹ Bennett, T. (1990). *Evaluating Neighborhood Watch*. *Cambridge Studies in Criminology LXI*. Aldershot: Gower; Bennett, T., Farrington, D., & Holloway, K. (2008). The Effectiveness of Neighbourhood Watch: A Systematic Review. *Campbell Systematic Reviews*, 4(1), 1-46; Lub, V. (2017). *Neighbourhood Watch in a Digital Age: Between Crime Control and Culture of Control*. Cham: Springer; Greenberg, S., Rohe, W., & Williams, J. (1985). *Informal Citizen Action and Crime Prevention at the Neighbourhood Level*. Washington DC: US Department of Justice.

¹⁰² Lub, V. (2018). Neighbourhood Watch: Mechanisms and Moral Implications. *The British Journal of Criminology*, 58(4), 906-924.

¹⁰³ Lub, V. (2018). Neighbourhood Watch: Mechanisms and Moral Implications. *The British Journal of Criminology*, 58(4), 906-924; Lub, V., & De Leeuw, T. (2017). Perceptions of Neighbourhood Safety and Policy Response: A Qualitative Approach. *European Journal on Criminal Policy and Research*, 23, 425-40.

¹⁰⁴ Lub, V. (2018). Neighbourhood Watch: Mechanisms and Moral Implications. *The British Journal of Criminology*, 58(4), 906-924; Schneider, S. (2007). *Refocusing crime prevention: Collective action and the quest for the community*. Toronto: Toronto University Press.

-
- ¹⁰⁵ Bennett, T. (1990). *Evaluating Neighborhood Watch*. Cambridge Studies in Criminology LXI. Aldershot: Gower; Holloway, K., Bennett, T., & Farrington, D. (2013). *Does Neighborhood Watch Reduce Crime?*. Washington, DC: U.S. Department of Justice; Lub, V. (2018). Neighbourhood Watch: Mechanisms and Moral Implications. *The British Journal of Criminology*, 58(4), 906-924; Yarwood, R., & Edwards, B. (1995). Voluntary action in rural areas: the case of neighbourhood watch. *Journal of Rural Studies*, 11(4), 447-459.
- ¹⁰⁶ Lub, V. (2018). Neighbourhood Watch: Mechanisms and Moral Implications. *The British Journal of Criminology*, 58(4), 906-924; Yarwood, R., & Edwards, B. (1995). Voluntary action in rural areas: the case of neighbourhood watch. *Journal of Rural Studies*, 11(4), 447-459.
- ¹⁰⁷ Lub, V. (2018). Neighbourhood Watch: Mechanisms and Moral Implications. *The British Journal of Criminology*, 58(4), 906-924.
- ¹⁰⁸ Lub, V. (2017). *Neighbourhood Watch in a Digital Age: Between Crime Control and Culture of Control*. Cham: Springer; Lub, V. (2018). Neighbourhood Watch: Mechanisms and Moral Implications. *The British Journal of Criminology*, 58(4), 906-924.
- ¹⁰⁹ (Akkermans & Vollaard, 2015; Hope, 1995; Laycock & Tilley, 1995, pp. 12-15; Lub & de Leeuw, 2017)
- ¹¹⁰ This can be connected with Protection Motivation Theory, as there seems to be less response efficacy in high-crime or low-status areas (Rogers, 1975).
- ¹¹¹ Akkermans, M., & Vollaard, B. (2015). *Effect van het WhatsApp-project in Tilburg op het aantal woninginbraken: Een evaluatie*. Tilburg: Tilburg University; Bennett, T., Farrington, D., & Holloway, K. (2008). The Effectiveness of Neighbourhood Watch: A Systematic Review. *Campbell Systematic Reviews*, 4(1), 1-46; Hope, T. (1995). Community crime prevention. In M. Tonry & D. P. Farrington (Eds.), *Building a safer society, Crime and justice (Volume 19)*. Chicago: University of Chicago Press; Laycock, G., & Tilley, N. (1995). *Policing and Neighbourhood Watch: Strategic Issues. Crime Detection and Prevention Series (Paper No. 60)*. London: Home Office; Lub, V. (2017). *Neighbourhood Watch in a Digital Age: Between Crime Control and Culture of Control*. Cham: Springer; Lub, V. (2018). Neighbourhood Watch: Mechanisms and Moral Implications. *The British Journal of Criminology*, 58(4), 906-924.
- ¹¹² Laycock, G., & Tilley, N. (1995). *Policing and Neighbourhood Watch: Strategic Issues. Crime Detection and Prevention Series (Paper No. 60)*. London: Home Office; Lub, V. (2018). Neighbourhood Watch: Mechanisms and Moral Implications. *The British Journal of Criminology*, 58(4), 906-924.
- ¹¹³ Property marking refers to placing identifiable information on one's property, to make it more difficult for criminals to dispose of or sell this property (Laycock, G. (1985). *Property Marking: A Deterrent to Domestic Burglary*. London: Home Office.).
- ¹¹⁴ Bennett, T., Farrington, D., & Holloway, K. (2008). The Effectiveness of Neighbourhood Watch: A Systematic Review. *Campbell Systematic Reviews*, 4(1), 1-46.
- ¹¹⁵ Holloway, K., Bennett, T., & Farrington, D. (2013). *Does Neighborhood Watch Reduce Crime?*. Washington, DC: U.S. Department of Justice.
- ¹¹⁶ Lub, V. (2018). Neighbourhood Watch: Mechanisms and Moral Implications. *The British Journal of Criminology*, 58(4), 906-924.
- ¹¹⁷ Bennett, T., Farrington, D., & Holloway, K. (2008). The Effectiveness of Neighbourhood Watch: A Systematic Review. *Campbell Systematic Reviews*, 4(1), 1-46.
- ¹¹⁸ Bohnet, I., Frey, B., & Huck, S. (2001) More order with less law: on contract enforcement, trust, and crowding, *American Political Science Review*, 95, 131-44; Huck, S., & Kosfeld, M. (2004). The Dynamics of Neighborhood Watch and Norm Enforcement. *SSRN Electronic Journal*, 117(516), 270-286.
- ¹¹⁹ Huck, S., & Kosfeld, M. (2004). The Dynamics of Neighborhood Watch and Norm Enforcement. *SSRN Electronic Journal*, 117(516), 270-286.
- ¹²⁰ Bennett, T., Farrington, D., & Holloway, K. (2008). The Effectiveness of Neighbourhood Watch: A Systematic Review. *Campbell Systematic Reviews*, 4(1), 1-46.

¹²¹ Van Graan, J. (2016). Multi-sector cooperation in preventing crime: the case of a South African Neighbourhood Watch as an effective crime prevention model. *Police Practice and Research*, 17(2), 136-148.

¹²² Ibid.

¹²³ McConville, M., & Shepherd, D. (1992) *Watching Police, Watching Communities*. London: Routledge; Yarwood, R. (2012). Neighbourhood Watch. In S. Smith, M. Elsinga, L. O'Mahony, O.S. Eng, S. Wachter & M. Eastaway (Eds.), *International Encyclopedia of Housing and Home (Volume 5)* (pp. 90-95). Oxford: Elsevier.

¹²⁴ Lub, V. (2018). Neighbourhood Watch: Mechanisms and Moral Implications. *The British Journal of Criminology*, 58(4), 906-924.

¹²⁵ Lub, V. (2018). Neighbourhood Watch: Mechanisms and Moral Implications. *The British Journal of Criminology*, 58(4), 906-924; McConville, M., & Shepherd, D. (1992) *Watching Police, Watching Communities*. London: Routledge; Yarwood, R. (2012). Neighbourhood Watch. In S. Smith, M. Elsinga, L. O'Mahony, O.S. Eng, S. Wachter & M. Eastaway (Eds.), *International Encyclopedia of Housing and Home (Volume 5)* (pp. 90-95). Oxford: Elsevier.

¹²⁶ Laycock, G., & Tilley, N. (1995). *Policing and Neighbourhood Watch: Strategic Issues. Crime Detection and Prevention Series (Paper No. 60)*. London: Home Office; Lub, V. (2018). Neighbourhood Watch: Mechanisms and Moral Implications. *The British Journal of Criminology*, 58(4), 906-924; McConville, M., & Shepherd, D. (1992) *Watching Police, Watching Communities*. London: Routledge; Yarwood, R. (2012). Neighbourhood Watch. In S. Smith, M. Elsinga, L. O'Mahony, O.S. Eng, S. Wachter & M. Eastaway (Eds.), *International Encyclopedia of Housing and Home (Volume 5)* (pp. 90-95). Oxford: Elsevier.

¹²⁷ Lub, V. (2017). *Neighbourhood Watch in a Digital Age: Between Crime Control and Culture of Control*. Cham: Springer; Bennett, T., Farrington, D., & Holloway, K. (2008). The Effectiveness of Neighbourhood Watch: A Systematic Review. *Campbell Systematic Reviews*, 4(1), 1-46.

¹²⁸ Bennett, T., Farrington, D., & Holloway, K. (2008). The Effectiveness of Neighbourhood Watch: A Systematic Review. *Campbell Systematic Reviews*, 4(1), 1-46; Laycock, G., & Tilley, N. (1995). *Policing and Neighbourhood Watch: Strategic Issues. Crime Detection and Prevention Series (Paper No. 60)*. London: Home Office.

¹²⁹ Bennett, T., Holloway, K., & Farrington, D. (2006). Does neighborhood watch reduce crime? A systematic review and meta-analysis. *Journal of Experimental Criminology*, 2(4), 437-458; Yarwood, R. (2012). Neighbourhood Watch. In S. Smith, M. Elsinga, L. O'Mahony, O.S. Eng, S. Wachter & M. Eastaway (Eds.), *International Encyclopedia of Housing and Home (Volume 5)* (pp. 90-95). Oxford: Elsevier.

¹³⁰ Roach, J., Cartwright, A., Weir, K., Richards, S., & Weir, M. (2020). Reducing student burglary victimisation using the Nudge approach. *Crime Prevention and Community Safety*, 22(2), 364-380.

¹³¹ Petty, R., & Cacioppo, J.T. (1986b). The Elaboration Likelihood Model of Persuasion. *Advances in Experimental Social Psychology*, 19(1), 124-205; Roach, J., Cartwright, A., Weir, K., Richards, S., & Weir, M. (2020). Reducing student burglary victimisation using the Nudge approach. *Crime Prevention and Community Safety*, 22(2), 364-380.

¹³² Rogers, R. W. (1975). A protection motivation theory of fear appeals and attitude change. *Journal of Psychology*, 91(1), 93-114; Roach, J., Cartwright, A., Weir, K., Richards, S., & Weir, M. (2020). Reducing student burglary victimisation using the Nudge approach. *Crime Prevention and Community Safety*, 22(2), 364-380.

¹³³ Münscher, R., Vetter, M., & Scheuerle, T. (2016). A Review and Taxonomy of Choice Architecture Techniques. *Journal of Behavioral Decision Making*, 29(5), 511-524; Roach, J., Cartwright, A., Weir, K., Richards, S., & Weir, M. (2020). Reducing student burglary victimisation using the Nudge approach. *Crime Prevention and Community Safety*, 22(2), 364-380.

¹³⁴ Roach, J., Cartwright, A., Weir, K., Richards, S., & Weir, M. (2020). Reducing student burglary victimisation using the Nudge approach. *Crime Prevention and Community Safety*, 22(2), 364-380.

¹³⁵ Roach , J., Cartwright, A., Weir, K., Richards, S., & Weir, M. (2020). Reducing student burglary victimisation using the Nudge approach. *Crime Prevention and Community Safety*, 22(2), 364-380.

¹³⁶ Crime diffusion occurs when crime is reduced beyond the specific target population. For example, increased security in a certain neighbourhood might reduce crime in the entire region, and not just the neighbourhood (Eck, J. (1993). *The Threat of Crime Displacement. Problem Solving Quarterly*, 6(3), 1-7.).

¹³⁷ Roach, J., Weir, K., Philips, P., Gaskell, K., & Walton, M. (2016). Nudging down theft from insecure vehicles. A pilot study. *International Journal of Police Science & Management*, 19(1), 31-38; Sidebottom, A., Thorpe, A., & Johnson, S. (2009). Using Targeted Publicity to Reduce Opportunities for Bicycle Theft: A Demonstration and Replication. *European Journal of Criminology*, 6(3), 267-286.

¹³⁸ Ibid.

¹³⁹ Ibid.

¹⁴⁰ Roach , J., Cartwright, A., Weir, K., Richards, S., & Weir, M. (2020). Reducing student burglary victimisation using the Nudge approach. *Crime Prevention and Community Safety*, 22(2), 364-380.

¹⁴¹ Barberet, R., Fisher, B., & Taylor, H. (2004). *University Student Safety in the East Midlands*. London: Home Office; Fisher, B., Sloan, J., Cullen, F., & Lu, L. (1997). The On-Campus Victimization Patterns of Students: Implications for Crime Prevention. In S. Lab (Ed.), *Crime Prevention at a Crossroads* (pp. 101 – 126). Cincinnati: Anderson Publishers; Roach , J., Cartwright, A., Weir, K., Richards, S., & Weir, M. (2020). Reducing student burglary victimisation using the Nudge approach. *Crime Prevention and Community Safety*, 22(2), 364-380.

¹⁴² Roach , J., Cartwright, A., Weir, K., Richards, S., & Weir, M. (2020). Reducing student burglary victimisation using the Nudge approach. *Crime Prevention and Community Safety*, 22(2), 364-380.

¹⁴³ Repeat victimisation occurs when a victim or target is the victim of an offence multiple times (Weisel, D. (2005). *Analyzing Repeat Victimization. Problem-Oriented Guides for Police Problem-Solving Tools Series (No. 4)*. Washington DC: U.S. Department of Justice.).

¹⁴⁴ Barberet, R., Fisher, B., & Taylor, H. (2004). *University Student Safety in the East Midlands*. London: Home Office; Chenery, S., Holt, J., & Pease, K. (1997). *Biting Back II: Reducing Repeat Victimization in Huddersfield. Crime Detection and Prevention Series (Paper 82)*. London: Home Office; Roach , J., Cartwright, A., Weir, K., Richards, S., & Weir, M. (2020). Reducing student burglary victimisation using the Nudge approach. *Crime Prevention and Community Safety*, 22(2), 364-380; Robinson, M. (1998). BURGLARY REVICTIMIZATION: The Time Period of Heightened Risk. *The British Journal of Criminology*, 38(1), 78-87.

¹⁴⁵ Roach , J., Cartwright, A., Weir, K., Richards, S., & Weir, M. (2020). Reducing student burglary victimisation using the Nudge approach. *Crime Prevention and Community Safety*, 22(2), 364-380.

¹⁴⁶ Ibid.

¹⁴⁷ Münscher, R., Vetter, M., & Scheuerle, T. (2016). A Review and Taxonomy of Choice Architecture Techniques. *Journal of Behavioral Decision Making*, 29(5), 511-524; Waddington, P., Williams, K., Wright, M., & Newburn, T. (2013). Dissension in public evaluations of the police. *Policing and Society*, 25(2), 212-235; Roach , J., Cartwright, A., Weir, K., Richards, S., & Weir, M. (2020). Reducing student burglary victimisation using the Nudge approach. *Crime Prevention and Community Safety*, 22(2), 364-380.

¹⁴⁸ Repeat victimisation occurs when a victim or target is the victim of an offence multiple times (Weisel, D. (2005). *Analyzing Repeat Victimization. Problem-Oriented Guides for Police Problem-Solving Tools Series (No. 4)*. Washington DC: U.S. Department of Justice.).

¹⁴⁹ Hot spots policing is a form of policing where certain targets are chosen based on concentration of crime. Police efforts are then implemented according to the concentration of crime (Braga, A., Turchan, B., Papachristos, A., & Hureau, D. (2019). Hot spots policing of small geographic areas effects on crime. *Campbell Systematic Reviews*, 15, e1046.).

-
- ¹⁵⁰ Elffers, H., & Morgan, F. (2019). To what extent is revictimization risk mitigated by police prevention advice after a previous burglary?. *Crime Prevention and Community Safety, 21*(1), 61-67.
- ¹⁵¹ Winkel, F., & Vrij, A. (1993). Facilitating problem- and emotion-focused coping in victims of burglary: Evaluating a police crisis intervention program. *Journal of Community Psychology, 21*, 97-112.
- ¹⁵² Pegram, R., Barnes, G., Slothower, M., & Strang, H. (2018). Implementing a Burglary Prevention Program with Evidence-Based Tracking: A Case Study. *Cambridge Journal of Evidence-Based Policing, 2*, 181-191.
- ¹⁵³ Morgan, F. (2000) Repeat Burglary in a Perth Suburb: Indicator of Short-term or Long-term Risk?. *Crime Prevention Studies, 12*, 83-118.
- ¹⁵⁴ Gabriel, U., & Greve, W. (2003). The Psychology of Fear of Crime. Conceptual and Methodological Perspectives. *British Journal of Criminology, 43*(3), 600-614.
- ¹⁵⁵ Frijda, N. H. (1993). Moods, emotion episodes, and emotions. In M. Lewis & J. M. Haviland (Eds.), *Handbook of emotions* (pp. 381-403). New York: The Guilford Press.
- ¹⁵⁶ Rogers, R. W. (1975). A protection motivation theory of fear appeals and attitude change. *Journal of Psychology, 91*(1), 93-114.
- ¹⁵⁷ Münscher, R., Vetter, M., & Scheuerle, T. (2016). A Review and Taxonomy of Choice Architecture Techniques. *Journal of Behavioral Decision Making, 29*(5), 511-524.
- ¹⁵⁸ Elffers, H., & Morgan, F. (2019). To what extent is revictimization risk mitigated by police prevention advice after a previous burglary?. *Crime Prevention and Community Safety, 21*(1), 61-67.
- ¹⁵⁹ Grove, L.E., Farrell, G., Farrington, D.P., & Johnson, S.D. (2012). *Preventing Repeat Victimization: A Systematic Review*. Retrieved from <https://eprints.whiterose.ac.uk/116406/1/Grove%20et%20al%202012%20Preventing%20Repeat%20Victimization%20-%20A%20Systematic%20Review%20%28Bra%29.pdf>;
- Johnson, S., Davies, T., Murray, A., Ditta, P., Belur, J., & Bowers, K. (2017). Evaluation of operation swordfish: a near-repeat target-hardening strategy. *Journal of Experimental Criminology, 13*(4), 505-525; McGuire, J., Evans, E., & Kane, E. (2021). *Evidence-Based Policing and Community Crime Prevention: Advances in Preventing and Treating Violence and Aggression*. Cham: Springer; Winkel, F. (1989). Responses to criminal victimization: Evaluating the impact of a Police Assistance Program and some social psychological characteristics. *Police Studies, 12*, 59-72; Winkel, F. (1991). Police communication programmes aimed at burglary victims: A review of studies and an experimental evaluation. *Journal of Community & Applied Social Psychology, 1*, 275-289; Winkel, F., & Vrij, A. (1993). Facilitating problem- and emotion-focused coping in victims of burglary: Evaluating a police crisis intervention program. *Journal of Community Psychology, 21*(2), 97-112.
- ¹⁶⁰ Elffers, H., & Morgan, F. (2019). To what extent is revictimization risk mitigated by police prevention advice after a previous burglary?. *Crime Prevention and Community Safety, 21*(1), 61-67; Johnson, S., Davies, T., Murray, A., Ditta, P., Belur, J., & Bowers, K. (2017). Evaluation of operation swordfish: a near-repeat target-hardening strategy. *Journal of Experimental Criminology, 13*, 505-525; Stokes, N., & Clare, J. (2018). Preventing near-repeat residential burglary through cocooning: post hoc evaluation of a targeted police-led pilot intervention. *Security Journal, 32*, 45-62.
- ¹⁶¹ Elffers, H., & Morgan, F. (2019). To what extent is revictimization risk mitigated by police prevention advice after a previous burglary?. *Crime Prevention and Community Safety, 21*(1), 61-67.
- ¹⁶² Johnson, S., Davies, T., Murray, A., Ditta, P., Belur, J., & Bowers, K. (2017). Evaluation of operation swordfish: a near-repeat target-hardening strategy. *Journal of Experimental Criminology, 13*, 505-525; Stokes, N., & Clare, J. (2018). Preventing near-repeat residential burglary through cocooning: post hoc evaluation of a targeted police-led pilot intervention. *Security Journal, 32*, 45-62.
- ¹⁶³ Fielding, M., & Jones, V. (2011). Disrupting the Optimal Forager: Predictive Risk Mapping and Domestic Burglary Reduction in Trafford, Greater Manchester. *International Journal of Police Science & Management, 14*(1), 30-41; Fielding, M., & Jones, V. (2012). 'Disrupting

the optimal forager': Predictive risk mapping and domestic burglary reduction in Trafford, greater Manchester. *International Journal of Police Science & Management*, 14(1), 30-41; Johnson, S., Davies, T., Murray, A., Ditta, P., Belur, J., & Bowers, K. (2017). Evaluation of operation swordfish: a near-repeat target-hardening strategy. *Journal of Experimental Criminology*, 13, 505-525; Murray, A. (2013). *Predictive Policing of Burglary Experiments: Birmingham and Leeds* [Lecture]. Retrieved from <https://www.crim.cam.ac.uk/events/eventsarchive/pre2014-archive-events/2013-conference-on-evidence-based-policing>; Rowley, C. (2013). *Predictive Policing of Burglary Experiments: Birmingham and Leeds* [Lecture]. Retrieved from <https://www.crim.cam.ac.uk/events/eventsarchive/pre2014-archive-events/2013-conference-on-evidence-based-policing>

¹⁶⁴ Grove, L.E., Farrell, G., Farrington, D.P., & Johnson, S.D. (2012). *Preventing Repeat Victimization: A Systematic Review*. Retrieved from <https://eprints.whiterose.ac.uk/116406/1/Grove%20et%20al%202012%20Preventing%20Repeat%20Victimization%20-%20A%20Systematic%20Review%20%28Bra%29.pdf>

¹⁶⁵ A meta-analysis is an academic technique that uses statistics to combine the results of different studies and review the quality of these studies (Crombie, I., & Davies, H. (2001). *What is meta-analysis?*. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.734.6596&rep=rep1&type=pdf>

¹⁶⁶ Grove, L.E., Farrell, G., Farrington, D.P., & Johnson, S.D. (2012). *Preventing Repeat Victimization: A Systematic Review*. Retrieved from <https://eprints.whiterose.ac.uk/116406/1/Grove%20et%20al%202012%20Preventing%20Repeat%20Victimization%20-%20A%20Systematic%20Review%20%28Bra%29.pdf>

¹⁶⁷ Grove, L.E., Farrell, G., Farrington, D.P., & Johnson, S.D. (2012). *Preventing Repeat Victimization: A Systematic Review*. Retrieved from <https://eprints.whiterose.ac.uk/116406/1/Grove%20et%20al%202012%20Preventing%20Repeat%20Victimization%20-%20A%20Systematic%20Review%20%28Bra%29.pdf>;

Johnson, S., Davies, T., Murray, A., Ditta, P., Belur, J., & Bowers, K. (2017). Evaluation of operation swordfish: a near-repeat target-hardening strategy. *Journal of Experimental Criminology*, 13, 505-525

¹⁶⁸ Fielding, M., & Jones, V. (2011). Disrupting the Optimal Forager: Predictive Risk Mapping and Domestic Burglary Reduction in Trafford, Greater Manchester. *International Journal of Police Science & Management*, 14(1), 30-41; Murray, A. (2013). *Predictive Policing of Burglary Experiments: Birmingham and Leeds* [Lecture]. Retrieved from <https://www.crim.cam.ac.uk/events/eventsarchive/pre2014-archive-events/2013-conference-on-evidence-based-policing>

¹⁶⁹ Hot spots policing is a form of policing where certain targets are chosen based on concentration of crime. Police efforts are then implemented according to the concentration of crime (Braga, A., Turchan, B., Papachristos, A., & Hureau, D. (2019). Hot spots policing of small geographic areas effects on crime. *Campbell Systematic Reviews*, 15, e1046).

¹⁷⁰ Crime diffusion occurs when crime is reduced beyond the specific target population. For example, increased security in a certain neighbourhood might reduce crime in the entire region, and not just the neighbourhood (Eck, J. (1993). The Threat of Crime Displacement. *Problem Solving Quarterly*, 6(3), 1-7.).

¹⁷¹ Braga, A., Turchan, B., Papachristos, A., & Hureau, D. (2019). Hot spots policing of small geographic areas effects on crime. *Campbell Systematic Reviews*, 15, e1046).

¹⁷² Johnson, S., Davies, T., Murray, A., Ditta, P., Belur, J., & Bowers, K. (2017). Evaluation of operation swordfish: a near-repeat target-hardening strategy. *Journal of Experimental Criminology*, 13(4), 505-525; Sherman, L. (1990). Police crackdowns: Initial and residual deterrence. *Crime and Justice*, 12, 1-48.

¹⁷³ Green, D., Choi, J., & Kane, M. (2010). Coping Strategies for Victims of Crime: Effects of the Use of Emotion-Focused, Problem-Focused, and Avoidance-Oriented Coping. *Journal of Human Behavior in the Social Environment*, 20, 732-743; Johnson, S., Davies, T., Murray, A., Ditta, P., Belur, J., & Bowers, K. (2017). Evaluation of operation swordfish: a

near-repeat target-hardening strategy. *Journal of Experimental Criminology*, 13(4), 505-525; Winkel, F. (1989). Responses to criminal victimization: Evaluating the impact of a Police Assistance Program and some social psychological characteristics. *Police Studies*, 12, 59-72; Winkel, F. (1991). Police communication programmes aimed at burglary victims: A review of studies and an experimental evaluation. *Journal of Community & Applied Social Psychology*, 1, 275-289; Winkel, F., & Vrij, A. (1993). Facilitating problem- and emotion-focused coping in victims of burglary: Evaluating a police crisis intervention program. *Journal of Community Psychology*, 21(2), 97-112.

¹⁷⁴ Bowers, K., & Johnson, S. (2005). Domestic burglary repeats and space-time clusters: the dimensions of risk. *The European Journal of Criminology*, 2(1), 67-92; Johnson, S., Davies, T., Murray, A., Ditta, P., Belur, J., & Bowers, K. (2017). Evaluation of operation swordfish: a near-repeat target-hardening strategy. *Journal of Experimental Criminology*, 13(4), 505-525;

¹⁷⁵ Bowers, K., & Johnson, S. (2005). Domestic burglary repeats and space-time clusters: the dimensions of risk. *The European Journal of Criminology*, 2(1), 67-92; Laycock, G. (2001). Hypothesis-Based Research: The Repeat Victimization Story. *Criminal Justice*, 1(1), 59-82; Morgan, F. (2000) Repeat Burglary in a Perth Suburb: Indicator of Short-term or Long-term Risk?. *Crime Prevention Studies*, 12, 83-118; Pease, K. (1998). *Repeat victimisation: taking stock*. In *Crime prevention and detection series paper 90*. London: Home Office; Skogan, W. (1996). *The decade's most important criminological insight*. National Institute of Justice: Research in Action. Washington DC: US Department of Justice.

¹⁷⁶ Bowers, K., & Johnson, S. (2005). Domestic burglary repeats and space-time clusters: the dimensions of risk. *The European Journal of Criminology*, 2(1), 67-92.

¹⁷⁷ Johnson, S., & Bowers, K. (2004). The Burglary as a Clue to the Future: The Beginnings of Prospective Hot-Spotting, *European Journal of Criminology*, 1, 237-255; Bowers, K., & Johnson, S. (2005). Domestic burglary repeats and space-time clusters: the dimensions of risk. *The European Journal of Criminology*, 2(1), 67-92.

¹⁷⁸ Johnson, S., & Bowers, K. (2004). The Burglary as a Clue to the Future: The Beginnings of Prospective Hot-Spotting, *European Journal of Criminology*, 1, 237-255.

¹⁷⁹ Johnson, S., Davies, T., Murray, A., Ditta, P., Belur, J., & Bowers, K. (2017). Evaluation of operation swordfish: a near-repeat target-hardening strategy. *Journal of Experimental Criminology*, 13(4), 505-525.

¹⁸⁰ Johnson, S., & Bowers, K. (2004). The Burglary as a Clue to the Future: The Beginnings of Prospective Hot-Spotting, *European Journal of Criminology*, 1, 237-255; Bowers, K., & Johnson, S. (2005). Domestic burglary repeats and space-time clusters: the dimensions of risk. *The European Journal of Criminology*, 2(1), 67-92.

¹⁸¹ Pegram, R., Barnes, G., Slothower, M., & Strang, H. (2018). Implementing a Burglary Prevention Program with Evidence-Based Tracking: A Case Study. *Cambridge Journal of Evidence-Based Policing*, 2, 181-191.

¹⁸² Ibid.

¹⁸³ Ibid.

¹⁸⁴ Sherman, L., & Strang, L. (2017). *Evidence-Based Policing of Residential Burglary: A Systematic Review of What Could Reduce Burglary in Denmark*. Retrieved from <https://www.tryghed.dk/-/media/files/pdf/publikationer/trivsel/evidencebasedpolicingofresidentialburglaryasystematicreviewofwhatcouldreduceburglaryindenmark.pdf>;

Slothower, M., Sherman, L., & Neyroud, P. (2015). Tracking Quality of Police Actions in a Victim Contact Program: A Case Study of Training, Tracking, and Feedback (TTF) in Evidence-Based Policing. *International Criminal Justice Review*, 25(1), 98-116.

¹⁸⁵ Pegram, R., Barnes, G., Slothower, M., & Strang, H. (2018). Implementing a Burglary Prevention Program with Evidence-Based Tracking: A Case Study. *Cambridge Journal of Evidence-Based Policing*, 2, 181-191.

¹⁸⁶ Ager, A., & O'May, F. (2001). Issues in the definition and implementation of "best practice" for staff delivery of interventions for challenging behaviour. *Journal of Intellectual & Developmental Disability*, 26, 243-256; Joyce, B., & Showers, B. (2002). *Student*

achievement through staff development (3rd ed.). Alexandria: Association for Supervision and Curriculum Development.

¹⁸⁷ Slothower, M., Sherman, L., & Neyroud, P. (2015). Tracking Quality of Police Actions in a Victim Contact Program: A Case Study of Training, Tracking, and Feedback (TTF) in Evidence-Based Policing. *International Criminal Justice Review*, 25(1), 98-116.

¹⁸⁸ Ibid.

¹⁸⁹ Grove, L.E., Farrell, G., Farrington, D.P., & Johnson, S.D. (2012). *Preventing Repeat Victimization: A Systematic Review*. Retrieved from <https://eprints.whiterose.ac.uk/116406/1/Grove%20et%20al%202012%20Preventing%20Repeat%20Victimization%20-%20A%20Systematic%20Review%20%28Bra%29.pdf>

¹⁹⁰ Armitage, R. (2000). *An Evaluation of Secured by Design Housing within West Yorkshire – Briefing Note 7/00*. London: Home Office; Jongejan, A., & Woldendorp, T. (2013). A Successful CPTED Approach: The Dutch 'Police Label Secure Housing'. *Built Environment*, 39(1), 31-48.

¹⁹¹ (Nauta, O., van Soomeren, P., de Goeij, V. & Özgül, P. (2018). *Politiekeurmerk Veilig Wonen onder de loep*. Retrieved from <https://www.dsp-groep.nl/wp-content/uploads/18ONPKVW-PKVW-onder-de-loep-DSP-2018.pdf>

¹⁹² Lord, K., Lee, M., & Sauer, P. (1995). The combined influence hypothesis: Central and peripheral antecedents of attitude toward the ad. *Journal of Advertising*, 24(1), 73-85; MacKenzie, S., Lutz, R., & Belch, G. (1986). The role of attitude toward the ad as a mediator of advertising effectiveness: A test of competing explanations. *Journal of Marketing Research*, 23(2), 130-143.

¹⁹³ (Nauta, O., van Soomeren, P., de Goeij, V. & Özgül, P. (2018). *Politiekeurmerk Veilig Wonen onder de loep*. Retrieved from <https://www.dsp-groep.nl/wp-content/uploads/18ONPKVW-PKVW-onder-de-loep-DSP-2018.pdf>

¹⁹⁴ Hansen, P.G. (2017). The Definition of Nudge and Libertarian Paternalism: Does the Hand Fit the Glove?. *European Journal of Risk Regulation*, 7(1), 155-174.

¹⁹⁵ Rogers, R. W. (1975). A protection motivation theory of fear appeals and attitude change. *Journal of Psychology*, 91(1), 93-114.

¹⁹⁶ Münscher, R., Vetter, M., & Scheuerle, T. (2016). A Review and Taxonomy of Choice Architecture Techniques. *Journal of Behavioral Decision Making*, 29(5), 511-524.

¹⁹⁷ Nauta, O., van Soomeren, P., de Goeij, V. & Özgül, P. (2018). *Politiekeurmerk Veilig Wonen onder de loep*. Retrieved from <https://www.dsp-groep.nl/wp-content/uploads/18ONPKVW-PKVW-onder-de-loep-DSP-2018.pdf>; van Soomeren, P., Davey, C., & Wootton, A. (2019). Review of State of the Art: CP-UDP. Retrieved from https://www.dsp-groep.nl/wp-content/uploads/CCI-D2.5_Review_of_State_of_the_Art-CP-UDP-24AUG20.pdf

¹⁹⁸ López, M., Veenstra, C., van der Eijk, E., & Seuren, E. (2010). *Een veilige wijk, een veilig gevoel? Onderzoek naar de veiligheidsbeleving van bewoners van PKVW gecertificeerde nieuwbouwwijken*. Den Haag: RCM-advies; Nauta, O., van Soomeren, P., de Goeij, V. & Özgül, P., (2018). *Politiekeurmerk Veilig Wonen onder de loep*. Retrieved from <https://www.dsp-groep.nl/wp-content/uploads/18ONPKVW-PKVW-onder-de-loep-DSP-2018.pdf>

¹⁹⁹ Jongejan, A., & Woldendorp, T. (2013). A Successful CPTED Approach: The Dutch 'Police Label Secure Housing'. *Built Environment*, 39(1), 31-48.

²⁰⁰ Armitage, R., & Monchuk, L. (2011). Sustaining the crime reduction impact of designing out crime: Re-evaluating the Secured by Design scheme 10 years on. *Security Journal*, 24(4), pp. 320-343.

²⁰¹ Armitage, R. (2000). An Evaluation of Secured by Design Housing within West Yorkshire. Retrieved from <http://eprints.hud.ac.uk/id/eprint/2541/>; Armitage, R., & Monchuk, L. (2011). Sustaining the crime reduction impact of designing out crime: Re-evaluating the Secured by Design scheme 10 years on. *Security Journal*, 24(4), pp. 320-343; Pascoe, T. (1999). *Evaluation of Secured by Design in Public Sector Housing – Final Report*. Watford: BRE; Teedon, P., & Reid, T. (2009). *Evaluation of SBD – Glasgow Housing Association*

(Draft) , *Architectural Liaison Officer's Conference; January 2009, Nottingham*. Glasgow: Glasgow Caledonian University.

²⁰² Crime displacement is the movement of crime from one area (be it a place, time, target, offense or method) to another as a result of blocking criminal opportunities. For example, when a certain neighbourhood has better security, burglars can choose to relocate their criminal activities to another neighbourhood (Eck, J. (1993). *The Threat of Crime Displacement. Problem Solving Quarterly*, 6(3), 1-7.).

²⁰³ López, M., Veenstra, C., van der Eijk, E., & Seuren, E. (2010). *Een veilige wijk, een veilig gevoel? Onderzoek naar de veiligheidsbeleving van bewoners van PKVW gecertificeerde nieuwbouwwijken*. Den Haag: RCM-advies.

²⁰⁴ Armitage, R., & Monchuk, L. (2011). Sustaining the crime reduction impact of designing out crime: Re-evaluating the Secured by Design scheme 10 years on. *Security Journal*, 24(4), pp. 320-343.

²⁰⁵ Ibid.

²⁰⁶ Cozens, P., Pascoe, T., & Hillier, D. (2004). Critically reviewing the theory and practice of Secured By Design (SBC) for residential new-build in Britain. *Crime prevention and Community Safety: An International Journal*, 6(1), 13-29.

²⁰⁷ Nauta, O., van Soomeren, P., de Goeij, V. & Özgül, P. (2018). *Politiekeurmerk Veilig Wonen onder de loep*. Retrieved from <https://www.dsp-groep.nl/wp-content/uploads/18ONPKVW-PKVW-onder-de-loep-DSP-2018.pdf>

²⁰⁸ Casteel, C., & Peek-Asa, C. (2000). Effectiveness of crime prevention through environmental design (CPTED) in reducing robberies. *American Journal of Preventive Medicine*, 18(4), 99-115; Sohn, D. (2016). Residential crimes and neighbourhood built environment: Assessing the effectiveness of crime prevention through environmental design (CPTED). *Cities*, 52, 86-93.

²⁰⁹ Jongejan, A., & Woldendorp, T. (2013). A Successful CPTED Approach: The Dutch 'Police Label Secure Housing'. *Built Environment*, 39(1), 31-48.

²¹⁰ Nauta, O., van Soomeren, P., de Goeij, V. & Özgül, P., (2018). *Politiekeurmerk Veilig Wonen onder de loep*. Retrieved from <https://www.dsp-groep.nl/wp-content/uploads/18ONPKVW-PKVW-onder-de-loep-DSP-2018.pdf>

²¹¹ Jongejan, A., & Woldendorp, T. (2013). A Successful CPTED Approach: The Dutch 'Police Label Secure Housing'. *Built Environment*, 39(1), 31-48.

²¹² Ibid.

²¹³ Armitage, R. (2000). *An Evaluation of Secured by Design Housing within West Yorkshire – Briefing Note 7/00* . London: Home Office; López, M., Veenstra, C., van der Eijk, E., & Seuren, E. (2010). *Een veilige wijk, een veilig gevoel? Onderzoek naar de veiligheidsbeleving van bewoners van PKVW gecertificeerde nieuwbouwwijken*. Den Haag: RCM-advies.

²¹⁴ Armitage, R. (2000). *An Evaluation of Secured by Design Housing within West Yorkshire – Briefing Note 7/00* . London: Home Office; Expertisecentrum Woningcriminaliteit (1999). *Politiekeurmerk Veilig Wonen® Nieuwbouw*. Retrieved from https://www.dsp-groep.nl/wp-content/uploads/98_32_Politiekeurmerk-Veilig-Wonen-Nieuwbouw_32-1998.pdf

²¹⁵ (Armitage & Monchuk, 2011)

²¹⁶ Armitage, R. (2000). *An Evaluation of Secured by Design Housing within West Yorkshire – Briefing Note 7/00* . London: Home Office; Jongejan, A., & Woldendorp, T. (2013). A Successful CPTED Approach: The Dutch 'Police Label Secure Housing'. *Built Environment*, 39(1), 31-48.

²¹⁷ Nauta, O., van Soomeren, P., de Goeij, V. & Özgül, P. (2018). *Politiekeurmerk Veilig Wonen onder de loep*. Retrieved from <https://www.dsp-groep.nl/wp-content/uploads/18ONPKVW-PKVW-onder-de-loep-DSP-2018.pdf>

²¹⁸ Armitage, R. (2000). *An Evaluation of Secured by Design Housing within West Yorkshire – Briefing Note 7/00* . London: Home Office; Jongejan, A., & Woldendorp, T. (2013). A Successful CPTED Approach: The Dutch 'Police Label Secure Housing'. *Built Environment*, 39(1), 31-48.

²¹⁹ Jongejan, A., & Woldendorp, T. (2013). A Successful CPTED Approach: The Dutch 'Police Label Secure Housing'. *Built Environment*, 39(1), 31-48.

²²⁰ Armitage, R., & Monchuk, L. (2011). Sustaining the crime reduction impact of designing out crime: Re-evaluating the Secured by Design scheme 10 years on. *Security Journal*, 24(4), pp. 320-343.

²²¹ Jongejan, A., & Woldendorp, T. (2013). A Successful CPTED Approach: The Dutch 'Police Label Secure Housing'. *Built Environment*, 39(1), 31-48.

²²² Expertisecentrum Woningcriminaliteit (1999). *Politiekeurmerk Veilig Wonen® Nieuwbouw*. Retrieved from https://www.dsp-groep.nl/wp-content/uploads/98_32_Politiekeurmerk-Veilig-Wonen-Nieuwbouw_32-1998.pdf

²²³ López, M., Veenstra, C., van der Eijk, E., & Seuren, E. (2010). *Een veilige wijk, een veilig gevoel? Onderzoek naar de veiligheidsbeleving van bewoners van PKVW gecertificeerde nieuwbouwwijken*. Den Haag: RCM-advies.

²²⁴ (Nauta, O., van Soomeren, P., de Goeij, V. & Özgül, P. (2018). *Politiekeurmerk Veilig Wonen onder de loep*. Retrieved from <https://www.dsp-groep.nl/wp-content/uploads/18ONPKVW-PKVW-onder-de-loep-DSP-2018.pdf>

²²⁵ Armitage, R., & Monchuk, L. (2011). Sustaining the crime reduction impact of designing out crime: Re-evaluating the Secured by Design scheme 10 years on. *Security Journal*, 24(4), pp. 320-343.