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Reducing Crime through Secured by Design: A Systematic Review

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University of
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Inspiring tomorrow's professionals

Outline

- The rise of evidence-based policing
- What Works Centre for Crime Reduction
- EMMIE and the Crime Reduction Toolkit
- A systematic review of SBD: initial findings and knowledge gaps
- Early conclusions and future directions

On evidence-based policing

- No crime reduction measure works everywhere
- Budgetary pressures demand judicious use of available resources
- Decisions about how to reduce crime should be informed by the best available evidence on “what works” combined with tacit knowledge and experience
- Considerable investment by UK Government in “what works” centres including What Works Centre for Crime Reduction

Requirements for evidence-based policing

- Research evidence needs to exist
- Research evidence needs to be trustworthy
- Research evidence needs to be accessible
- Research evidence needs to be practically relevant
- There needs to be appetite among practitioners and policymakers to locate and act on research evidence

What Works Centre for Crime Reduction



Leading education
and social research
Institute of Education
University of London

LONDON
SCHOOL of
HYGIENE
& TROPICAL
MEDICINE



EMMIE: What decision-makers need to know

Effects found (did it work?)

Mechanisms producing effects (how did it work?)

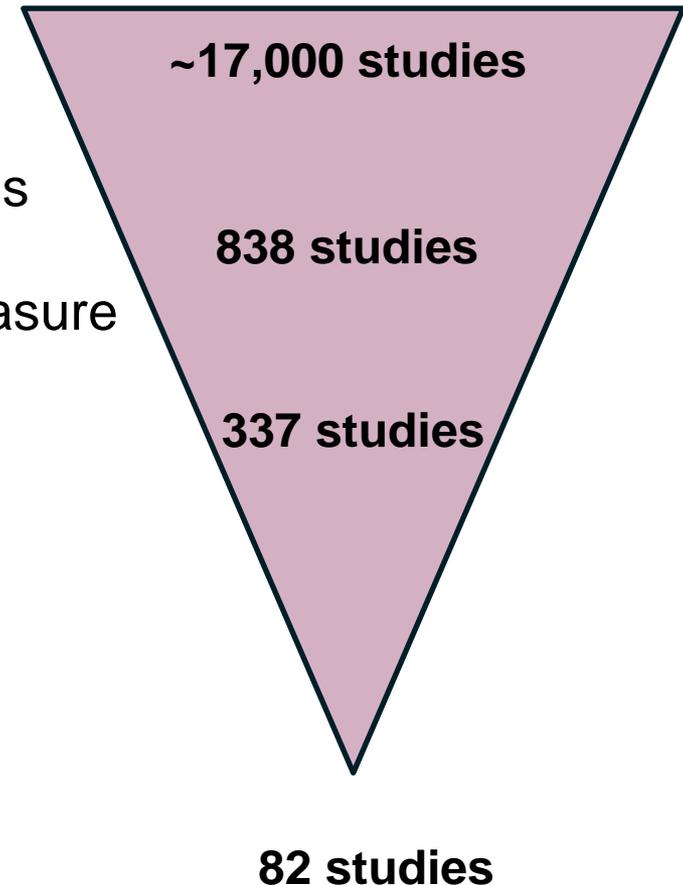
Moderators influencing effectiveness

Implementation considerations

Economy (costs and returns on investment)

Locating and grading the evidence base

- Inclusion criteria
 - Only systematic reviews or meta-analysis
 - Must have crime reduction outcome measure
 - Focused on a single intervention
- Graded using EMMIE
- Brief narrative summary



Academics can be direct

IOP PUBLISHING

JOURNAL OF PHYSICS A: MATHEMATICAL AND THEORETICAL

IOP FTC ►►►

J. Phys. A: Math. Theor. 44 (2011) 492001 (5pp)

doi:10.1088/1751-8113/44/49/492001

FAST TRACK COMMUNICATION

Can apparent superluminal neutrino speeds be explained as a quantum weak measurement?

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Online at stacks.iop.org/JPhysA/44/492001

Abstract

Probably not.

PACS numbers: 03.65.Ta, 03.65.Xp, 14.60.Pq

Home / Crime Reduction Toolkit

- About the Crime Reduction Toolkit
- Our effect scale
- Our quality scale

Key

Quality of evidence

- No information
- Limited quality
- Moderate quality
- Strong quality
- Very strong quality

Filters

Impact on Crime
(select a range using the markers below)



Crime Reduction Toolkit

Intervention	Impact on crime Effect	How it works Mechanism	Where it works Moderator	How to do it Implementation	What it costs Economic cost	
Alcohol ignition interlock						
Alcohol tax and price policies						
Alley gating						
Alternative education programmes						
CCTV						

Home / Crime Reduction Toolkit / Intervention

 About the Crime
 Reduction Toolkit

Our effect scale

Our quality scale

Street lighting

Impact on crime	How it works	Where it works	How to do it	What it costs
 Effect	 Mechanism	 Moderator	 Implementation	 Economic cost

What is the focus of the intervention?

Improved street lighting is a form of situational crime prevention that involves increasing the levels of illumination on the street or in other public spaces. It is intended to serve many purposes, including accident prevention, marketing and the reduction of crime. This review covers crime reduction only.

This narrative is primarily based on one systematic review covering 13 studies.

EFFECT

How effective is it?

Overall, the evidence suggests that the intervention can reduce crime. Across the 13 studies reviewed, both violent and property crime was reduced by an average of 21 per cent in areas with improved street lighting compared to areas without.

There were no studies for which a statistically significant backfire effect (where crime increased) was reported.

How strong is the evidence?

The review was sufficiently systematic that most forms of bias that could influence the study conclusions can be ruled out. However, it is worth noting that the comparison areas used to estimate the impact of improved street lighting in the primary evaluations were sometimes adjacent to the areas in which street lighting was improved. The authors of the review note that this could have affected the estimates of the impact of intervention. There may, for example, have been a displacement effect or a diffusion of benefits.

Objectives of this systematic review

1. Review the evidence on whether SBD is an *Effective* crime reduction method
2. Identify the *Mechanisms* through which SBD is expected to reduce crime and the *Moderators* that influence the effectiveness of SBD
3. Summarise information on the *Implementation* and *Economic* costs of SBD (**not discussed today**)

Search strategy

- A keyword search of 8 electronic databases
- A keyword search of reports published by government, research and professional agencies
- Forward and backward searches of evaluation studies
- Hand search of relevant journals not included in databases
- Consultation with SBD experts

Inclusion criteria

1. SBD (excluding CPTED and related concepts)
2. Study takes place in UK (outgrowths of SBD noted)
3. Study published after 1989
4. Study published in English

Search results

- 331 studies initially identified (including duplications)
- 132 studies screened for eligibility
- Presently 27 studies judged eligible
- 7 studies with quantitative data on the effectiveness of SBD

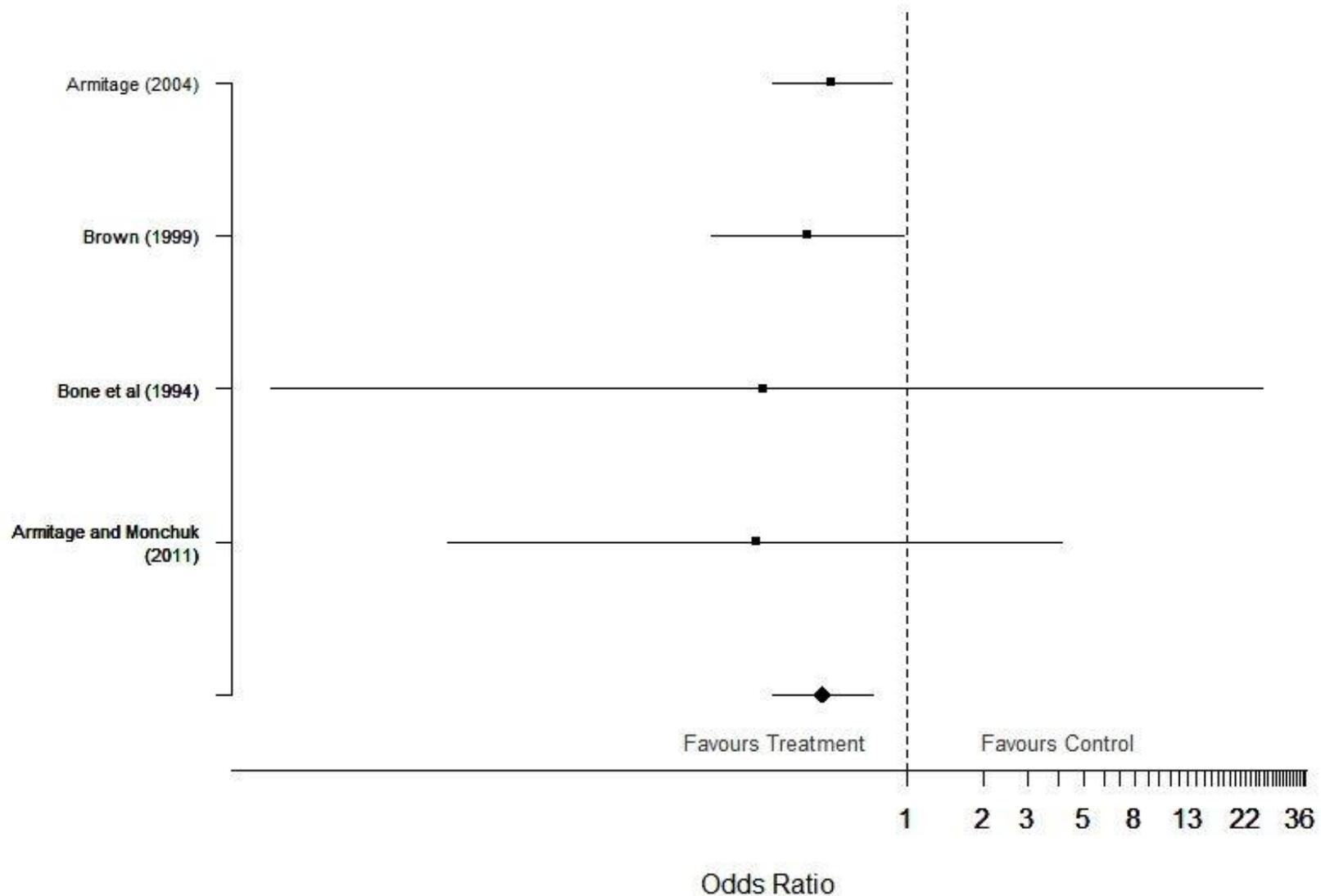
SBD impact evaluations

Author	Date	Location
Bone et al	1994	Herts
Brown	1999	Gwent
Pascoe	1999	England and Wales
Armitage	2004	West Yorkshire
Armitage & Monchuk	2011	West Yorkshire
Teedon et al	2012	Glasgow
Jones et al	2016	Nottingham

Characteristics of evaluation studies

- Combination of refurbished estates and new properties built to SBD standards (some studies examined both)
- Evaluations of new-build housing use a *matched-pairs* design, here the matching process is critical
- Social housing predominates
- Data differences: police recorded crime and resident surveys
- Crime is rare and the problem of small numbers

Effect: SBD new-builds using burglary data



Effect: refurbishments using burglary data

- Teedon et al. (2012) - Glasgow
 - Doors and windows
 - 2,028 SBD dwellings vs 12,157 non-SBD dwellings
 - Reductions in burglary but small numbers (18 to 7)
- Jones et al. (2016) – Nottingham
 - Just windows
 - Significant reductions in burglary observed in treatment *and* control groups, albeit larger in SBD dwellings

Unintended consequences



Unintended consequences: Spatial displacement

- Enduring criticism of situational crime prevention
- Strong evidence to reject displacement hypothesis
- No SBD evaluations provide a reliable assessment of spatial displacement (or diffusions of benefits)
- Reasons include the nature of evaluation (new-builds), cost of evaluation, suitable buffer zone

What mechanisms explain the patterns observed?

- Target hardening measures are assumed to work via:
 - Increasing the effort
 - Increasing the risk
- MO patterns provide suggestive evidence (Armitage, 2004; Jones et al. 2016)
- Less is said about the wider environment design associated with SBD:
 - Increasing the risk through increased natural surveillance
 - ‘Broken windows’ – maintaining an ordered, cared-for environment thereby deterring prospective offenders
- All mechanisms are context-sensitive, but some are more context-sensitive than others
- *‘the biggest challenge now is to identify what parts of the [SBD] scheme are having the desired effects’* (Topping & Pascoe, 2000)

Initial conclusions and a call for action

- Available evidence indicates that new-build SBD estates experience significantly lower burglary rates than comparable non-SBD estates
- More to follow on what the evidence says about cost-effectiveness
- Many SBD evaluations are now dated, based on small numbers and were conducted retrospectively
- Limited evidence on the mechanism(s) responsible for the observed effects
- Future evaluations using EMMIE should combine input from practitioners and researchers at the outset
- Any other SBD impact evaluations? If so, tell us

References and web links

What Works Centre Crime Reduction Toolkit

<http://whatworks.college.police.uk/toolkit/Pages/Toolkit.aspx>

Johnson, S.D., Tilley, N. and Bowers, K.J. (2015). Introducing EMMIE: an evidence rating scale to encourage mixed-method crime prevention synthesis reviews. *Journal of Experimental Criminology*, 11 (3), pp 459-473. Available for free at:

<http://link.springer.com/article/10.1007%2Fs11292-015-9238-7>

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http://whatworks.college.police.uk/About/Documents/Alley_gating.pdf