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Policing interventions for targeting interpersonal violence in developing countries

A systematic review

August 2015

Systematic
Review 20

Social protection



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Initiative for
Impact Evaluation

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Policing interventions for targeting interpersonal violence in developing countries: a systematic review

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Summary

Developing countries are particularly affected by violent crime, with interpersonal violence a leading cause of death and disability. In addition, violent crime has been found to suppress social and economic development in developing countries and fear of violence alone hampers growth. Violent crime is a complex problem with multiple interacting causes, and interventions aimed at reducing its incidence vary widely. These interventions can be broadly separated according to the societal sector in which they are implemented, and the underlying theory of the intervention process. Criminal violence may be addressed by multiple sectors within the justice system, however the largest and arguably the most important sector addressing interpersonal violent crime is policing.

This review has two key objectives. The first objective is to review the evidence on the effectiveness of policing interventions in reducing interpersonal violent crime in developing countries, and whether effectiveness differs according to intervention type and across different populations. The second objective is to assess the reasons that policing interventions addressing interpersonal violent crime may fail or succeed in developing countries.

The systematic search identified 2,765 records. After extensive screening, 54 documents were found to relate to policing interventions targeting violence in developing countries. After excluding documents that did not evaluate either the effectiveness or the implementation of interventions, 5 studies were included in the review of intervention effectiveness and 37 studies were included in the narrative review of reasons for intervention success or failure.

The review located studies across Africa, Asia and Latin America; however the majority of studies report on interventions from Latin America. The interventions that were evaluated took place in 13 developing countries: Brazil, Colombia, Chile, Honduras, Guatemala, Uruguay, Jamaica, South Africa, Nigeria, India, Indonesia, Thailand and Pakistan.

Seven key policing interventions were identified in the evaluation literature:

- gender-based interventions (n=7)
- policing partnerships (n=4)
- training and education strategies (n=6)
- community-oriented policing (n=13)
- police-enforced bans and crackdowns (n=3)
- visible policing and increased police contact (n=2)
- crime observatories (n=2)

Of these seven intervention types, the review only identified impact evaluations for community-oriented policing, crime observatories, and police-enforced bans and crackdowns. Studies that evaluated the remaining intervention types used qualitative techniques or quantitative methods that did not meet the inclusion criteria for impact evaluations. The empirical evidence of effectiveness indicates that the impact of community-oriented policing varies significantly across intervention locations, and that overall there is

not sufficient evidence to demonstrate that these programs reduce violent crime. One study evaluated an intervention that included both community-oriented policing and a crime observatory, and found that this programme reduced homicide; however this study had a high risk of bias. Of the two studies examining bans and crackdowns, there is strong evidence that the intermittent ban on carrying firearms in Colombia resulted in reduced homicides, whilst there is no evidence that the crackdown on illicit drugs in Thailand had an impact on violent crime. From such a small evidence-base it is difficult to draw strong conclusions about the effectiveness of such a variety of policing strategies.

The second part of the review focused on the reasons for implementation success or failure of policing interventions targeting violence. The review highlighted thirteen key themes across the range of intervention types. These include the need for awareness of the potential impact of:

- training and education
- political commitment
- police cooperation and acceptance of change
- community participation and awareness
- social support and recreational programs
- continuity in personnel
- multiagency approaches
- communication
- resources and funding
- deterrence
- continued perpetration of male bias against female victims
- discrimination against female officers
- police corruption or abuse

These key themes, whilst not unique to low- and middle-income countries, summarise the lessons learned in the implementation of a variety of new policing initiatives across 13 countries in the developing world. In summarising this literature, we aim to provide policymakers and practitioners with useful guidance from both successfully and unsuccessfully implemented policing interventions that aimed to reduce violent crime in developing countries.

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1. Background

1.1. Violent crime

Violence is a global public health problem with complex causes at the individual, family, community, and societal levels (World Health Organization [WHO], 2002a). Worldwide, the direct impact of violence is estimated at 4400 deaths per day and many thousands of injuries (Krug, Mercy, Dahlberg, & Zwi, 2002), and the economic cost of this violence is estimated to be between US\$95 and US\$163 billion per year (Geneva Declaration Secretariat, cited in Willman & Makisaka, 2010). Direct costs of violent crime victimisation include those related to health care, lost work productivity, law enforcement and prosecution of offenders, rehabilitation, and repairing damage to property (Fajnzyber, Lederman, & Loayza, 2002; Hofman, Primack, Keusch, & Hrynkow, 2005; WHO, 2002a). For victims, mortality, physical and psychological damage, disability, and social problems are immediate and long-lasting outcomes of violence (WHO, 2002a). The indirect impact of violent crime varies across countries.

The World Health Organization (WHO) defines violence as ‘the intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment or deprivation’ (WHO Global Consultation on Violence and Health, cited in WHO, 2002b, p. 5). Individual level risk factors include age and gender, while individual level protective factors centre on social connections with family, friends or school groups (Willman & Makisaka, 2010). Family risk factors for violent crime include harsh parenting styles, physical or psychological abuse, and the involvement of other family members in crime (United Nations Office on Drugs and Crime [UNODC], 2008). Communities are at risk of violence when violence has historically been present in the area, when firearms are easily available and sections of the population have been trained in their use (UNODC & the Latin America and the Caribbean Region of the World Bank, 2007). Weakness of state security institutions, including the criminal justice system and the military, is also associated with higher levels of violence at the societal level (UNODC, 2005). Rapid urbanisation, low education levels, and high income inequality, especially when divided along religious, ethnic, or racial lines, further increase the risks of violence in a society (Willman & Makisaka, 2010).

Developing countries are particularly affected by violent crime, with interpersonal violence a leading cause of death and disability (Hofman et al., 2005; Liebling & Kiziri-Mayengo, 2002; Morrison, Ellsberg, & Bott, 2007; Seedat, Van Niekerk, Jewkes, Suffla, & Ratele, 2009). In addition, violent crime can indirectly suppress growth in developing countries when local or international agents are influenced, by their perceptions of violent crime in the region, to refrain from investing socially or economically in developing the area (Akpokodje, Bowles, & Tigere, 2002). Fear of violence prohibits development by preventing local citizens from travelling to work and school, encouraging capital flight, increasing brain drain as educated citizens leave troubled areas, and lowering social cohesion (Willman & Makisaka, 2010).

The World Health Organization typology of violence categorises violent acts into self-directed violence, interpersonal violence and collective violence, and notes that whilst the nature of the violent act may be similar across categories, the causal mechanisms and motives for each category of violence are very different (WHO, 2002b). The nature of

effective interventions will also differ across categories, and therefore the effectiveness of interventions needs to be reviewed separately for each category. Whilst collective violence is a clear threat to the stability and growth of developing countries, the complexities of the specific contexts of collective violence—such as war, state violence, genocide, or terrorist activity—mean that interventions to combat collective violence are likely to be dependent on socio-political context, and are considered to be outside the scope of the present review. Our review focuses on interpersonal violent crimes in developing countries. We define interpersonal violent crime as those acts of violence—such as assault, homicide, rape, kidnapping, sexual assault, and maltreatment—committed by one person or small group against another person or small group.

There are many different types of interventions that seek to reduce interpersonal violent crime in developing countries, and several different ways to classify interventions. Interventions can be broadly separated according to the point at which the prevention programme is implemented. Programs that aim to prevent or reduce violent crime can be grouped into primary, secondary or tertiary interventions (Van Der Merwe & Dawes, 2007). Primary prevention programs are broad based and aim to prevent the occurrence of a problem or behaviour, secondary prevention programs focus on individuals at risk of developing the behaviour, and tertiary prevention programs focus on reducing the problem behaviour in individuals who already exhibit the behaviour (for example, youths already displaying violent behaviours) (Van Der Merwe & Dawes, 2007). Interventions can also be classified according to whether they address violence at either the individual, family or community levels; indeed, it is argued that the most successful interventions are those that address all three levels (Van Der Merwe & Dawes, 2007). Finally, interventions can be classified according to the societal sector in which they are implemented. Social interventions include parent training programs, school-based education programs, family enrichment, gender equality education, life skills training programs, and edutainment initiatives. Economic-based interventions that target violent crime problems include microfinance credit schemes and raising the price of alcohol. Health sector programs include screening and referral programs, victim advocacy and support groups, and psychological or medical interventions. Programs often involve coordinated, multi-sector responses involving multiple agencies working together to reduce violent crime (WHO, 2002a).

Justice system interventions can be defined as interventions that focus on preventing or reducing violent crime and actively involve at least one entity of the justice system (e.g. courts, corrections, police, legislation), or a surrogate organisation providing justice system services (e.g. an NGO intervening to provide conflict mediation services). These organisations may be intervening to provide surrogate justice services (e.g. providing conflict mediation services to disputants within the country) or to build justice system capacity (e.g. by providing advice or training to a newly formed police force). These supplementary interventions are an important part of the violence prevention portfolio in developing countries, where justice systems are often under-resourced and struggle to contain large problems such as drug trafficking (e.g. Latin America and the Caribbean) or terrorism (e.g. Afghanistan, Pakistan) while dealing with local violent crime.

Justice system interventions may include:

- Legislative changes to criminalise violent behaviour or strengthen penalties for violent crime

- Police actions such as community policing, increased patrols, police training programs, and creation of specialist police forces
- Removal of risk factors for violence through enforcement of bans on alcohol and firearms
- Reformation of the court system through legal aid systems, alternative processing of violent offenders and alternatives to formal court processes such as restorative justice programs

The largest, and arguably the most important, component of the justice system that focuses on efforts to reduce violent crime is policing. The focus of this review is to synthesise the evaluation literature that focuses on policing interventions that target interpersonal violent crime in developing countries. We will include policing interventions that work at primary, secondary or tertiary levels, and interventions that focus on individual, family or community factors.

1.2. Policing in developing countries

In developed democracies, police reform has generally followed what Kelling and Moore (1988) describe as three major eras of policing: the political era, the professional era and the community policing era. Whilst policing scholars debate the detail of these eras in policing history (see Bayley, 1994; Greene & Mastrofski, 1988; Skogan, 1990), they argue that policing in the 21st century is most likely characterised by a new era of policing (Bayley & Nixon, 2010; Mazerolle & Ransley, 2005; Stone & Travis, 2011). Policing in democratic societies has largely moved from being highly politicised agencies—responding to calls for service based on political demands, deriving their legitimacy from local political authorities, with a broad mandate to deal with a range of social issues from hunger to homelessness to riot control—to going through the professionalisation of the occupation during the 1970s, to establishing the foundations for community policing during the late 1980s and early 1990s. We also note that different police agencies progressed through these eras at different time periods in developed democracies.

We argue that developed country police agencies, which have experienced all three eras of change and development over a period of nearly 100 years, are situated very differently to police agencies in emerging democracies. Policing and police agencies in many emerging democracies and developing countries have very different histories to those in the developed world: often times developing countries have long histories of military or totalitarian rule, with no experience of a civilian police (Brogden, 2002). Many countries have experienced only great politicisation of their policing services and have skipped over the professionalisation era in an effort to quickly establish community policing approaches as part of rapid state building activities (see, for example, Goldsmith & Dinnen, 2007; Goldsmith & Harris, 2010). Moreover, many developing countries may lack the physical infrastructure, governance mechanisms and social norms that form an essential background to the successful implementation of policing interventions in developed democracies, and they often lack a strong judiciary to regulate and constrain policing behaviour.

This review focuses on policing interventions and their ability to prevent or reduce violence in developing countries. We use the term ‘developing countries’ to refer to economically developing countries, defined as developing according to World Bank country classifications

(<http://data.worldbank.org/about/country-classifications/country-and-lending-groups>). However, we acknowledge that there can be economically developing countries that are established democracies and economically developed countries that are developing democratically. Despite the continuity implied by the terms developing and developed, we propose that there are significant and qualitative differences between policing initiatives in western democracies and those that are implemented in developing countries. The fundamental difference lies in the institutional histories and capacities of police agencies in developed and developing countries.

The contextual differences in intervention implementation provide a strong justification for a review exclusively focused on developing country evidence; those strategies that have been deemed successful for policing in developed countries are not necessarily appropriate for developing countries. Developing countries frequently have low police professionalism, poor relations between the police and the public, under-equipped police services and an unstable political and/or socio-economic situation, and, in some cases, low community enthusiasm and participation (Eijkman, 2006; Frühling, 2007, 2011).

There are few high-quality experimental and quasi-experimental evaluations of violent crime interventions in developing countries. Developing countries often struggle to provide accurate and reliable data on criminal justice processes, lack research resources, have varying culture-specific definitions of violent crime, and, in many cases, seriously under-report certain types of crime such as sex- and race-based violence. Ethical considerations associated with researching violent crime in developing countries also contribute to the dearth of research (Neugebauer, 1999; WHO, 2002a). Much of the existing evidence is not available in a published, peer-reviewed form, and often essential information is not reported. No systematic review has combined experimental and quasi-experimental evidence from developing countries on the impact of violent crime interventions. The sole reviews conducted on the topic have been qualitative and exploratory in nature (Akpokodje et al., 2002; Willman & Makisaka, 2010). Despite the data limitations, we consider the topic urgent and important enough to warrant a full systematic review of experimental and quasi-experimental impact evaluations.

Figure 1: Policing intervention logic model

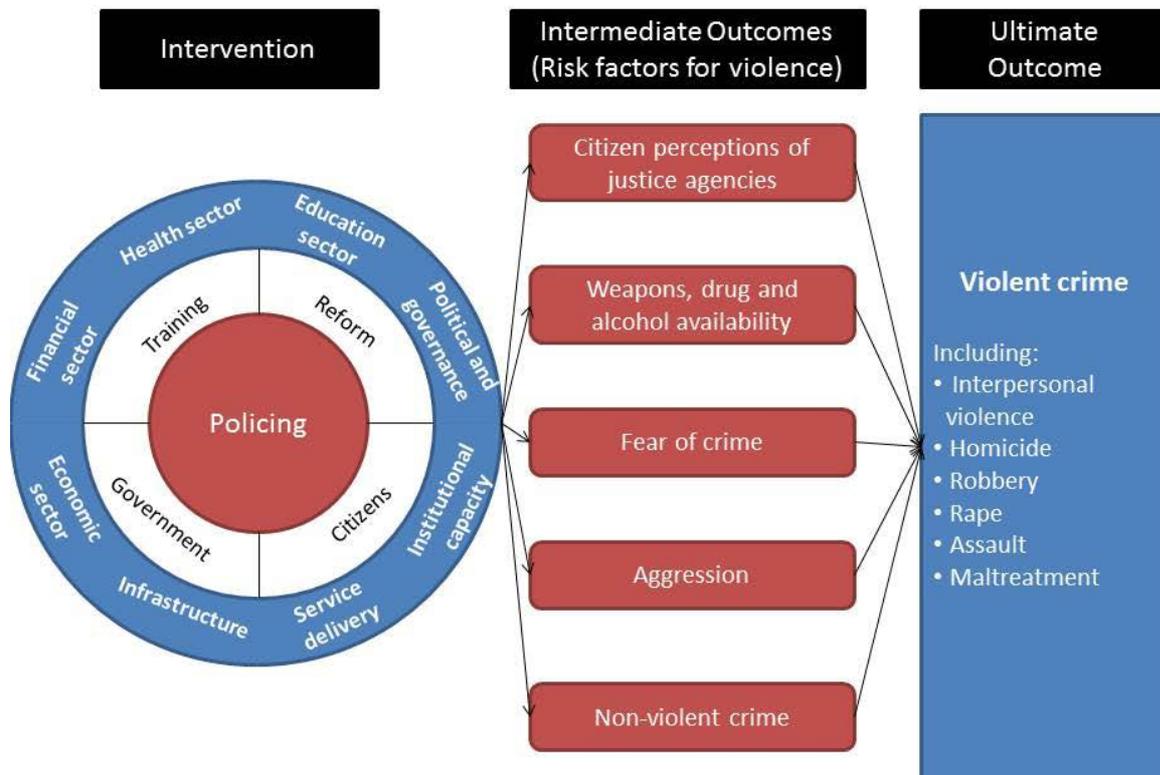


Figure 1 depicts our logic model for how policing interventions influence interpersonal violent crime. As seen in Figure 1, policing interventions (the inner circle) are implemented within a range of contexts (the middle circle), such as those provided by local and foreign governments, local citizens, levels of police training and the degree of institutional reform. The interventions included in this review occur within the context of the police system, but many include elements, partners, or contextual factors from a range of other systems, including health, finance, education, governance (represented by the outer circle in the interventions section of Figure 1). This range of interventions immediately impacts a set of intermediate outcomes, including fear of crime, aggregate crime, citizen perceptions of justice agencies, and other outcomes. These intermediate outcomes proceed to influence the rate of violent crime committed and reported; the ultimate outcome of the intervention.

2. Objectives

There are two key objectives to this review.

1. The first objective is to review the evidence on the effectiveness of policing interventions in reducing interpersonal violent crime in developing countries, and whether effectiveness differs according to intervention type and across different populations.
2. The second objective is to assess the reasons that policing interventions addressing interpersonal violent crime may fail or succeed in developing countries.

3. Methodology

3.1. Criteria for inclusion and exclusion of studies in the review

3.1.1. Participants

The intervention must have been implemented in a developing country, defined as low- or middle-income by the World Bank (see Table 1). If the outcomes of interest were measured at an aggregate level, the units of analysis were any geographic place (e.g. community, city, province, state, region, or country) within a developing country. If the outcomes of interest were measured at an individual level, either victim or perpetrator, the unit of analysis was the individual.

3.1.2. Interventions

To be eligible for review, the intervention must have been implemented by public police and aimed to reduce interpersonal violent crime. The interventions were eligible if they were police-led or if the police worked in conjunction with other agencies.

3.1.3. Study design

The two objectives of the review were examined using separate methodologies. We discuss the appropriate study designs for each review component below.

Objective 1 was to review the evidence on the effectiveness of policing interventions in reducing interpersonal violent crime in developing countries, and to assess whether effectiveness differs according to intervention type and across different populations. To be included in the review of intervention effectiveness, studies must have used an experimental or quasi-experimental evaluation design with a valid comparison group. Acceptable study designs included randomised trials, natural experiments, time-series designs, regression discontinuity designs, and any quasi-experimental design with a matched or non-matched comparison group. We did also include time-series evaluations without a comparison group in our review; however, we note that the quality of these studies is lower than that of studies that include a valid comparison group. Only studies that assigned treatment and collected data at a similar geographic level (e.g. municipality) were eligible to be included in a meta-analytic synthesis of the effectiveness evidence.

Objective 2 was to assess the reasons that policing interventions addressing interpersonal violent crime may fail or succeed in developing countries. Studies were considered eligible for the review of reasons for intervention success or failure if they evaluated the implementation of a policing intervention to reduce interpersonal violent crime in developing countries. Studies included in the narrative review were not restricted according to study design and could include any type of quantitative or qualitative studies.

3.1.4. Outcomes

The intervention must have aimed to impact interpersonal violent crime. We only included evaluations of policing initiatives that either (1) were explicitly aimed at impacting interpersonal violent crime, as stated in the source document; or (2) recorded some type of interpersonal violent crime as an outcome.

We focused on violence at the interpersonal level, including acts or omissions perpetrated by an individual or small group against another individual or small group. The category of interpersonal violence includes most behaviours typically considered violent crime across countries and jurisdictions, such as homicide, rape and assault.

We considered any violent act that was classified as a crime in one of the countries under study to be an interpersonal violent crime, even if it was not considered as such in all of the countries under study. For example, domestic violence and child maltreatment are considered crimes in some countries but not others. For the purposes of this review, we included domestic violence and child maltreatment under the definition of violent crime.

We did not include outcomes relating to self-directed harm (acts or omissions perpetrated by an individual against himself or herself) or collective violence (acts or omissions perpetrated by a state or large organised group against another state or large organised group). Specifically, we did not include the following outcomes: self-harm, suicide, terrorist activity, rioting, looting, smuggling, gang warfare, genocide, war or political conflict. We excluded self-directed and collective violence because these forms of violence have different causal mechanisms to interpersonal violence, and therefore the impact of interventions would not be comparable. For example, a community-oriented policing intervention designed to reduce homicide rates in high-crime locations would not be expected to influence collective demonstrations against the local political authority.

We followed the World Health Organization in their definition of collective violence as including:

crimes of hate committed by organized groups, terrorist acts and mob violence. ... war and related violent conflicts, state violence and similar acts carried out by larger groups. ... attacks by larger groups motivated by economic gain – such as attacks carried out with the purpose of disrupting economic activity, denying access to essential services, or creating economic division and fragmentation. (*WHO, 2002b, p.6*)

We therefore excluded human trafficking for sex purposes and extensive drug-related violence perpetrated by large organised drug gangs, as these violent acts are committed by larger groups motivated for economic gain, and fall under the umbrella of collective violence. We did, however, include violent crime committed by an individual or small group against another individual or small group, if it fell outside of the framework of collective violence as defined by WHO (2002b). The distinctions between collective violence and interpersonal violence may at times be unclear, because the distinctions between large and small groups are fuzzy. We assessed each individual outcome in line with the typology developed by WHO (2002b).

Only interventions that aimed to impact interpersonal violent crime were included in the review; thus, it would make sense to limit the review to interventions that measure interpersonal violent crime as an outcome. However, the difficulties associated with recording and accessing data on violence in developing countries may have restricted primary studies' range of outcome measures, so that they were only able to provide a proxy measure (such as aggression) even when the intervention was explicitly intended to impact interpersonal violent crime. Acceptable measures included levels of specific violent crimes (e.g. homicide, robbery), aggregate violent crime rates, or self-reported victimisation. Homicide data are recognised as the most reliable internationally, as homicides are regularly

reported to the police in most countries (UNODC, 2007; UNODC and the Latin America and the Caribbean Region of the World Bank, 2007). Therefore, officially recorded homicides were coded as a preferred outcome measure, although we do acknowledge that this measure is still subject to definitional and recording practice (for example, the distinction between manslaughter and murder may be treated differently across jurisdictions). Other official statistics were recorded, although we acknowledge that these suffer from reporting biases and can therefore be misleading as outcome statistics. Self-reported victimisation surveys were also considered to be good data sources, particularly international surveys such as the United Nations Office on Drugs and Crime biannual crime trends surveys, because they use a standard definition across countries (UNODC, 2007). Where possible, we coded an outcome measure that was roughly comparable across countries: either homicide rates, or self-reported victimisation.

3.1.5. Exclusion criteria

Studies that were published prior to 1975 or report on interventions that took place prior to 1975 were not eligible for review. We excluded studies conducted prior to 1975, as by this time the decolonization of the global south was mostly complete and research conducted prior to that time reflects a very different era of policing that is not directly relevant to this review.

We excluded policing interventions that were not implemented by public police, either as a sole agency or in conjunction with partner agencies.

We excluded evaluations of interventions implemented in countries categorised as developed by the World Bank.

We excluded from the meta-analysis evaluations where two treatment programs were compared to one another with no baseline business-as-usual comparison group.

We excluded outcomes relating to self-directed harm, or collective violence (acts or omissions perpetrated by a state or large organised group against another state or large organised group).

We excluded interventions that were implemented as part of a response to an on-going or recent violent conflict that was considered a substantively different intervention context to the majority, or that developed from a specific conflict or election context, or that were aimed at preventing political violence.

3.2. Settings and timeframe

We only included interventions that were reported from 1975 or later. We only included interventions implemented in countries defined by the World Bank as developing.

3.3. Search strategy for identification of relevant studies

3.3.1. General search strategy

Our search strategy included published and unpublished literature available between 1 January 1975 and 31 December 2012. The geographic location of studies was limited to countries classified as low- or middle-income based on World Bank country classifications published in 2012. The World Bank updates its classification schema annually; however,

given the limited movement of countries between categories over time we used the 2012 classification that was in place at the time of the search (<http://data.worldbank.org/about/country-classifications/country-and-lending-groups>) with some small amendment to more accurately reflect the classification over the larger timeframe included in the search.¹ The relevant regions and countries used in our keyword search are shown in Table 1.

Table 1. Countries classified as "developing" and their corresponding region

Regions	Countries
East Asia and Pacific	American Samoa; Cambodia; China; Fiji; Indonesia; Kiribati; Korea, Dem. Rep.; Lao, People's Dem. Rep; Malaysia; Marshall Islands; Micronesia, Fed. Sts; Mongolia; Myanmar (also searched as Burma); Palau; Papua New Guinea; Philippines; Samoa; Solomon Islands; Thailand; Timor-Leste; Tuvalu; Tonga; Vanuatu; Vietnam
Europe and Central Asia	Albania; Armenia; Azerbaijan; Belarus; Bosnia and Herzegovina; Bulgaria; Georgia; Kazakhstan; Kosovo; Kyrgyz Republic; Latvia; Lithuania; Macedonia, Former Yugoslav Rep.; Moldova; Montenegro; Romania; Russian Federation; Serbia; Tajikistan; Turkey; Turkmenistan; Ukraine; Uzbekistan
Latin America and the Caribbean	Antigua and Barbuda; Argentina; Belize; Bolivia; Brazil; Chile; Colombia; Costa Rica; Cuba; Dominica; Dominican Republic; Ecuador; El Salvador; Grenada; Guatemala; Guyana; Haiti; Honduras; Jamaica; Mexico; Nicaragua; Panama; Paraguay; Peru; St Lucia; St Vincent and the Grenadines; Suriname; Uruguay; Venezuela, RB
Middle East and North Africa	Algeria; Djibouti; Egypt, Arab Rep.; Iran, Islamic Rep.; Iraq; Jordan; Lebanon; Libya; Morocco; Syrian Arab Rep.; Tunisia; West Bank and Gaza; Yemen, Rep.

¹ Between 2011 and 2012, the following countries moved into the high-income category: Antigua and Barbuda; Chile; Latvia; Lithuania; Russian Federation; Uruguay. As each of these countries had been listed as low- or middle-income for the vast majority of years since 1987 when the recordings began, we have retained these countries in our search strategy.

Regions	Countries
South Asia	Afghanistan; Bangladesh; Bhutan; India; Maldives; Nepal; Pakistan; Sri Lanka
Sub-Saharan Africa	Angola; Benin; Botswana; Burkina Faso; Burundi; Cameroon; Cape Verde; Central African Republic; Chad; Comoros; Congo, Dem. Rep.; Congo, Rep.; Cote d'Ivoire (also searched as Ivory Coast); Eritrea; Ethiopia; Gabon; Gambia, The; Ghana; Guinea; Guinea-Bissau; Kenya; Lesotho; Liberia; Madagascar; Malawi; Mali; Mauritania; Mauritius; Mayotte; Mozambique; Namibia; Niger; Nigeria; Rwanda; Sao Tome and Principe; Senegal; Seychelles; Sierra Leone; Somalia; South Africa; Sudan; Swaziland; Tanzania; Togo; Uganda; Zambia; Zimbabwe

The search and document retrieval strategy was intended to capture a range of published and unpublished literature across disciplines and involved 5 steps.

Keyword search of online journal and grey literature databases

Search keywords were piloted and refined to ensure optimum sensitivity and specificity. A list of keywords is provided in Table 2. These keywords were revised according to the results of a pilot search and feedback from reviewers and the project advisory group. A list of search locations is provided in Table 3. As with the keywords, the list of databases was refined according to the results of a pilot search and feedback from reviewers and the project advisory group.

Hand search of relevant journals not indexed on databases

Preliminary investigations conducted by our research team suggested that some journals dealing with the subject matter of interest to this review were not indexed in major online databases, particularly journals focused on a particular developing country. Therefore, these journals were hand searched. These journals are listed in Table 3.

Search of publications sections of relevant agency websites

A list of relevant agencies was determined in discussion with the project advisory group, and the agency websites were searched for relevant publications. A list of these agencies is provided in Table 3.

Hand search of reference lists of relevant documents

The research team checked the references of each eligible study included in the review to determine if there were other studies of interest that had not been retrieved in the original search.

Contacting prominent scholars and policymakers for feedback on completeness of list

Once we completed the list of eligible studies it was sent to the project advisory group to determine whether we missed any important sources.

3.3.2. Search keywords

The search was undertaken using a list of keywords, presented in Table 2, grouped under four broad categories: interventions, outcomes, locations, and evaluations. These keywords were refined in consultation with the project advisory group.

Table 2. Keywords for the systematic literature search

Intervention keywords	Outcome keywords	Location keywords	Evaluation filters
Police	Violen*	Region-specific keywords ²	Intervention*
Policing	Robber*	Country-specific keywords ³	Evaluat*
“Law enforcement”	Rape	“Developing countr*”	Compar*
	Assault*	“Third world”	Impact
	Maltreat*	“Low income countr*”	Assess*
	Homicide*	“Imic”	Effect*
	Murder*	“Transitional countr*”	
	Kill*	“Emerging econom*”	
	Mugging*		
	“Sex crime*”		
	“Wife beat*”		
	“Spouse beat*”		
	Batter*		

The combination of keywords in searches was dependent on the search protocol of each database. Where possible, compound terms (e.g. law enforcement) were considered as a single term and entered into searches in quotes (i.e. “law enforcement”) ensuring that the

² The regions listed in Table 1.

³ The countries listed in Table 1.

database searched for the entire term rather than separate words. In addition, terms with multiple iterations from a stem word (e.g. violence, violent) or terms that were expected to appear in either singular or plural forms, were entered as word* (e.g. violen*). Keywords were combined using Boolean operators “AND” and “OR”. Terms were combined with “OR” within each group and “AND” between groups, for example: (police OR policing OR “law enforcement”) AND (violen* OR robber* OR rape OR assault* OR maltreat* OR homicide*). While the larger commercial databases such as Scopus and Web of Knowledge allowed the entry of all keywords, the combining of searches using a “search history” function, and the use of specific search fields (e.g. title/abstract/topic), others were more limited. We used Google Scholar to search some websites (e.g. African Development Bank, AusAID, USAID) using the “site” function.

3.3.3. Search locations

We used electronic databases and resources accessible online and through the University of Queensland Library. As we considered it important to locate “grey” literature or material that is not formally published, such as working papers, unpublished dissertations, and government, non-government and technical reports, we also searched relevant websites such as the various Development Bank sites, AusAID and USAID. The databases and websites searched are listed in Table 3.

Table 3. Online databases and websites used in the systematic search

Type of Source	Search Locations
Journals	Africa-Wide Cambridge University Library & Dependent Libraries Catalogue Criminal Justice Abstracts via EBSCO Directory of Open Access Journals JSTOR ProQuest (Databases selected: British Periodicals; Dissertations & Theses at the University of Queensland; Index Islamicus; PAIS International; ProQuest Dissertations & Theses; ProQuest Research Library; ProQuest Social Science Journals; Social Services Abstracts; Sociological Abstracts; Worldwide Political Science Abstracts) PsycInfo ScienceDirect Scopus Web of Knowledge Wiley Online Library

Type of Source	Search Locations
Reports	African Development Bank website Asian Development Bank website AusAID website British Library for Development Studies database ELDIS IDEAS: International economics research database Inter-American Development Bank website International Initiative for Impact Evaluation (3ie) database JOLIS: World Bank Group and International Monetary Fund online database United Nations Development Programme website United Nations Office on Drugs and Crime website USAID website WHO Collaborating Centre for Violence Prevention website (www.preventviolence.info) WHO Global Health Library
Dissertations	ProQuest Digital Dissertations index ProQuest Dissertations & Theses at the University of Queensland
Grey literature	OpenGrey

3.3.4. Non-English search

Our search of languages other than English was limited to Spanish and Portuguese. Keywords (shown in Table 4) were translated by the Institute of Modern Languages at the University of Queensland (www.iml.uq.edu.au) and were used to search two Spanish databases: Clase and Periódica, both of which are accessed through the library at the Universidad Nacional Autónoma de México

(<http://dgb.unam.mx/index.php/catalogos>).

We conducted separate searches for each keyword category using the “palabra clave” (keyword) field, and then combined each search using the “refinar búsqueda” (refine search) function. While the keywords we used are Spanish, the search produced records in both Spanish and Portuguese. Relevant articles were translated into English.

Table 4. Keyword Spanish translations

Keyword category	English keyword	Spanish translation
Intervention	Police	Policía
	Policing	Mantenimiento del Orden/Vigilancia
Outcome	Violence	Violencia
	Rape	Violación
	Robbery	Robo
	Assault	Agresión/asalto/ataque/Agresión sexual
	Maltreatment	Maltrato
	Homicide	Homicidio
Evaluation filters	Intervention	Intervención
	Evaluation	Evaluación
	Comparison	Comparación
	Impact	Impacto

3.4. Screening and coding of studies

3.4.1. Title and abstract screening

Four trained research assistants used a set of preliminary eligibility criteria to assess, on the basis of titles and abstracts, whether the studies returned from the systematic search were potentially eligible for inclusion in the systematic review. The preliminary criteria were:

- (1) does the article discuss policing?
- (2) does the article discuss violence?
- (3) does the article concern a developing country?

At this stage a very broad definition of the above criteria was applied, allowing for only obviously irrelevant sources to be excluded. For example, studies that were returned from the search keyword “rape” but actually concern crop production would be removed. Similarly, studies concerning interventions in the United States that appeared because of the search term “Georgia” were removed. The decision on each abstract was double-checked by a second screener who was not blinded to the first screener’s decision. If the document was considered potentially eligible for inclusion, the full text document was coded in detail.

3.4.2. Detailed coding of studies

Trained research assistants used a standardised coding sheet, along with a detailed coding companion document (available in Appendix 6) to code the documents in detail. The coding sheet was implemented as a Microsoft Access database. The coding sheet contained information on study eligibility criteria, search information, reference information, intervention information, population under study, unit of analysis, quality of research design, outcomes reported, effect size data, authors' conclusions, and authors' comments on factors impacting the success or failure of the intervention. Table 5 shows a summary of the fields that were coded. Half of the studies were double coded by a second reviewer to ensure accuracy and consistency of information capture; however, all of the studies were double-coded on the items used to calculate effect sizes. Coding discrepancies between reviewers were resolved by discussion and by enlisting the assistance of a third reviewer if consensus was not reached.

Table 5. Summary of coding fields

Coding fields for systematic review	
Document ID	Other contextual information
Full reference (APA style)	Implemented as planned Y/N
Coder name	Agency partnerships successful Y/N
Date coded	Issues in implementation Y/N
Unique study Y/N	Ethical issues Y/N
Developing country Y/N	Monitoring of treatment delivery Y/N
After 1975 Y/N	Treatment integrity Y/N
Intervention Y/N	Intent to treat analysis Y/N
Aimed at interpersonal violent crime Y/N	Differential attrition Y/N
Policing intervention Y/N	Sample bias Y/N
Descriptive review only Y/N	Randomised Y/N
Process evaluation Y/N	Type of comparison group
Process evaluation with raw data Y/N	Problem with research standards Y/N
Impact evaluation Y/N	Age
Country of intervention	Gender
Language	SES
Research timeframe	Other characteristics of sample
Intervention name	Outcome category
Intervention strategy (brief)	Conceptual definition of outcome

Full description of intervention strategy	Operational definition of outcome
Theoretical background to intervention	Data source
Comparison group details	Authors' conclusions
Police led Y/N	Was a standardised effect size reported?
Other components of intervention	Effect size page number
Funded by	Effect size measure
Unit of treatment assignment	Effect size
Unit of analysis	Are data available to calculate an effect size?
Conflict context Y/N	
Political activity context Y/N	Data to calculate effect size

3.4.3. Selection of studies to address the objectives of the review

A different subset of studies was used to examine each of the two objectives of this systematic review. As discussed above in Section 4.1.3, the two questions required primary studies with different methodological designs. After coding was completed, the set of eligible studies was divided into those that could be used to address Objective 1 and those that could be used to address Objective 2.

Objective 1 was to review the evidence on the effectiveness of policing interventions in reducing interpersonal violent crime in developing countries, and to assess whether effectiveness differs according to intervention type and across different populations. The studies used to address this objective must be able to address issues of causality. We therefore included studies in the effectiveness review if they were coded as “Yes” to each of the following coding criteria:

1. The document was set in a developing country
2. The document reported on a study conducted after 1975
3. The document reported on an intervention
4. The intervention was aimed at interpersonal violent crime
5. The intervention was conducted by police
6. The study reported the results of an impact evaluation
7. The study used a control group or was a time-series design without a control group

Objective 2 was to assess the reasons that policing interventions addressing interpersonal violent crime may succeed or fail in developing countries. The primary studies used to address this objective must have assessed the implementation of an intervention using either quantitative or qualitative process evaluations. Studies eligible for the review of effectiveness were also eligible for this component of the review. We therefore included

studies in the review of reasons for implementation success or failure if they were coded as “Yes” to each of the following coding criteria:

1. The document was set in a developing country
2. The document reported on a study conducted after 1975
3. The document reported on an intervention
4. The intervention was aimed at interpersonal violent crime
5. The intervention was conducted by police

and at least one of the following three coding criteria was satisfied:

6. The study reported the results of a process evaluation OR
7. The study reported the results of a process evaluation with raw data OR
8. The study reported the results of an impact evaluation

Studies that were classified as “Descriptive review only” during coding were not eligible for inclusion in either synthesis as these studies were not evaluative.

3.5. Assessment of study quality

We assessed study quality of the studies included in the review of intervention effectiveness using the IDCG Risk of Bias tool (see Appendix 7 for detail of the tool, and Appendix 9 for the study quality assessment). This tool assesses the risk of bias and internal validity for experimental and quasi-experimental designs across the following eight categories, measured as Yes, No or Unclear:

1. Mechanism of assignment: was the allocation or identification mechanism able to control for selection bias?
2. Group equivalence: was the method of analysis executed adequately to ensure comparability of groups throughout the study and prevent confounding?
3. Hawthorne and John Henry effects: was the process of being observed causing motivation bias?
4. Spill-overs: was the study adequately protected against performance bias?
5. Selective outcome reporting: was the study free from outcome reporting bias?
6. Selective analysis reporting: was the study free from analysis reporting bias?
7. Other: was the study free from other sources of bias?
8. Confidence intervals: are the effect sizes based on true confidence intervals?

We assessed study quality of the studies included in the review of reasons for intervention success or failure using the CASP Qualitative Research Checklist (see Appendix 10 for detail of the tool and Appendix 11 for the results of the study quality assessment). This tool assesses the risk of bias for qualitative studies across ten dimensions, measured as Yes, No or Unclear:

1. Was there a clear statement of the aims of the research?
2. Is a qualitative methodology appropriate?
3. Was the research design appropriate to address the aims of the research?
4. Was the recruitment strategy appropriate to the aims of the research?
5. Was the data collected in a way that addressed the research issue?
6. Has the relationship between researcher and participants been adequately considered?
7. Have ethical issues been taken into consideration?
8. Was the data analysis sufficiently rigorous?
9. Is there a clear statement of findings?
10. Is the research valuable?

Some quantitative studies were also included in the review of reasons for intervention success or failure, but did not meet the eligibility criteria for inclusion in the review of effectiveness. The quality of these studies was assessed against the IDCG Risk of Bias tool, as the CASP Qualitative Research Tool was less relevant to the research design.

For all the studies, we did not allocate a score or index, as extreme failure in one area of study quality can be more serious than minor breaches of quality across multiple arenas. Whilst the quality of the included studies was not particularly high on the whole, we did not exclude studies from the review on the basis of quality. Because there is such a limited amount of evaluative research in this field, we judged it preferable to include studies and report on their quality rather than to exclude them. We present the results of the assessment of study quality in a “traffic light” format (see de Vibe et al., 2012) in Appendices 7 and 9.

3.6. Methods of synthesis for objective 1: Review of intervention effectiveness

To review the evidence for the effectiveness of policing interventions to reduce interpersonal violence in developing countries, we aimed to conduct a meta-analysis to synthesise the effect size across studies; however this approach would only have been appropriate where several experimental or quasi-experimental studies evaluated the effectiveness of a conceptually equivalent intervention using an equivalent outcome. As there were no sufficiently equivalent studies, we did not conduct an overall meta-analytic synthesis across multiple studies.

For the individual studies that reported multiple sites or multiple outcomes, we performed a random effects meta-analysis with inverse variance weighting on the results from each study.

3.6.1. Criteria for determination of independent findings

There were two issues of independence that needed to be addressed in this review. The first is that documents may have reported on multiple studies, which may in turn have reported multiple outcomes. Studies were allowed to contribute multiple effect sizes, but only one effect size for each outcome. If a study reported multiple effect sizes for the one outcome from the same intervention location, the mean effect size for that outcome was calculated using Comprehensive Meta Analysis 2.0 (Borenstein, Hedges, Higgins, & Rothstein, 2005). The second issue of independence was that multiple documents may have reported on the same data. In these instances, we identified which documents were related, and used the best available data to contribute to the one calculation of effect size. The review identified

four studies reporting on the Fica Vivo program, and in this instance we calculated the effect size from the study using the longest data series.

3.6.2. Data extraction for meta-analysis

For the subset of studies that quantitatively evaluate policing interventions, standardised effect sizes, or statistics that could be used to calculate a standardised effect size, were recorded in the coding sheet as free text. A second reviewer then double checked the data extraction for every study that contained effect size data. These data were entered into Comprehensive Meta Analysis 2.0 software (Borenstein et al., 2005) to calculate the appropriate effect size, and the data input was double checked by a second reviewer.

3.6.3. Choice of effect size metric

We used odds ratios, risk ratios and Cohen's *d* as the measures of effect size, along with a standard error. The calculations were performed in Comprehensive Meta Analysis.

3.6.4. Calculation of effect sizes from studies

The calculation of effect sizes is reported in detail in the review of intervention effectiveness in section 6. Several of the studies used a short interrupted time series design with observations at multiple time points before and after the implementation of an intervention in an area. Some studies used comparison groups in addition to multiple time points. For studies that collected data at multiple time points, we assumed an underlying uniform distribution for violent crime, and a step function for the effect of the intervention on the outcome. We therefore calculated an average effect size for the time points before the intervention, and an average effect size for the time points after the intervention, and compared the two. We recognise that there are many other ways to deal with this type of time series data; however we decided upon this method as the most defensible and parsimonious. Other studies reported risk ratios with confidence intervals or provided data sufficient to calculate Cohen's *d* as a standardised measure of mean difference.

3.6.5. Method of synthesis

In the review protocol we stated that we would perform a random-effects meta-analysis using inverse variance weighting to synthesise the study results, given the heterogeneity in the interventions and populations studied. However, after identifying and coding all eligible studies we felt that the interventions were not sufficiently comparable to allow the use of meta-analysis across multiple studies; therefore we reported the standardised effect size and standard error along with the 95 per cent confidence intervals for each study in a forest plot, and only provided a meta-analytic synthesis within subgroups of studies. Where a study reported interventions that were conducted across multiple sites we examined the effect sizes for heterogeneity using the *Q*-index. There were too few studies identified to warrant tests and adjustments for publication bias. We used Comprehensive Meta-Analysis 2.0 software (Borenstein et al., 2005) for calculations and production of figures.

3.6.6. Moderators of effect size

We coded a range of study-level moderators that we expected would have had an impact on the effect size. Specifically, we coded for intervention strategy, population under study,

theoretical background to the intervention, contextual variables, geographic region, implementation success, and study design characteristics. We also coded indicators of study quality. However, due to the small number of studies identified we did not conduct moderator analyses.

3.7. Methods of synthesis for objective 2: Review of reasons for success or failure

To address the second objective of the review and assess the reasons for the success or failure of policing interventions, we conducted a narrative review of policing interventions targeting interpersonal violent crime in developing countries. The narrative review is a thematic summary of evidence on the reasons for success or failure of the implementation of policing interventions. In this narrative review we aimed to identify mechanisms, activities, people and resources that mediate between the intervention inputs and outcomes. This summary was considerably more extensive than the detailed coding of each study, but includes the information coded in the following fields: Implemented as planned, Agency partnerships successful, Issues in implementation, Ethical issues, and Authors' conclusions. The narrative review focused specifically on practical, policy-focused implications from the evaluations of policing interventions.

The eligible studies were initially categorised according to the type of intervention that was reported. One reviewer read the full text of all eligible studies and recorded any barriers or facilitators of implementation that were identified by the study authors. In an iterative process, the extracted data were then tabulated and each study re-examined in light of the collated list to ensure full data capture. The facilitators and barriers were mapped onto key themes. Each study was classified by intervention type and the frequency of each key theme was tabulated across intervention types. The identified factors were examined both within intervention groups and across intervention groups to examine questions of generalisability.

The narrative review was organised in two parts. In the first part was a descriptive analysis. The studies were grouped according to intervention type, and each section included a summary of study characteristics, textual descriptions of the studies, and the authors' conclusions about barriers and facilitators of implementation success. The descriptive analysis in the first part of the narrative review also included the development of logic models for those interventions with sufficient data to allow a robust model to be constructed. The second part of the narrative review contains a thematic summary. The results were summarised according to key identified themes, and this section contains a discussion of how the barriers and facilitators of intervention success cut across the various interventions, and the extent to which the identified factors can be generalised.

3.8. Deviations from the systematic review protocol

The systematic review contained some deviations from the protocol. Some search terms were truncated with wildcards to capture more variations of the term (for example homicide* was used instead of homicide). The list of low- and middle-income countries used in the final review was taken from 2012 rather than 2011 as indicated in the protocol, although six countries were retained as low- and middle-income countries in our search, even though they had been upgraded to high-income in 2012. The net effect of this change is that St Kitts and Nevis was no longer included in our list of developing countries. The assessment of

study quality was amended to include the use of the CASP checklist for qualitative studies. The final variation from the protocol is that there were insufficient studies identified to perform a meta-analysis of intervention effectiveness, and rather than conduct no review of effectiveness (as indicated in the protocol), we conducted a summary of quantitative evidence in the form of forest plots of standardised effect sizes and only conducted meta-analyses within studies where multiple sites or outcomes were reported.

4. Search results

The systematic search identified 2,765 records from all sources, after the initial removal of duplicates. After title and abstract screening, 2548 documents were excluded from further consideration, and a further 4 documents could not be located for screening. The remaining 213 documents were identified as potentially eligible on the basis of title and abstract screening, as they appeared to relate to policing interventions, interpersonal violence and developing countries.

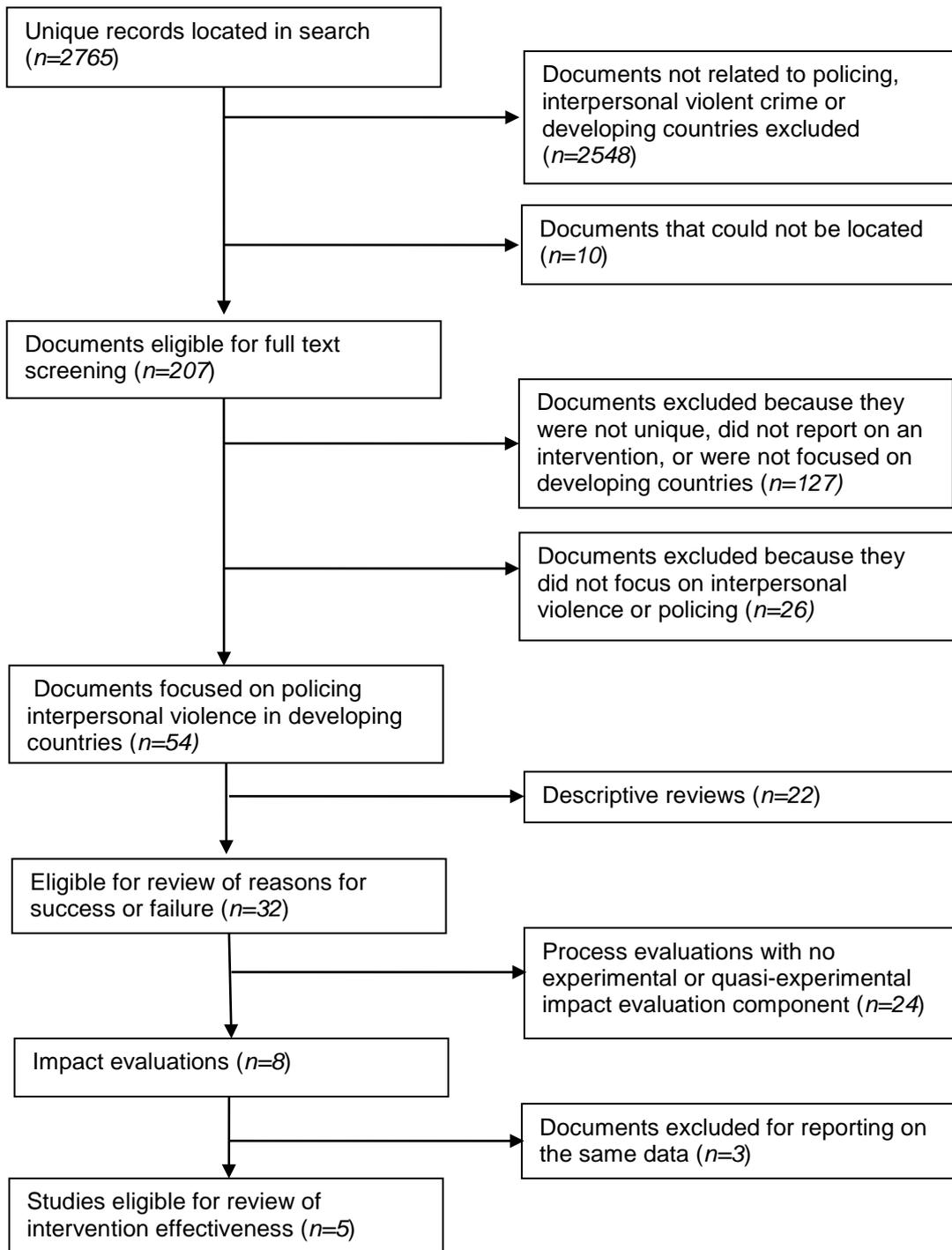
Full text documents were located for 207 of the potentially eligible documents, as 6 documents could not be obtained by the review team. Of the 207 documents, 127 were excluded at the first stage of full text eligibility coding, as they either were not unique (n=3), contained no identifiable intervention (n=117), or did not focus on developing countries (n=16). The remaining 80 studies were screened for a focus on interpersonal violence and policing. 26 studies were excluded from this second stage of full text eligibility coding, as they either did not focus on interpersonal violence (n=14), or did not discuss policing (n=18). Of the remaining 54 studies, 22 were review articles that were broad in scope and did not focus on a specific intervention strategy and were excluded from both the review of intervention effectiveness and the narrative review of reasons for success or failure of interventions. Full references for the documents excluded from the review at full-text stage are listed in Appendix 2. Of the remaining 32 studies, 24 were process evaluation studies that did not use an eligible quantitative design, and 8 were coded as impact evaluations that used an eligible study design.

Of the 8 documents identified as impact evaluations of policing interventions, 4 evaluated the same programme using the same data, so 3 documents were excluded from the review of effectiveness as the data were not independent. However, it was not appropriate to include the eligible studies in a meta-analysis due to the high degree of variation in the interventions. We present an overview of the evaluation studies and show the summarised effect size data in the form of forest plots in Section 6. Full references for the documents included in the review of intervention effectiveness are listed in Appendix 3.

Of the 54 studies that that focused on policing interventions targeting interpersonal violence in developing countries, we excluded the 22 general descriptive review documents, leaving 32 documents eligible for the narrative review of reasons for the success or failure of interventions. The narrative review contains a thematic summary of these 31 documents, and is presented in Section 7. Full references for the documents included in the narrative review of reasons for intervention success or failure are listed in Appendix 4.

It is important to recognise that whilst these studies were obtained through a systematic search of the literature, such a small number of studies cannot be realistically considered representative of the effectiveness or implementation success of policing interventions across low- and middle-income countries. A vast number of programs are implemented worldwide which are either not empirically evaluated, or the evaluations are not available through even the most robust search. We caution the reader to keep this meta-bias in mind when interpreting the findings of this systematic review.

Figure 2: Flow chart of systematic search article retention strategy



5. Review of intervention effectiveness

5.1. Search results

As described in Section 5, the systematic search and screening process yielded eight studies that were coded as impact evaluations that used an eligible study design. Of these documents, four did not use unique data and therefore three of these were not included in the review of effectiveness. We present an overview of the remaining five eligible impact evaluation studies in this section, where we summarise the effect sizes from the data using a series of forest plots. The calculations of effect sizes are shown in Appendix 8.

5.2. Study characteristics

The review identified eight impact evaluations of policing interventions targeting interpersonal violence in developing countries. Of these studies, six evaluated community-oriented policing interventions (with four reporting on the same intervention using the same data and one community-oriented policing intervention implemented alongside a crime observatory), one evaluated a ban on carrying firearms, and one evaluated drug law enforcement. After removing the studies that examined the same intervention using the same data, five independent studies remained. We considered that it was not appropriate to combine all of these disparate studies into a single meta-analysis, and so present the overall review of effectiveness in the form of a forest plot of standardised effect sizes for the five eligible studies that use unique data.

We used the IDCG Risk of Bias tool to assess study quality across eight key dimensions. In general, the studies reported insufficient information to answer the questions on this tool with any great degree of confidence. We assessed the study quality as high in one instance, low in one, and medium in the remaining studies (see Table 6 and Appendix 9 for detail). Whilst we did not consider that any of the studies were sufficiently low quality to warrant exclusion from the analysis, we advise caution around the interpretations of the authors' assessment of effectiveness. The risk of bias is particularly high in the study by Concha-Eastman, as there is no control group against which to compare the change in homicide rates in the city of Bogota. We note that Ruprah (2008) used matched control municipalities, Alves & Arias (2012) used the non-treated areas in the city as an unmatched control group, Concha-Eastman (2005) used no control group, Khruakham (2011) used a long time series ARIMA model across multiple regions, and Villaveces et al. (2000) used a random assignment of days to the intervention to create a temporal rather than a spatial control group.

Table 6. Study Characteristics

Study	Country	Intervention	Method of data collection	Method of analysis	Quality assessment
Alves & Arias (2012)	Brazil	<u>Fica Vivo</u> : a community policing programme with a two tiered structure combing a social and police response to crime.	Police administrative data.	Analysed homicide rates in programme areas compared with overall homicide rates in the city.	Medium quality. Would benefit from a longer timeframe and matched control groups. The study did not conduct an impact evaluation but presented sufficient data to allow effect size calculations
Ruprah (2008)	Chile	<u>Safer Commune</u> : a community oriented policing programme which involves the creation of Citizen Security Committees.	Police administrative data.	Used propensity score matching and double differences.	Medium quality. Propensity score matching improves the control group, but insufficient information for replication. Required approximation of standard errors.
Concha-Eastman (2005)	Colombia	<u>Listening communities</u> : were set up with police and regular meetings were conducted. <u>Crime observatories</u> : seek to provide information on the characteristics and demographics of various crimes in an attempt to create evidence-based policy and increase police accountability.	Administrative data.	Reported homicide rates over time.	Low quality. Pre-post design without control group but over 12 years – sufficient to warrant inclusion.
Khruakham (2011)	Thailand	<u>2001 Drug Policy</u> : involved an aggressive police crackdown on drugs.	Administrative data	Used an interrupted time series analysis across ten regions to allow for regional variation in outcomes.	Medium quality. ARIMA models of 10 regions across 14 year period measured at monthly intervals.
Villaveces et al. (2000)	Colombia	<u>Police enforced ban</u> : a firearm ban on certain high risk days including weekends after payday, on holidays and on election days.	Police administrative data.	Interrupted time series analysis. Homicide rates during intervention days were compared with rates during similar days without the intervention.	High quality. The intermittent enforcement makes a natural randomised allocation. Explicit methodology with numerous controls.

5.3. Overview of impact evaluations

5.3.1. Community-oriented policing and crime observatories

The systematic review identified studies that evaluated three community-oriented policing interventions: the Fica Vivo programme in Brazil (Alves & Arias, 2012), the Safer Commune programme in Chile (Ruprah, 2008), and the Building Citizenship Culture programme in Colombia (Concha-Eastman, 2005). Each of these programs aimed to reduce levels of interpersonal violence using multiple strategies including community-oriented policing and community consultation. As the programs also included one or more element of social assistance, situational crime prevention, legislative change, or citizen education, we have examined the effectiveness of each programme separately and not combined the results into one overall meta-analysis of effectiveness.

Each of the three studies evaluated the impact on rates of violent crime, primarily homicide. Overall, the effect sizes show that there is no significant decrease in violent crime due to either the Fica Vivo or Safer Commune programs. Although the Building Citizenship Culture programme does show a significant decrease in homicide, this study did not use a comparison group to demonstrate that the decrease was above that which would have occurred in the absence of the intervention. We therefore urge caution when considering the effectiveness of the Building Citizenship Culture program. We discuss each programme in more detail below.

Alves, M.C. & Arias, E.D. (2012). Understanding the Fica Vivo programme: two-tiered community policing in Belo Horizonte, Brazil.

The Fica Vivo programme was implemented in the state of Minas, Brazil, in an attempt to reduce the high rates of homicide, particularly among young people. Based on the success of Operation Ceasefire in Boston, USA, the Fica Vivo programme built a targeted, community-oriented policing intervention which also provided social assistance to reduce the dependence of young people on criminal groups.

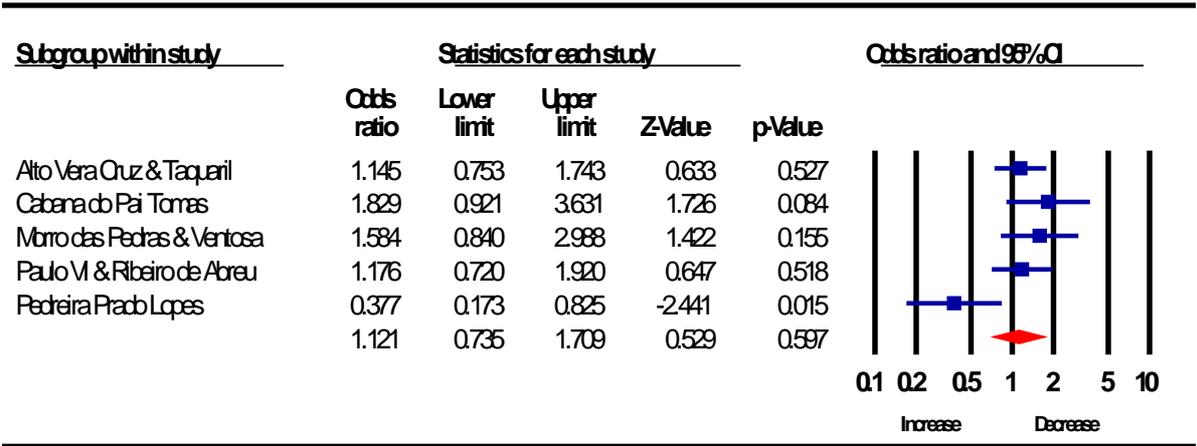
Three other studies report on this intervention using the same data source (Matta & Andrade, 2005; Peixoto et al., 2008, 2009). Matta and Andrede (2005) conducted difference in difference model comparing the pilot location (Morro das Pedras) to the rest of the city and found a statistically significant reduction in crime of 2.7% during the 2000–2004 period. Peixoto and colleagues (2008, 2009) conducted a propensity-score matching difference in difference model over the years 2000–2006 and found mixed results across locations, with some locations showing an increase in homicide (albeit at a slower rate than prior to the intervention), whilst other locations showed a decrease in homicide following the intervention. As the study by Alves & Arias (2012) used the longest time series of post-implementation data (2001–2007), this study was used in the review of effectiveness in preference to the other three studies.

Alves and Arias (2012) reported on seven years of homicides between 2001 and 2007 inclusive, across five target locations. The rest of the city of Belo Horizonte was used as the comparison group. Locations implemented the intervention in either 2002, 2004 or 2005. Effect sizes for four of the five locations were positive (which indicates a relative decrease in the odds of homicide after the intervention), but the effect was only statistically

significant in the Pedreira Prado Lopes site where there was a significant negative effect size, indicating an increase in homicide after the intervention.

The effect sizes for each region and the summary effect size from a random effects meta-analysis with inverse variance weighting are shown in Figure 3. There is significant heterogeneity in the effect sizes across the five intervention sites ($Q_{(4)}=10.537$; $p=0.032$). There is one region (Pedreira Prado Lopes) that shows a significant increase in homicide of approximately 62 per cent following the intervention (Odds ratio=0.377; 95% CI=0.173–0.825). In contrast, each of the other four intervention sites show positive effect sizes, which indicates a reduction in homicide in comparison to the rest of the city; however, the 95 per cent confidence intervals are wide and include 1, where an odds ratio of 1 is interpreted as no effect of the intervention, and we therefore argue that this study does not provide empirical evidence of a reduction in homicide due to the intervention at these four sites. The overall effect of the intervention across the five sites is positive but again the 95 per cent confidence intervals include a null effect (Odds ratio=1.121; 95% CI=0.735–1.709). We therefore conclude that whilst there is significant variation in the effects of the Fica Vivo programme across the intervention sites, when the effect is synthesised across the five sites the intervention does not show a statistically significant effect on homicide.

Figure 3: Random effects meta-analysis of the impact of Fica Vivo programme on homicide in Brazil (Alves & Arias, 2012)



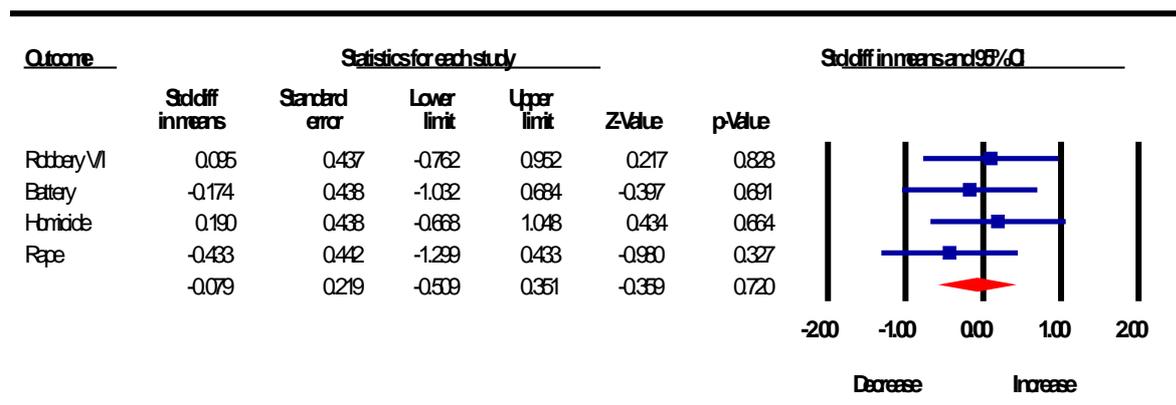
Ruprah, I. J. (2008). An impact evaluation of a neighbourhood crime prevention program: Does Safer Commune make Chileans safer?

The Safer Commune programme was primarily a situational crime prevention program, implemented in 2001 in Chile. The aimed to strengthen local capacity for crime prevention, and included the implementation of government and police community consultation and participation.

Using a propensity-score matching difference-in-difference methodology, the study compared the difference between rates of homicide, rape, and robbery with violence or intimidation between the 10 treatment municipalities and the 11 comparison municipalities. The effect sizes for each of the four outcomes are shown in the forest plot in Figure 4. Although two outcomes show a decrease in crime and two show an increase, none of these effect sizes are significantly different from the null effect and there is no significant heterogeneity amongst the outcomes ($Q_{(3)}=1.224$; $p=0.747$). There is no significant difference between the matched treatment and control groups on any of the four outcomes,

and the summary effect size in the random effects model is also not significantly different from zero ($d=-0.079$; 95% CI=-0.509–0.351). We recognise that the calculation of the variance of d using the sample size and d may have resulted in increased standard errors (see Appendix 8 for details of calculations), as the study author reported that the reduction in battery of 27% was statistically significant, although the changes in homicide, rape and robbery with violence or intimidation were not significant. Even with an inflated standard error of the effect sizes due to the conversion, it is extremely unlikely that the overall impact of the programme across the four violent crime measures would be significantly different from zero.

Figure 4: Random effects meta-analysis of the impact of the Safer Commune programme on violent crimes in Chile (Ruprah, 2008)

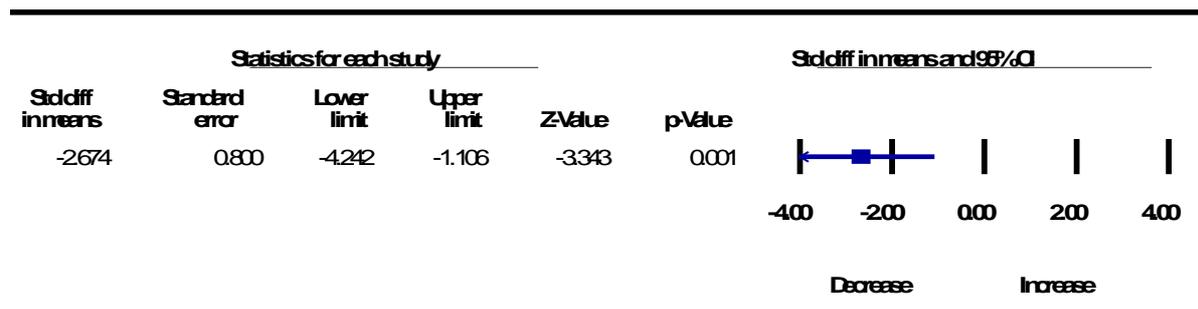


Concha-Eastman, A. (2005). Ten year of a successful violence reduction program in Bogota, Colombia.

The Building Citizenship Culture initiative in Bogota, Columbia was a multisectorial intervention launched in 1995. The intervention implemented a combination of community policing, crime observatories, legislative changes, and citizen education to improve citizen security and prevent violence.

The study reported a time series of annual homicide rates for Bogota with no control group. The effect of the intervention is shown graphically in the forest plot in Figure 5. There is a large and statistically significant reduction in homicide ($d=-2.674$; 95% CI=-4.242 – -1.106); however, a considerable risk of bias in this study is that the data only covered a small time-series and had no control group or control variables to demonstrate the counterfactual.

Figure 5: Impact of Building Citizenship Culture on homicide in Bogota (Concha-Eastman, 2005)



5.3.2. Police enforced bans and crackdowns

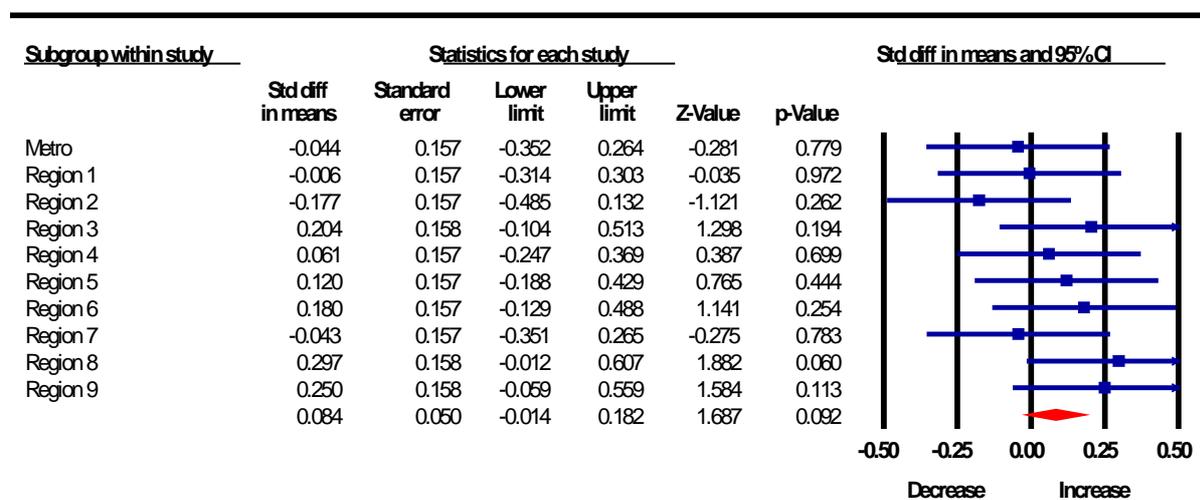
Khruakham, S. (2011). Assessing the effectiveness of the 2001 drug policy and drug enforcement in Thailand: A time-series analysis of police data

This study analysed the impact of a drug crackdown by Thai police on a number of crime types, including violent crime. The intervention was a police crackdown on illicit drugs in order to address high crime rates, with new drug laws expanding police powers of arrest, search and seizure of illegal substances (Khruakham, 2011).

The study used a time-series of 14 years of monthly violent crime data from 1995 to 2008 for ten regions, with no control group. There were 100 months classified as pre-intervention and 68 months classified as post-intervention. The study reports ARIMA models including the regression coefficient of the dummy intervention variable Drug Policy. Limitations identified by the authors of the study are the lack of controls for extraneous variables that might also impact on crime, and the lack of data on police activity.

The forest plot in Figure 6 shows the visual representation of the effect sizes and a random effects summary of the effects across the 10 locations. Neither the regional nor the overall effect sizes demonstrate a change in violent crime due to the crackdown on illicit drugs ($d=0.084$; 95% CI=-0.014–0.182), and there is no significant heterogeneity between intervention sites ($Q_{(9)}=8.339$; $p=0.500$).

Figure 6: Random effects meta-analysis of the impact of police drug crackdown on violent crimes in Thailand (Khruakham, 2011)



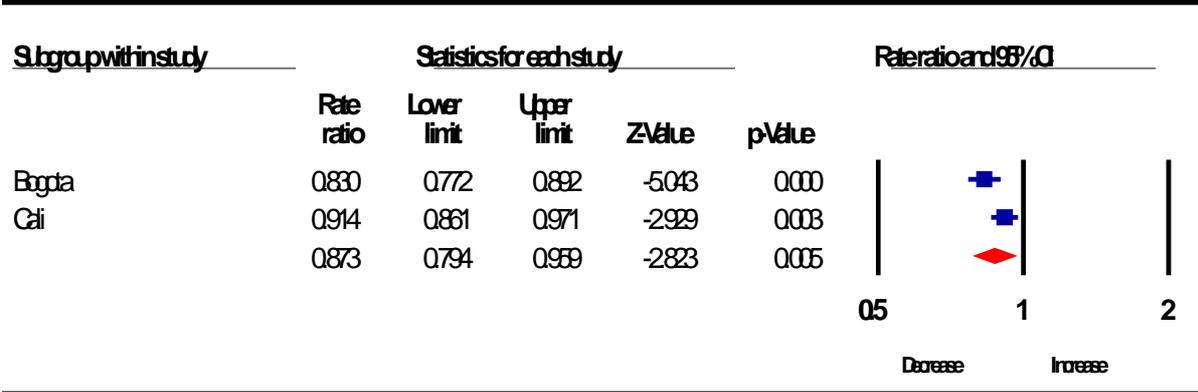
Villaveces, A., Cummings, P., Espitia, V. E., Koepsell, T. D., McKight, B., Kellermann, A. L. (2000). Effect of a ban on carrying firearms on homicide rates in two Colombian cities.

This paper used an interrupted time-series design to examine the impact of police enforcement of a ban on carrying firearms in Cali and Bogota, Colombia. During the intervention, police used discretionary searches of persons, implemented checkpoints throughout the cities and conducted weapons searches during traffic stops. Legally acquired firearms were temporarily detained and the individual was fined; illegally obtained firearms were permanently confiscated and the individual was arrested.

The ban was designed to occur on weekdays after a payday, on holidays and on election days as these times have a higher rate of homicide; however the intervention was only applied sporadically in these times, making the study a natural experiment with randomisation between treatment and control periods. The intervention occurred in Cali from the beginning of 1993 through to the end of 1994, and in Bogota from the beginning of 1995 through to August 1997. Weekly counts of homicides were gathered by an injury surveillance system. A standardised homicide rate was calculated and a regression model controlled for weekend periods, holidays, paydays, 6-hour periods within each week, month of year, and overall trend in homicides.

The effect of the firearms ban is shown graphically in the forest plot in Figure 7. In both Cali and Bogota, there was a statistically significant reduction in homicide during the intervention periods compared to the non-intervention periods (Risk ratio=0.973; 95% CI=0.794–0.959). There is significant heterogeneity between the two sites ($Q_{(1)}=4.027$; $p=0.045$), with the reduction in homicide being considerably stronger in Bogota than in Cali.

Figure 7: Random effects meta-analysis of the impact of the firearms ban on homicide in two Colombian cities (Villaveces et al., 2000)



5.4. Summary

This systematic review has identified only a very small number of impact evaluations of policing interventions that aim to reduce interpersonal violent crime in developing countries. Assessment of the risk of bias indicates that one study is of high quality (Villaveces et al., 2000), three are medium quality (Alves & Arias, 2012; Khruakham, 2011; Ruprah, 2008) and one is low quality (Concha-Eastman, 2005).

We present a summary of findings across all studies in Table 7, below. Of the five interventions that have been empirically evaluated, only two show evidence of reducing violent crime: the firearms ban in Colombia (Villaveces et al., 2000) and the Building Citizenship Culture programme in Colombia (Concha-Eastman, 2005). Neither the Fica Vivo programme in Brazil, the Safer Commune programme in Chile, or the drug crackdown in Thailand show an overall effect on violent crime, and indeed, we urge caution in interpreting the effectiveness of the Building Citizenship Culture programme due to methodological concerns.

Table 7: Study Characteristics

Study	Country	Intervention	Method of data collection	Overall effect size	Findings
Alves & Arias (2012)	Brazil	<u>Fica Vivo</u> : a community policing programme with a two tiered structure combing a social and police response to crime.	Police administrative data.	Odds ratio=1.121 95% CI=0.735–1.709	Significant variation in the effects of the Fica Vivo programme across the intervention sites: one site shows significant reduction in homicide; remaining 4 sites show no significant effect. No statistically significant overall effect on homicide.
Ruprah (2008)	Chile	<u>Safer Commune</u> : a community oriented policing programme which involves the creation of Citizen Security Committees.	Police administrative data.	d=-0.079 95% CI=-0.509–0.351	No significant difference between the matched treatment and control groups on any of the four outcomes (battery, homicide, rape, robbery). Overall effect size is not significantly different from zero.
Concha-Eastman (2005)	Colombia	<u>Listening communities</u> : were set up with police and regular meetings were conducted. <u>Crime observatories</u> : seek to provide information on the characteristics and demographics of various crimes in an attempt to create evidence-based policy and increase police accountability.	Administrative data.	d=-2.674 95% CI=-4.242 – -1.106	Large and statistically significant reduction in homicide after the intervention, but high risk of bias due to lack of control group or control variables.
Khruakham (2011)	Thailand	<u>2001 Drug Policy</u> : involved an aggressive police crackdown on drugs.	Administrative data	d=0.084 95% CI=-0.014–0.182	Neither the regional nor the overall effect sizes demonstrate a change in violent crime due to the crackdown on illicit drugs.
Villaveces et al. (2000)	Colombia	<u>Police enforced ban</u> : a firearm ban on certain high risk days including weekends after paydays, on holidays and on election days.	Police administrative data.	Risk ratio=0.973 95% CI=0.794–0.959	Statistically significant reduction in homicide in the intervention periods compared to the non-intervention periods.

6. Review of reasons for success or failure

6.1. Search results

In our systematic search, a total of 2765 documents were identified as potentially eligible. After abstracts were screened, the full texts of 207 studies were screened for eligibility. There were 54 documents that met eligibility criteria, 22 of which were excluded as descriptive reviews, leaving 32 documents eligible for the review of reasons for the success or failure of intervention implementation. These 32 documents report 37 process or impact evaluations of policing interventions.

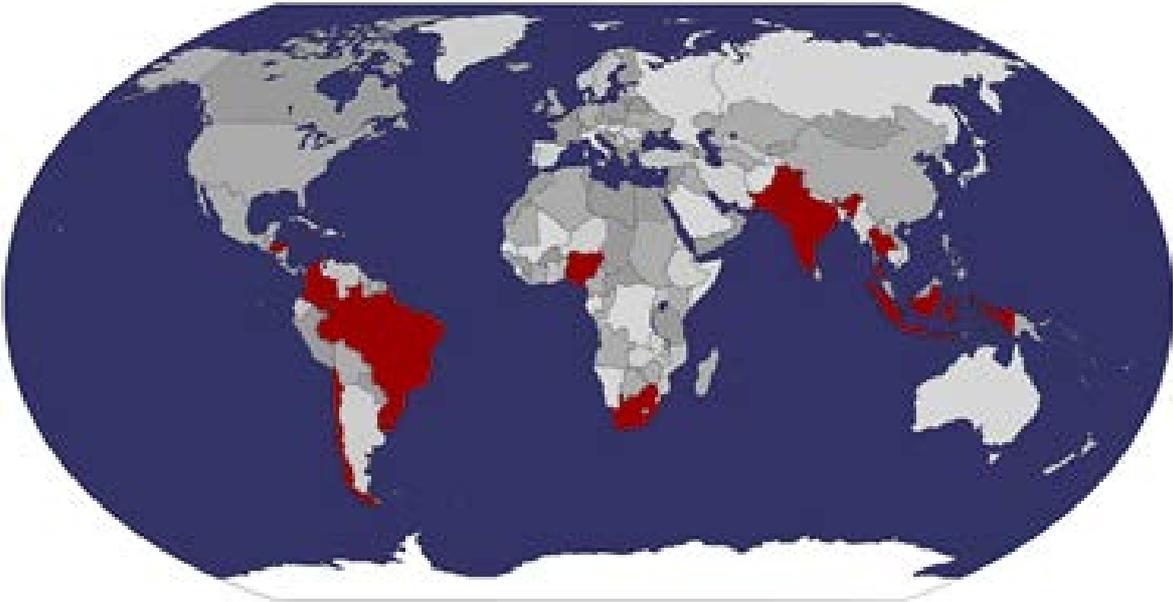
The included studies speak to our second objective by considering the reasons for the success or failure of policing interventions that address violent crime in developing countries. This section discusses the characteristics of the included studies, provides a descriptive analysis of the interventions evaluated and offers a thematic analysis for the reasons surrounding implementation success or failure.

6.2. Study characteristics

The basic characteristics of the studies included in the narrative review are presented in Tables 7-13. Studies captured in the systematic search cover three key regions (Latin America, Asia and Africa) and 13 developing countries (Brazil, Colombia, Chile, Honduras, Guatemala, Uruguay, Jamaica, South Africa, Nigeria, India, Indonesia, Thailand and Pakistan). Figure 8 shows the countries where the interventions were conducted. It is clear from this mapping that the studies identified do not represent all developing countries, and that this meta-bias, along with small number of studies, will limit the generalisability of the systematic review results.

While the included studies evaluate a diverse range of policing interventions targeting interpersonal violence, all address issues surrounding implementation success or failure. Each of the 37 interventions identified in the 32 documents fall under seven broad categories: gender-based interventions (n=7); policing partnerships (n=4); training and education strategies (n=6); police enforced bans and crackdowns (n=3); community-oriented policing interventions (n=13); visible policing and increased police contact (n=2); and crime observatories (n=2). Figures 9 and 10 map the interventions to the studies reporting on them, by intervention type and region. Some documents reported on more than one intervention and some interventions are reported in more than one document, with two documents reporting on the same intervention using the same data and analysis (Peixoto et al., 2008a, 2009)

Figure 8: Countries where the eligible interventions were conducted.



The included studies differ significantly in terms of quality. A full quality appraisal for each study is provided in Appendices 7 and 9. Qualitative evaluations were assessed using the Critical Appraisal Skills Program (CASP). Quantitative studies that were also included in the effectiveness review were evaluated using the risk of bias tool. Several quantitative studies based on descriptive data failed to meet the criteria for the effectiveness review but did provide a process evaluation of the intervention implementation. Due to the limitations of these studies (recognised by their exclusion from the effectiveness review) utilising the risk of bias assessment tool was not appropriate. Instead, the CASP checklist was adapted to determine the quality of these studies. Summaries of the quality assessment results are provided in Tables 7-13. Overall the quality assessment highlights significant weaknesses in analytic rigour across many of the included studies.

For the qualitative and descriptive quantitative evaluations, all studies provided clear research aims and information on the intervention context. While the majority of studies provide details on the data source or information on how the data was collected, only a handful offered a clear explanation of the method of analysis. Limited studies explicitly acknowledged any potential ethical considerations or conflicts of interest. Yet all of these studies offered a clear statement of findings adding valuable insight to current knowledge on policing interventions in developing countries.

Figure 9: Interventions mapped to studies, by intervention type and region – Africa & Asia

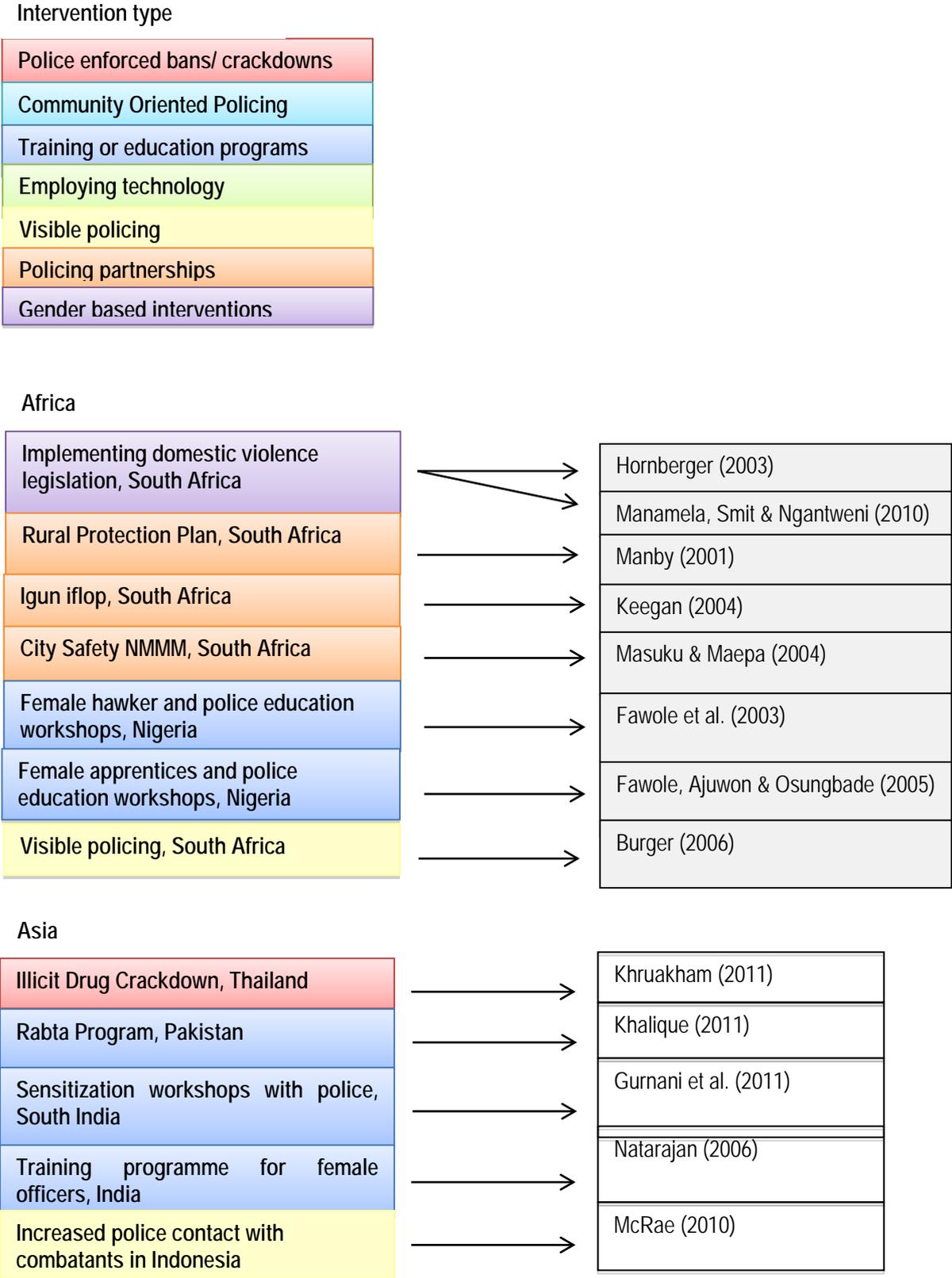
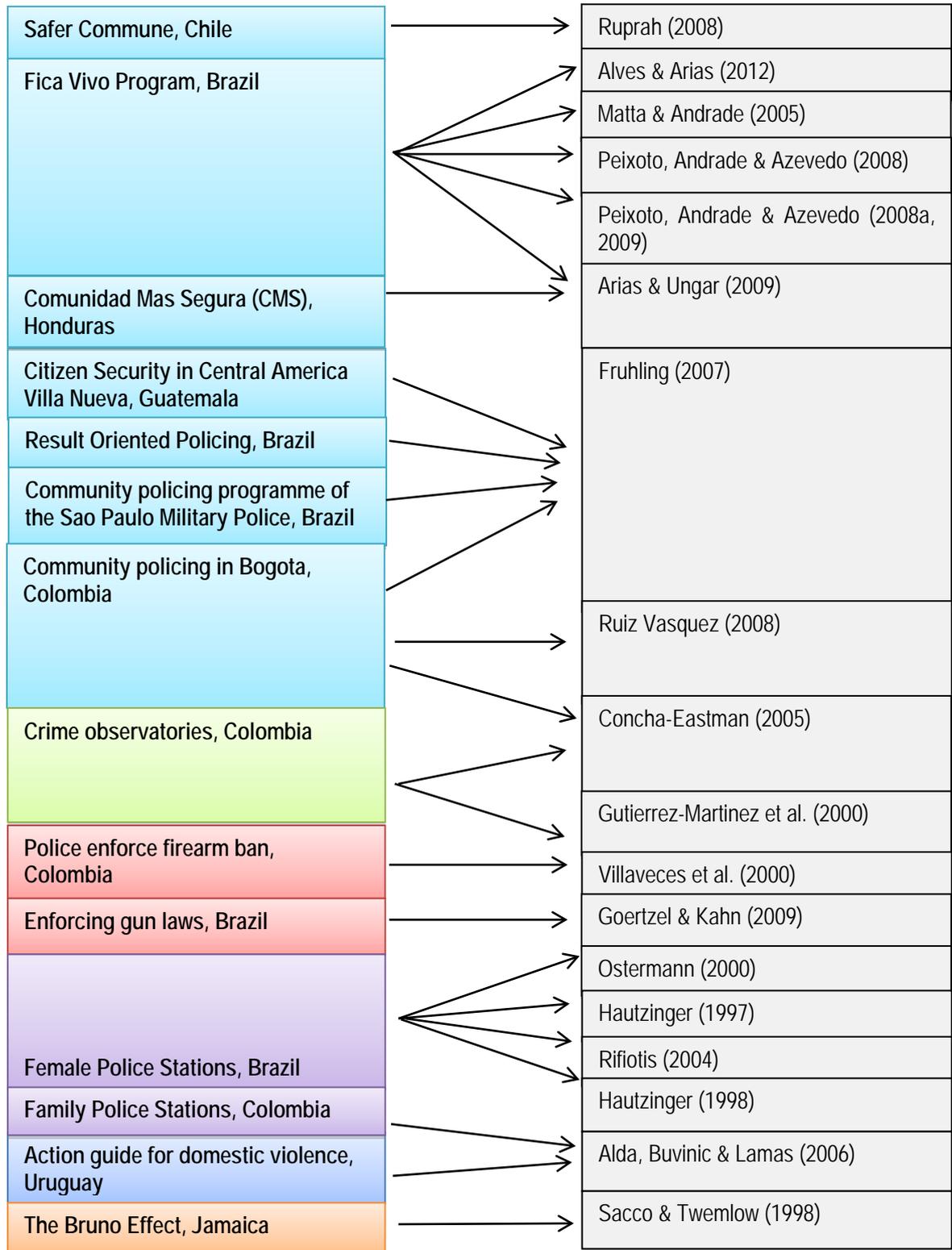


Figure 10: Interventions mapped to studies, by intervention type and region – Latin America

Latin America



6.3. Descriptive analysis

Policing interventions in developing countries involve a comprehensive range of strategies aimed at reducing the occurrence of interpersonal violence. Specialised police stations operate across many developing countries with the aim to increase access to the criminal justice system and provide suitable support for female victims of violence. The introduction of stronger legislation criminalising domestic violence provides police with a practical guide for responding to violence against women. Partnership policing through the collaboration of multiple agencies is another popular strategy in working to prevent violence. Partnership policing harnesses the knowledge, skills, resources and experience from a multitude of agencies to develop and uphold complex initiatives. An effective policing partnership can empower stakeholders to actively participate in violence reduction efforts while also improving the relationship between the police and community.

Education and training programs aim to enhance the professional abilities of police services and develop police sensitivity towards female victims of violence. Police enforced bans which reduce access to weapons can in turn reduce violence. Community-oriented policing aims to build a cooperative relationship between the police and the community and increase police accountability. Ideally, community-oriented policing programmes should focus on involving community members in the formulation and implementation in crime reduction strategies. Even simply increasing police presence in the community is believed to act as a deterrent for violent offenders. While all these approaches have merits, the literature indicates that implementation problems and lack of oversight frequently undermines these efforts in many developing countries.

6.3.1. Gender-based interventions: Increasing female access to the criminal justice system

Unequal access to police services by women and high levels of interpersonal violence against women has led to the prioritisation of gender issues within the policing agenda. Indeed seven studies identified in the systematic search discuss the effectiveness of policing interventions designed to improve female contact with the criminal justice system. Gender based interventions such as the establishment of specialised female police stations/units and the implementation of domestic violence legislation represent an attempt by policing agencies to address the unique security concerns of women in developing areas. The characteristics of these studies are summarised in Table 8.

Delacia de Protecção a Mulher (DPMs), Brazil

First introduced in Brazil in 1985, Delacia de Protecção á Mulher (DPMs) or Police Stations for the Protection of Women were established in an effort to reduce the male bias amongst police which created a barrier to reporting for female victims of violence. Ostermann (2000) suggests male officers often downplay the seriousness of domestic violence complaints and frequently blame or harass victims. Specialised female stations are run by women, for women and are based on the assumption that female officers are better equipped to appropriately deal with issues of domestic violence (Ostermann, 2000; Hautzinger, 1998).

Table 8: Characteristics of studies of gender-based interventions

Study	Country	Intervention	Method of data collection	Method of analysis	Quality assessment
Alda, Buvinic & Lamas (2006)	Colombia	<u>Family police stations</u> : offers social support services to female victims of violence and mediation conciliation agreements.	While the Inter-American Development Bank collects pre and post intervention data, details on data collection for this intervention are not clear.	Method of analysis is unclear.	Low quality. Lacks sufficient detail on methodology and analysis.
Hautzinger (1997)	Brazil	<u>DPMS</u> : specialised female police stations run by women for the protection of female victims of violence.	Observation, questionnaire and interviews with police women.	Methods of analysis were not clearly explained.	Medium quality. Provides qualitative insight with clear research aims and suitable data collection methods however there is ambiguity surrounding the method of analysis.
Hautzinger (1998)	Brazil	<u>DPMS</u> : see Hautzinger (1997)	Participant observation, survey, interviews and focus groups.	Analysis methods were not stated.	Medium quality. Appropriate research methodology yet lacks adequate detail on methods of analysis.
Hornberger (2003)	South Africa	<u>Implementation of domestic violence legislation</u> : the SAPS were responsible for implementing new domestic violence legislation.	Ethnography of a police station focusing on police reactions to victims.	Method of analysis is not clear.	Low quality. Fails to provide information on research methodology compromising the overall quality of the study.
Manamela, Smit & Ngantweni (2010)	South Africa	<u>Implementation of domestic violence legislation</u> : see Hornberger (2003)	Mixed methods including a literature review, a survey questionnaire, interviews	Methods of analysis were not discussed.	Medium quality. While there is sufficient information provided on data collection methods, this study lacks analytic rigour.
Ostermann (2000)	Brazil	<u>DPM</u> : see Hautzinger (1997)	Ethnography in a DPM.	Discursive analysis of the linguistic data.	High quality. This study supplies adequate information on data collection methods and also explicitly states the method of analysis.
Rifiotis (2004)	Colombia	<u>DPM</u> : see Hautzinger (1997)	Re-reading of ethnographic research conducted in a DPM.	Method of analysis is not clearly stated.	Low quality. The research aims of this study are clear however detail surrounding data collection and analysis are not.

Using a comprehensive range of evaluation methods including observation, questionnaires and interviews in one DPM in Salvador, Hautzinger (1997) questions the assumptions about femininity used to create the specialised station. Hautzinger (1997) found that the only requirements to work at the DPM under observation were (1) to be female and (2) to have completed general police training. In fact, the extent of specialised training for the majority of officers working in the DPM was a single, afternoon-long, training session. Hautzinger (1997) believes that this lack of training has led to female officers blaming female victims for their abuse. Further, Hautzinger (1997) argues that the establishment of DPMs has increased feelings of exclusion and discrimination amongst female police.

Drawing on ethnographic research, Hautzinger (1998) claims the institution of female police stations in Brazil has successfully increased public awareness of domestic violence, improved prosecution and reshaped public attitudes towards violence against women. Despite these successes, policewomen in specialised stations frequently perpetuate the same insensitivity to domestic violence victims as their male colleagues (Hautzinger, 1998). Hautzinger (1998) noted that the female officers are 'traumatized and desensitized by hearing one *audiencia* account of violence and abuse after another and as a result, they may feel impotent to effectively intervene, punish or prevent offenses' (p.116). Hautzinger (1998) also highlights issues with limited financial and human resources within the DPM causing many female officers to feel overwhelmed by the workload.

By analysing the discursive practices of policewomen, Ostermann (2000) found that rather than identifying and sympathising with female victims of violence, policewomen often attempt to distance and distinguish themselves from victims. By observing the on-going police practices in the Women's Police Department of Joao Pessoa, Rifiotis (2004) similarly found the female officers to be judgmental and critical of female victims of violence. Both Hautzinger (1998) and Ostermann (2000) blame the lack of specialised training and education available for the failure of these policewomen to meet the original expectations of DPMs in Brazil.

Family Stations, Colombia

In Colombia, specialised police stations referred to as 'family stations' also attempt to facilitate a better response by police to female victims of violence (Alda, Buvinic and Lamas, 2006). Funded by the Inter-American Development Bank (IDB), these stations are staffed by a range of specialists who supply a multitude of services to victims including medical screening, psychological counselling and legal aid in addition to regular police services (Alda et al., 2006). These specialised family stations not only offer greater victim support but also reduce the workload of the courts through the use of mediated conciliation agreements (Alda et al., 2006). Alda and colleagues (2006) argue that family police stations are rated by victims as the most helpful public sector institution in addressing cases of domestic violence. Despite this, they also stress some weaknesses in the program, particularly when it comes to mediating cases of physical aggression against women (Alda et al., 2006). According to Alda and colleagues (2006), mediation conciliation agreements often fail to prevent further and at times more intense violence as they lack of an enforcement component. Further strengthening these agreements is therefore crucial to ensure the family police stations effectively reduce violence perpetrated against women.

Implementing the Domestic Violence Act, South Africa

In South Africa, the introduction of the Domestic Violence Act, 116, 1998 and the Domestic Violence National Instruction, 7 of 1999 aimed to increase access to the criminal justice system for domestic violence victims (Hornberger, 2003; Manamela, Smit and Ngantweni, 2010). In particular, the National Instruction aimed to guide the conduct of police and change attitudes about the appropriate policing of domestic violence (Hornberger et al. 2003; Manamela et al., 2010). Yet despite these commendable goals, both Manamela and colleagues (2010) and Hornberger and colleagues (2003) cite concerns about South African police effectively translating this policy into practice.

Drawing on a case study of one South African police station, Manamela and colleagues (2010) argue that while the majority of police support the new domestic violence legislation, there is no efficient multiagency approach to implementation. By analysing interview transcripts and survey results, Manamela and colleagues (2010) claim that a lack of training and development opportunities for police ultimately impedes the success of the new legislation (Manamela et al., 2010).

Hornberger's (2003) ethnographic research suggests the implementation of this new legislation has led to increased negative perceptions of domestic violence victims amongst police in South Africa. According to Hornberger (2003) police strongly resent domestic violence victims who file a complaint against their partner as they are perceived to add extra work to their already full workload. Further, victims who wish to withdraw their complaint are treated with such vehement abuse that they frequently experience secondary victimisation by police. Hornberger (2003) also found that police in Sophiatown strongly reject the idea that their role in domestic violence cases can go beyond arresting the offender, with officers frequently stressing the difference between the duties of the police and those of the social worker.

Summary

From the literature identified in this review, it is clear that gender-based interventions facilitate better access to support services for female victims of violence (Alda et al., Hautzinger, 1997; 1998). While these interventions attempt to reduce misogynistic and chauvinistic attitudes held by police, in practice, insufficient training has led to the continued perpetration of insensitivity towards domestic violence victims (Hautzinger, 1997; Hautzinger, 1998; Hornberger, 2003; Ostermann 2000; Rifiotis; 2004). Addressing gaps in officer education and training is therefore critical to ensure more widespread success for these interventions in the future.

6.3.2. Policing Partnerships

Many developing countries have embraced partnerships between police, private industries and government agencies. These partnerships establish a mutually beneficial relationship whereby all parties cooperate to achieve a commonly held goal by sharing intelligence and data. Masuku and Maepa (2004) however argue that while policing partnerships are appealing in theory, various issues prevent key parties from working together harmoniously. Thus in reality, issues with implementation and long term oversight can hinder the success of policing partnerships in developing countries. Four studies identified in the systematic search consider the reasons for the success or failure of policing partnerships. Table 9 provides further details on these studies.

Table 9: Characteristics of studies of policing partnership interventions

Study	Country	Intervention	Method of data collection	Method of analysis	Quality assessment
Keegan (2004)	South Africa	<u>Igun iflop</u> : aimed to declare schools gun free zones.	Pre and post intervention surveys with school students.	Methods of analysis were not explicitly stated.	Low quality. This evaluation collected pre and post intervention data however did not include information on how this data was analysed.
Manby (2001)	South Africa	<u>Rural protection plan</u> : Discussed the rural protection plan, a coordinated effort between the SAPS, SANDF and farmers to combat violence on rural farms.	Used interviews with police and farmers conducted by the Human Rights Watch researchers from the Africa and Women's Rights Division in South Africa.	Method of analysing interview transcripts was unclear.	Medium quality. This study did not provide details on the recruitment strategy or methods of analysis. Further details on how the interview material was analysed would have improved the quality of the study.
Masuku & Maepa (2004)	South Africa	<u>Policing partnership</u> : between the SAPS and the local metro officials in the NMMM.	Interviews with SAPS officers	The authors did not provide detail on their method of analysis.	Low quality. This study offered limited information on the research design and recruitment strategy and lacked detail on the analysis of the interview data.
Sacco & Twemlow (1997)	Jamaica	<u>The Bruno Effect</u> : a Jamaican police officer was assigned to a highly violent school to deal with violence problem.	Unclear on data source.	Unclear on methods of analysis.	Low quality. The quality of this study could have been improved if it had included more detail on the methodology.

City Safety NMMM, South Africa

In South Africa, municipalities are encouraged to develop and coordinate crime prevention initiatives in partnership with the SAPS, other government departments, the private sector and non-governmental organisations (Masuku & Maepa, 2004). In the Nelson Mandela Metro Municipality (NMMM), the introduction of new legislation allows local governments to establish their own municipal police services (Masuku & Maepa, 2004). Through interviews with SAPS officers, Masuku and Maepa (2004) found that while these officers demonstrate a willingness to work collaboratively, they hold largely negative perceptions of the municipality and the metro officials. Specifically, SAPS officers felt that the municipality could do more to create a safer environment which in turn would increase police effectiveness. Masuku and Maepa (2004) claim that a lack of communication between the SAPs and metro officials prevents effective collaboration.

Rural Protection Plan, South Africa

Also in South Africa, the Rural Protection Plan involves a collaborative partnership between the SAPS, South African National Defence Force (SANDF) and farmers under a comprehensive strategy designed to target violent crime in commercial farming areas (Manby, 2001). The effectiveness of this initiative relies on the regular police patrols of commercial farms to prevent violence and deter potential offenders (Manby 2001). Due to resource constraints, police are unable to conduct regular patrols. In fact, a mere 72 officers are responsible for policing approximately 45,000 people at the Levubu station in the Northern Province (Manby, 2001). Interviews with police confirm that this understaffing and shortage of police vehicles is to blame for the infrequency of police patrols (Manby, 2001).

Interviews with farmers reveal this failure of police to conduct regular patrols has led to many viewing the initiative as largely ineffective (Manby, 2001). Further Manby (2001) claims the plan has inadvertently increased insecurity for black residents and black visitors to commercial farming areas who have inadvertently become the targets of racially stereotyped anti-crime initiatives. Thus the Rural Protection Plan has essentially failed to address the violent crime victimization of black farm residents, particularly in cases when the crime is committed by white farm owners.

Igun iflop, South Africa

The authors of this study argue that by building partnerships with key stakeholders, police are able to challenge deeply rooted gun cultures, encourage youth to turn away from gun usage and ultimately create a safer schooling environment (Keegan, 2004). The Igun iflop intervention led by Gun Free South Africa (GFSA) in collaboration with the SAPS is a prime example of a well-implemented policing partnership in practice. Under the Firearms Control Act of 60 of 2000, the initiative aimed to declare 27 schools across South Africa as gun free zones (Keegan, 2004). The intervention comprised multiple stages designed to meet the specific needs of each schooling community. In the initial stages, discussions were held with relevant stakeholders including school governing bodies, students, teachers and non-teaching staff as well as police and neighbourhood watch groups (Keegan, 2004). Primarily these discussions highlighted the benefits of declaring the school a gun free zone and urged participants to support the initiative. Once the new school policy was drawn up by a panel of representatives from each party, the school formally applied to government to have the school declared a gun free zone. Following a successful result, the school adopted the policy and raised awareness of the new gun free zone throughout the community. To

ensure long term success, the final stages of the intervention involved continued implementation and maintenance of the policy (Keegan, 2004).

Rather than adopting a one-size-fits-all approach to dealing with school violence, the Igun iflop initiative encouraged each individual school to design a policy suitable for their own specific needs and challenges (Keegan, 2004). Prior to the project, surveys revealed only 53 per cent of school students supported the idea of gun free schools however by the end of the project, 70 per cent backed the policy. The majority of students reported feeling safer at school once the area was declared a gun free zone. Keegan (2004) argues this participatory model is highly effective as it ensures all key stakeholders understand and support the policy thus enabling successful implementation and long term impact.⁴

The Bruno Effect, Jamaica

In Jamaica, one particularly violent school experienced a large reduction in violence following the arrival of a police officer with specialised violence prevention skills (Sacco & Twemlow, 1997). Police previously assigned to the school assumed traditional patrol roles and dealt with around five incidents of violence per day with at least three involving a weapon (Sacco & Twemlow, 1997). The violence prevention initiative led by the newly appointed police officer involved both hard and soft approaches to crime reduction. Hard approaches to targeting the high levels of violence included enforcing discipline, confiscating firearms and patrolling the school to ensure class attendance. Soft approaches involved the organisation of recreational sports and the creation of a clubhouse for the students (Sacco & Twemlow, 1997). Further, the officer built strong networks throughout the school by selecting a core group of problem students to provide information on violence in the school.

While the study did not clearly report on its evaluation methods, Sacco and Twemlow (1997) believe this blended approach to violence reduction within this school resulted in fewer fights, increased class attendance and students reporting feeling safer at school. Yet they argue that the impact of this violence prevention programme was short lived (Sacco and Twemlow, 1997). Following the departure of the specialised police officer, school violence increased dramatically as the replacement officer lacked the necessary motivation to ensure the continued success of the program. Thus as the impact of this intervention relies largely on the effectiveness of the police officer deployed to the school, Sacco and Twemlow (1997) highlight the importance of not only assigning a suitable officer to administer the programme but the need to select an experienced team to guarantee the program's long term success.

⁴ Keegan (2004) specifically refers to the Igun iflop initiative as a policing partnership however it should be noted the intervention also contains elements of community policing.

Summary

Overall the literature identified in this review suggests mixed outcomes regarding the success or failure of policing partnerships in developing nations. Policing partnerships which do not outline the responsibilities of each party and lack communication between groups are more likely to fail. A well-articulated partnership with clearly defined and achievable goals is more likely to succeed. An ideal policing partnership empowers citizens to actively participate in violence reduction efforts and is flexible to meet community needs.

6.3.3. Training and education strategies

Education and training programs can strengthen the professional capabilities of the police and improve police sensitivity towards victims of violence. Six studies assessing the impact of training and education strategies on the occurrence of violent crime were located in the systematic search. Table 10 provides detail on the characteristics of these studies.

Action Guide for dealing with domestic violence, Uruguay

As part of an IDB intervention in Uruguay, police from each district received sensitivity training to ensure a better response to domestic violence cases. As part of this initiative, an 'action guide' for dealing with domestic violence incidents was developed and distributed to police stations across the country (Alda et al., 2006). From official police records, Alda and colleagues (2006) argue that this training in addition to a restored public confidence in the police led to an increase in the number of charges filed by more than 200 per cent between 1997 and 2000.

Rabta program, Pakistan

Administered in Pakistan, the Rabta programme seeks to improve the understanding of human rights and equality of women amongst police (Khalique, 2011). Specifically, Rabta focuses on enhancing the capacity of the police to adequately deal with issues of violence against women (Khalique, 2011). Early stages of the programme utilised the Attitudinal Change Model (ACM) to alter police attitudes towards violence against women. Further expanding the program, Rabta now involves a mentoring scheme. Here experienced officers mentor younger police in an effort to inspire affirmative action against domestic violence (Khalique, 2011). A comprehensive evaluation of this programme included in-depth interviews with treatment and control groups, surveys with trainees, focus group discussions and key informant interviews. From these evaluations, Khalique (2011) suggests the ACM model is successful in positively reshaping police attitudes towards violence against women. Khalique (2011) however argues that training programs like Rabta cannot sustain long term impact without follow up and refresher courses for police. Khalique (2011) also notes a disappointing lack of engagement with female police officers during the eleven years of the program's operation.

Table 10: Characteristics of studies of training and education interventions

Study	Country	Intervention	Method of data collection	Method of analysis	Quality assessment
Alda, Buvinic & Lamas (2006)	Uruguay	<u>Action guide</u> : developed for dealing with domestic violence incidents and distributed to police stations nationwide.	Official police records.	Unclear	Low quality. The main shortcoming of this study was a lack of information on data collection, recruitment strategy and research design as well as its failure to rigourously analyse the data.
Fawole, Ajuwon, Osungbade & Faweya (2003)	Nigeria	<u>Workshops</u> : provided education for female hawkers and sensitization training for police and other relevant stakeholder groups.	Baseline interviews were conducted with 345 hawkers and 374 hawkers were interviewed 12 months after the intervention.	Descriptive statistics and t tests.	Medium quality. Descriptive quantitative study. The research aims, recruitment strategy and data collection are appropriate. While the method of analysis is described, more rigorous methods could have been employed.
Fawole, Ajuwon & Osungbade (2005)	Nigeria	<u>Workshops</u> : education workshops for female apprentices and sensitization training for instructors of apprentices, police and judicial officers.	Baseline face to face interviews with 350 young women recruited from apprenticeship workshops. Follow up surveys were conducted with 203 apprentices five months after the intervention.	Descriptive statistics and t tests.	Medium quality. Descriptive quantitative study. The research aims, recruitment strategy and data collection are clear. The method of analysis is also stated however the data could have been analysed in a more rigorous way.
Gurnani et al. (2011)	South India	<u>Workshops</u> : conducted with officers to reduce police violence towards female sex workers	Police administrative data.	Method of analysis is not clear.	Low quality. While overall this study provided information on data collection and methods, there was limited evaluation information on the component of interest for this review.
Khalique (2011)	Pakistan	<u>Rabta program</u> : utilised the Attitudinal Change Model to alter police attitudes towards female victims of violence and also included a mentoring scheme.	In-depth interviews, sample survey, focus group discussions, key informant interviews.	Method of analysis not explicitly stated.	Medium quality. Mixed methods study. The methodology is appropriate for the research aims. This study would have been improved by including more information on data analysis. Without such information it is assumed that the data was not analysed in a methodologically robust way.
Natarajan (2006)	India	<u>Training program</u> : designed to help female officers better deal with domestic violence issues.	Interviews with female officer trainees and petitioners, observations of women officers, test scores and reviews of contact sheets.	The authors did not discuss their method of analysis.	Medium quality. However more information on how the data was analysed to draw the study conclusions would have further improved its quality.

Online classroom learning for dispute resolution techniques, India

In Tamil Nadu, India, another police training programme utilised online classroom learning to teach female officers dispute resolution techniques suitable for domestic violence cases. In particular, female officers were taught how to sympathetically yet objectively deal with female victims of violence (Natarajan, 2006). Natarajan's (2006) extensive evaluation of the programme involved interviews with female officers, victims and perpetrators, observations of female officers handling domestic violence cases as well as test results and reviews provided by university social work departments and the lawyers who delivered the training. Comparing pre- and post-intervention results, Natarajan (2006) found significant improvements amongst female officers in understanding and appropriately applying dispute resolution techniques to domestic violence situations. Natarajan (2006) attributes the success of the programme in part to its effective use of technology to administer the training.

Workshops to target violence against vulnerable women, Nigeria

Two similar yet distinct training programs undertaken in Nigeria were developed specifically to tackle violence against marginalised women (Fawole et al., 2003; Fawole et al., 2005). In a study of 467 hawkers, Orubuloye and colleagues (1993 as cited in Fawole et al., 2003) found that 90 per cent frequently experienced sexual harassment. Thus the first programme targeted violence perpetrated against young female hawkers trading in the two biggest motor parks in three Nigerian cities: Abcokuta, Ibadan and Osogbo. The second programme addressed the workplace violence experienced by young female apprentices where informal working arrangements create an environment conducive to sexual and economic exploitation (Fawole et al., 2005).

Both of these programs involved a series of workshops for the female hawkers and apprentices as well as other key stakeholders such as the police. A variety of topics were covered during the workshops with police including definitions of violence against women and its consequences, methods of HIV/AIDS transmission and prevention, police perspectives on violence and how both individuals and the police as a collective can prevent violence against women (Fawole et al., 2003; Fawole et al., 2005). Police officers were sensitised on the vulnerability of young girls and encouraged to take strong punitive actions against offenders (Fawole et al., 2003; Fawole et al., 2005). Baseline surveys were administered face to face with the primary target groups: the young female hawkers and the young female apprentices. By comparing initial results to the follow up survey, Fawole and colleagues (2003; 2005) suggest these training interventions reduced violence against these incredibly vulnerable women. Fawole and colleagues (2005) argue that the involvement of multiple agencies and stakeholders in the programme contributed towards its success.

Sensitisation workshops, South India

Gurnani and colleagues (2011) claim that the police themselves are often the perpetrators of violence against women. Therefore to confront police violence, an integrated approach designed to prevent HIV transmission amongst female sex workers included police sensitivity training (Gurnani et al., 2011). During workshops, police were informed that allegations of police harassment towards female sex workers would be taken seriously and strict disciplinary action would be taken against the offending officers (Gurnani et al., 2011). Female sex workers were also taken on tours around local police stations in a bid to foster

a better relationship between these stigmatised women and their local police. These tours also ensured female sex workers understood the process for police bookings and for filing complaints against offending officers. By August 2011, 13,500 police representing over 60 per cent of the police force, had received HIV/AIDS sensitization and awareness training. Official records reveal that a total of 4,600 rights violations against female sex workers by the police and other sources were reported between January 2007 and October 2009.

Summary

The literature suggests that training and education programs have experienced varying degrees of success by altering police attitudes, improving sensitivity towards victims, educating victims, taking a multiagency approach and employing technology. Success however may be short lived if programs do not include follow up and refresher courses to ensure long term impact.

6.3.4. Community-oriented policing interventions

As part of a broader attempt at democratization and government institution building, community-oriented policing was adopted as the primary operational strategy in several developing countries in response to dramatic upsurges in violent crime during the 1990s. Community-oriented policing seeks to increase police accountability, provide a channel for bilateral communication and build trust between the police and the community. A well designed community-oriented policing programme should empower community members to participate in crime reduction strategies and encourage cooperation with police. In the literature identified in this review, community-oriented policing is the most commonly cited intervention aimed at reducing violent crime in developing countries. Nine studies reporting on 13 community-oriented policing interventions were captured in the systematic search. Table 11 provides details on the study characteristics.

Fica Vivo program, Brazil

During the 1990s, the state of Minas Gerais, Brazil experienced an astonishing 446 per cent growth in homicide rates (Alves & Arias, 2012). Inspired by the American programme 'Ceasefire', The Fica Vivo programme began at a single pilot site in 2002 as an organised response to curb increasing violence (Alves a& Arias, 2012). Translated to mean 'Staying Alive', the community-oriented policing programme aims to reduce the high levels of homicides in Brazilian slums known as favelas (Peixoto et al., 2009). With over half of these homicides involving young people aged between 14 and 24 years, the programme specifically focuses on targeting the individual, family and community risk factors that increase the likelihood for youth to commit or be the victim of homicide (Matta & Andrade, 2005). Following the results of the pilot program, Fica Vivo was expanded to 19 other violent communities in Belo Horizonte and currently works with approximately 13,500 young people throughout the city and the state of Minas Gerais (Alves & Arias, 2012; Peixoto et al., 2009). The Fica Vivo programme is also the most frequently evaluated intervention identified in the systematic search with five studies considering the program's impact.

Table 11: Characteristics of studies of community-oriented policing interventions

Study	Country	Intervention	Method of data collection	Method of analysis	Quality assessment
Alves & Arias (2012)	Brazil	<u>Fica Vivo</u> : a community policing programme with a two tiered structure combining a social and police response to crime.	Police administrative data.	Analysed homicide rates in programme areas compared with overall homicide rates in the city.	Medium quality. Would benefit from a longer timeframe and matched control groups. The study did not conduct an impact evaluation but presented sufficient data to allow effect size calculations
Arias & Ungar (2009a)	Brazil	<u>Fica Vivo</u> : refer to Alves and Arias (2012)	38 GEPAR officers, 52 residents and two non-resident programme employees were interviewed.	Not clear how the interviews and surveys were analysed but it can be assumed from the results that they used descriptive statistics on survey results.	Medium quality. Mixed methods study. The methodology was well matched to the research questions. However there was a lack of detail on data analysis.
Arias & Ungar (2009b)	Honduras	<u>Comunidad Mas Segura (CMS)</u> : CMS includes preventative policies carried out by specially trained officers including foot patrols and citizen security meetings.	237 citizens and officers were surveyed and interviewed.	See Arias and Ungar (2009a)	See Arias and Ungar (2009a)

Concha-Eastman (2005a)	Colombia	<u>Listening communities:</u> were set up with police and regular meetings were conducted.	Administrative data.	Analysed homicide rates over time.	Low quality. Pre-post design without control group but over 12 years – sufficient to warrant inclusion.
Fruhling (2007a)	Colombia	<u>Community Policing in Bogotá, Colombia:</u> a specialised branch of Bogota’s police force was created and staffed by 1 000 officers who performed community policing duties.	Draws on previous research findings.	Secondary data analysis.	Low quality. Fruhling (2007) provided four separate case studies on community policing interventions in developing countries. No original data was collected and no information was provided on analysis methods.
Fruhling (2007b)	Brazil	<u>Result Oriented Policing: Community Security Councils</u> were established with one council created for each of the 25 police companies.	Survey of 1,200 police officers in the city of Belo Horizonte carried out by the Center for Research on Public Security.	Secondary data analysis.	See Fruhling (2007a)
Fruhling (2007c)	Guatemala	<u>Citizen Security in Central America:</u> Municipal Citizen Security Councils were tasked with coordinating crime prevention strategies.	Pre and post intervention data on crime rates and demographic statistics was collected. Changes in public opinion polls on victimisation were also examined.	Secondary data analysis.	See Fruhling (2007a)
Fruhling (2007d)	Brazil	<u>Community Policing Program of São Paulo’s Military Police:</u> community police stations were	Utilised state wide public opinion polls, community survey data and the United Nations Latin American	Secondary data analysis.	See Fruhling (2007a)

		established in São Paulo and almost 16 000 officers completed community policing training.	Institute for Crime Prevention survey.		
Matta & Andrade (2005)	Brazil	<u>Fica Vivo</u> : see Alves and Arias (2012)	Census data and official police records.	Double difference specification method.	Medium quality. Would be improved by longer data series and matched control group.
Peixoto, Andrade & Azevedo (2008, 2008a, 2009)	Brazil	<u>Fica Vivo</u> : see Alves and Arias (2012)	Police administrative data.	Double difference matching model with propensity score matching.	Medium quality. The study would benefit from added years of data and a more transparent methodology.
Ruiz Vasquez (2009)	Colombia	<u>Security Fronts</u> : see Fruhling (2007).	Census and police data	Analysed crime trends over time in Bogota, Medellin and Cali.	Low quality. Provided limited information on methods and lacked rigorous analysis.
Ruprah (2008)	Chile	<u>Safer Commune</u> : a community oriented policing programme which involves the creation of Citizen Security Committees.	Police administrative data.	Used the double difference propensity score method.	Medium quality. Propensity score matching improves the control group, but insufficient information for replication.

Under the co-ordination of the *Intervenção Estrategica*, two key groups are involved in administering *Fica Vivo* in the target communities: the *Nucleos de Referencia* and the *Grupo de Policiamento em Áreas de Risco* (Group for Policing in High Risk Areas). Social programs delivered by the *Nucleos de Referencia* aim to strengthen community capacity by empowering local residents to deal with local problems (Alves & Arias, 2012). Workshops involve the young people in target communities and are designed to address specific community issues as identified by local residents. Therefore these workshops cover a wide range of topics from health and sexuality discussions to work-oriented skills like writing and silk-screening. In an attempt to reduce the amount of time young people spend on the street, *Nucleos de Referencia* also facilitates leisure opportunities for youth including dance, theatre and art classes and sporting activities. One key goal of the *Nucleos de Referencia* is to employ young people with leadership potential to help run the workshops in the favelas (Alves & Arias, 2012). By engaging young people, the *Nucleos de Referencia* improves relations between locals and state officials while developing the skills of future community leaders (Alves & Arias, 2012).

Established as part of the *Fica Vivo* program, the *Grupo de Policiamento em Áreas de Risco* (GEPAR) comprises of military police trained in community policing (Alves and Arias, 2012). GEPAR officers are placed in favelas to develop positive relationships with residents, gather in-depth intelligence about criminal activities and control illegal activities through a visible presence (Alves & Arias, 2012). The GEPAR also aims to change negative police perceptions in the community and build a cooperative environment between the community and the police (Alves & Arias, 2012).

Several studies have evaluated the impact of the *Fica Vivo* programme at reducing homicide levels in the pilot site and other implementation areas (Alves & Arias, 2012; Peixoto et al., 2009; Peixoto et al., 2008; Matta & Andrade, 2005; Arias & Ungar, 2009). These scholars attribute positive results to the program's two tiered structure. By combining repressive actions with preventative strategies, it is suggested that *Fica Vivo* can help produce both immediate and long term reductions in violence (Peixoto et al., 2009). Further, some authors have argued that the strong political support for *Fica Vivo* and access to ongoing funding for policing efforts and social programs has also helped the intervention succeed (Alves & Arias, 2012). Yet the effect of the programme varied between regions and the impact of the intervention is highly reliant on the context in which it is applied. In the case of *Conjunto Jardim Felicidade*, the one area which saw an increase in the homicide rate following implementation, Peixoto and colleagues (2009) argued increased police/judicial efficiency combined with limited state presence in the area, led to high levels of instability.

Through interviews with residents, street level police and non-resident programme employees, Arias and Ungar (2009) found each intervention site encountered their own unique challenges. For example, they found the programme in *Pedreira Prado Lopes* was hindered by the operations of another policing intervention in the area and poor GEPAR training (Arias and Ungar, 2009). In the case of *Cabana do Pai Tomas*, an area plagued by gang violence, issues with continued police corruption and abuse were identified. While residents reported the GEPAR had reduced violence, perceptions of the police remained largely negative. One resident explains:

“GEPAR had no acceptance because of the aggression with which they treated the community...They were forging evidence, putting drugs on children to arrest them, they beat people on the head and pistol whipped boys...” (Arias & Ungar, 2009).

Indeed half of the residents interviewed reported continued police abuse and two thirds reported police corruption (Arias & Ungar, 2009). The co-ordinators of the social programme played a crucial role in dealing with this issue acting as mediators between residents and the police. In dealing with widespread reports of police abuse and violence, the social programme co-ordinators took complaints to the Fica Vivo leaders who channelled them up through the chain of command. Further, due to deep gang divides, residents were unable to transit from one part of the community to another to participate in social programs. Thus the social programme co-ordinators set up workshops in different parts of the community to increase access to the intervention and improve feelings of safety (Alves & Arias, 2012). According to Alves and Arias (2012), without the work of the Nucleous de Referencia, the strained relationship between the police and community would have significantly limited the program’s success in in Cabana do Pai Tomas (Alves & Arias, 2012).

Despite the numerous challenges the Fica Vivo programme has encountered during implementation, the studies discussed here suggest that success may occur due to its two tiered structure which addresses the social conditions of a neighbourhood. As Alves and Arias (2012) argue, “while the police are essential to any community policing effort, in the conditions that exist in Latin America, they cannot be the end of that effort” (p.112).

Comunidad Mas Segura (CMS), Honduras

Beginning in 2002, CMS now operates across 30 of Honduras most crime stricken neighbourhoods (Arias & Ungar, 2009). This community-oriented policing model was adopted as part of Honduras’ national police reforms and includes preventative policies carried out by specially trained officers including foot patrols and citizen security meetings (Arias & Ungar, 2009). Arias and Ungar (2009) evaluated the impact of CMS in four cities: Tegucigalpa, San Pedro Sula, Danli and Choluteca. Interviews were conducted with 237 citizens between 2003 and 2006. Respondents completed questionnaires followed by face to face interviews. Arias and Ungar (2009) found widespread approval for this community policing programme with 90 per cent of respondents indicating that the police listened to residents more, 89.9 per cent stating greater confidence in police and 75.9 per cent reporting improved police-citizen communications. Opinions on the impact of CMS in reducing crime was much more varied with 19 per cent of respondents reporting that community policing was effective in reducing violent crime and a further 55.7 per cent reporting CMS to be somewhat successful at lowering violence. Citizen reports on police abuse revealed equal amounts progress and lack of progress. There was also a disappointing lack of involvement by civic organisation highlighted in the surveys.

In Arias and Ungar’s (2009) survey of CMS officers, the greatest perceived challenge to implementation was insufficient economic support (Arias & Ungar, 2009). In interviews, CMS officers again reported issues with inadequate financial resources and logistical support. Higher ranking officers encountered numerous deployment issues including lack of personnel and pressure for immediate results. Lower ranking officers assigned to CMS duties reported feeling marginalised in their positions (Arias & Ungar, 2009). Female officers deployed to CMS initiatives (such as presentations in schools) felt a large sense of exclusion from the rest of the police force. Arias and Ungar (2009) found continuity in personnel to be

an issue with CMS officers often replaced by less committed officers lacking motivation to carry out the program.

Similar to Fica Vivo, the success of the CMS programme varied significantly across regions in Honduras. Arias and Ungar (2009) claim the “key differences between these cities results from the roles of and interactions among the government, police and residents” (p.14). Indeed they argue that three key factors are responsible for a community policing program’s success- political commitment, police cooperation and societal incorporations.

In Tegucigalpa and Choluteca, citizen assessment of the programme revealed better security, lower crime and improved community-police relations (Arias & Ungar, 2009). In both cities, low levels of citizen participation were reported due to poor public awareness of the programme and uncertain government support. Arias and Ungar (2009) also argue that “extensive poverty, combined with an intimidating governmental presence, deprives community policing of citizen trust and confidence” (p.414). Citizens repeatedly reported being fearful of retributive attacks by criminals if they were seen to cooperate with police.

More promising results were uncovered in San Pedro Sula, La Ceiba and Danli. Arias and Ungar (2009) accredit strong citizen involvement in these areas for the CMS’ success. The crime rate in Choloma has dropped since the CMS implementation. Arias and Ungar (2009) believe the bimonthly CMS meetings which attract around 25 residents who discuss social problems, crime patterns and police recommendations is partly responsible for this improvement. In La Ceiba, an area plagued by gang activity, drug trafficking and extensive socioeconomic problems, CMS officers have developed strong community relationships. In Danli, 71 per cent of survey respondents emphasized the need to participate in the program. This figure reflects high levels of citizen support and involvement in the CMS programme and thus despite low levels of police and political commitment, local commitment to the programme has ensured implementation success.

Safer Commune Program, Chile

In an evaluation of the Safer Commune programme in Chile, Ruprah (2009) found community participation is central to the program’s success across a broad range of crime types. Beginning in 2001, the main objective of the Safer Commune programme was to improve the local capacity to manage and prevent crime (Ruprah, 2009). The programme involved the creation of Citizen Security Committees tasked with the responsibility of diagnosing crime problems and developing solutions. The committees were made up of representatives of local government, citizens, police, and representatives of other programs. Using double difference score methods, Ruprah (2009) found that the implementation of the programme reduced battery in target communities, although no significant results for homicide, rape or robbery with violence or intimidation. Ruprah (2009) argues ‘the program has made Chileans feel safer but with a very low active participation rate, the scale of the effect is small’ (p.20). From these findings, Ruprah (2009) suggests that raising awareness of the programme to encourage community members to take part in the initiative is crucial.

Community Policing in Bogota

Unlike many other community-oriented policing programs, community policing in Bogota was introduced by the police officers themselves, highlighting strong police support for the initiative (Fruhling, 2007). As part of this program, police officers took part in Citizen Security courses designed to train local leaders to promote citizen security (Fruhling, 2007) Further a

specialised branch of Bogota's police force was created and staffed by 1,000 officers who demonstrated strong community policing capabilities. These officers performed random patrol duties and were deployed to beats in a permanent position to develop relations with the community. The effectiveness of this model in reducing violence in Bogota is unclear in Fruhling's evaluation (2007). However Fruhling (2007) notes issues with adequate resourcing with a mere 6 per cent of the overall police force assigned to community policing efforts.

Another community policing initiative introduced in Bogota was Local Security Fronts, a neighbourhood support network designed to improve communication between residents and police. The Fronts are organised by neighbourhood blocks and require members to patrol the local area and provide a response to suspicious activity (Ruiz Vasquez, 2009). Ruiz Vasquez (2009) argues the community policing programs such as the Security Fronts implemented in Bogota are not directly responsible for the drop in violent crime. Using census and police data, Ruiz Vasquez (2009) found three Colombian cities, Bogota, Medellin and Cali, all experienced declines in the homicide rate around the same time.

The Building Citizenship Culture initiative in Bogota, Columbia was a multisectorial intervention that began in 1995. The programme implemented a form of community-oriented policing, along with legislative changes and citizen education. Listening communities with police were also established and regular meetings with the community were conducted (Concha-Eastman, 2005). Whilst the study shows a decline in homicide after the implementation of the initiative, there was no control group to allow a determination of the impact of the intervention over and above the decline in homicide that was seen in several Colombian cities.

Citizen Security in Central America, Guatemala

The Inter-American Institute of Human Rights (IHR) project 'Citizen Security in Central America' was undertaken in several developing countries including Belize, Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua (Fruhling, 2007). Fruhling's (2007) evaluation focuses primarily on a case study of the pilot programme in Villa Nueva, Guatemala. During the initial stages of the pilot program, a series of preparatory activities were carried out to collect baseline data on crime rates and demographic statistics in the area. Public opinion polls on victimisation were also conducted (Fruhling, 2007). Following this data collection, Municipal Citizen Security Councils (MCSC) were established involving representatives from all key stakeholder groups and were tasked with coordinating crime prevention strategies. Increased police presence in known crime hotspots was another key feature of this project (Fruhling, 2007). To increase efficiency between criminal justice agencies, meetings were held with police, judges, public prosecutors and public defenders. Comparing victimisation survey data before and after the intervention, recent victimisation dropped from 34 per cent in 1998 to 23.8 per cent in 2000. The author suggests that this decline may be attributable to increased police patrols in the area and the work of the MCSC (Fruhling, 2007). However while increased foot patrols was a focus of Villa Nueva's community policing reform, limited personnel numbers led to officers working long twelve, labour intensive shifts resulting in numerous complaints by police (Chinachilla as cited in Fruhling 2007).

Community policing programme of the Sao Paulo Military Police, Brazil

In 1997, community policing was officially adopted as the operational strategy of Brazil's Military Police in an attempt to curb skyrocketing levels of violent crime (Fruhling, 2007). Established at this time, the Advisory Commission for the Implementation of Community Policing was tasked with the responsibility to evaluate the deployment of the community policing program. The commission also discussed regional security issues which led to the definition of new goals and objectives for the Military Police and for the first time, these goals promoted human rights and democratic values (Mesquita Neto, 2004 as cited in Fruhling, 2007). Further they aimed to improve police training and education, encourage police collaboration with other public agencies and create more positive perceptions of the police in the community (Fruhling, 2007). From December 1997 to July 2001, the community policing programme was introduced in 199 of the 386 police companies of São Paulo's Military Police (Fruhling, 2007). Between September 1997 and May 2000, 239 community police stations were established in São Paulo and almost 16 000 officers completed community policing training (Kahn, 2003 as cited in Fruhling, 2007). Yet resources were initially so scarce that no Military Police officer was assigned to implementing community policing initiatives and police were expected to liaise with the local community during their own time (Fruhling, 2007). Fortunately, this situation has since improved following the establishment of the Department of Community Policing and Human Rights in 2002 with a substantial amount of this department's budget dedicated to training police officers and community leaders.

Comparing 1997 and 1999 survey data, Fruhling (2007) discovered some positive advancements in police-community relations in São Paulo with citizens less fearful of police (74 per cent to 66 per cent) and police reported to use less excessive force (73 per cent to 49 per cent). Fruhling (2007) also reviewed two studies of communities targeted by the intervention. One study focused on the impact of community policing in Jardim Ângela, a highly violent area in the city of São Paulo and the other (conducted by the United Nations Latin American Institute for Crime Prevention) compared 23 neighbourhoods with the community policing programme to 23 neighbourhoods without the intervention. Fruhling (2007) found that both of these studies emphasised the importance of community awareness, contact with police and media campaigns in alleviating feelings of insecurity amongst community members. Both studies also indicate that this particular effect of the programme is reliant upon the visibility of the police in the community.

Further, a survey by the United Nations Latin American Institute for Crime Prevention highlighted a disjuncture between the perceptions of the programme between higher ranking police officials and street level officers. Indeed lower ranking officers were less likely to perceive community policing to be effective and were more likely to believe that community policing is a public relations tactic to improve police image.

Result Oriented Policing, Brazil

Result oriented policing was introduced into state of Minas Gerais, Brazil in 1999 (Fruhling, 2007). Community Security Councils were also established as part of this initiative with one council created for each of the 25 police companies. Each council was responsible for developing appropriate crime prevention strategies for their area through collaboration with police and citizens (Fruhling, 2007). Since the institution of these Community Security Councils, several joint efforts with the police to address security and crime issues have been

undertaken but Beato (2004 as cited in Fruhling, 2007) argues that community participation in these initiatives is limited in areas with high levels of violent crime.

Fruhling (2007) found that training budgets are often reserved for higher ranking officers and fail to reach lower ranking officers who are mostly responsible for the program's implementation. High ranking officers in Belo Horizonte were well trained in community policing skills but the street level officers demonstrate little understanding of the program. Without suitable training, lower ranking officers lack the problem solving skills necessary to ensure the success of community policing programs (Fruhling, 2007).

Summary

From the literature identified in this review, it is apparent that the success of community-oriented policing interventions in developing countries is reliant upon several factors including community participation, political commitment, a multiagency approach and police cooperation. In regards to the Fica Vivo program, authors consistently cited that the inclusion of the social programme component was the key reason for the program's success. Yet the literature cited in this review suggests that the success of community oriented policing interventions may be short lived if programs do not receive adequate resources and on-going funding. Further contextual issues such as high levels of gang violence, police corruption and abuse, and a lack of support for the programme amongst lower ranking officers creates barriers to implementation success.

6.3.5. Police enforced bans and crackdowns

Police enforced bans and crackdowns are a popular violence reduction strategy in developing countries. By restricting access to weapons and other precursors of crime, police enforced bans can result in decreased levels of violence. Three studies identified in the systematic search considered the factors contributing to implementation success or failure of police enforced bans in developing countries. The characteristics of these studies are listed in Table 12.

Stricter gun control, Brazil

Goertzel and Kahn (2009) argue the police enforcement of stricter gun control legislation in the city and state of São Paulo, Brazil is associated with the significant fall in homicides between 2001 and 2007. Goertzel and Kahn (2009) argue that the 50 per cent decrease in homicide coincided with the implementation of new, more effective policing strategies such as community policing, crime mapping and tougher gun control laws. In their evaluation of the great São Paulo homicide drop, Goertzel and Kahn (2009) focus specifically on the relationship between the enforcement of stricter gun control legislation and the reduction in homicide rates. Introduced in 2003 by the Brazilian federal government, the new gun control legislation limited the importation of firearms and deemed it illegal to own unregistered guns or to carry guns on the street (Goertzel and Kahn, 2009). The penalties for violating gun control laws were also increased.

Table 12: Characteristics of studies of police enforced bans and crackdowns

Study	Country	Intervention	Method of data collection	Method of analysis	Quality assessment
Khruakham (2011)	Thailand	<u>2001 Drug Policy</u> : involved an aggressive police crackdown on drugs.	Administrative data	Used an interrupted time series analysis across ten regions to allow for regional variation in outcomes.	Medium quality. ARIMA models of 10 regions across 14 year period measured at monthly intervals.
Goertzel & Kahn (2009)	Brazil	<u>Enforcement of stricter gun control legislation</u> : limited the importation of firearms and deemed it illegal to own unregistered guns or to carry guns on the street	Health department records related to firearm deaths and official police reports regarding firearm confiscations.	Discussed trends in firearm deaths over time.	Medium quality. Did not report sufficient data for inclusion in review of effectiveness
Villaveces et al. (2000)	Colombia	<u>Police enforced ban</u> : a firearm ban on certain high risk days including weekends after paydays, on holidays and on election days.	Police administrative data.	Interrupted time series analysis. Homicide rates during intervention days were compared with rates during similar days without the intervention.	High quality. The intermittent enforcement makes a natural randomised allocation. Explicit methodology with numerous controls.

In assessing the effect of the police enforcement of this legislation, Goertzel and Kahn (2009) drew on data from two different sources: health department records and police reports. These health department records⁵ demonstrate a steady increase in firearm deaths between 1992 and 2003. From 2003, a significant downturn was seen following the implementation of the new legislation (Goertzel and Kahn, 2009). Official police reports indicate firearm confiscations rose dramatically from 6,539 in 1996 to 11,670 in 1999. Goertzel and Kahn (2009) claim this peak in firearms confiscation marked the start of the great São Paulo homicide drop. While firearm confiscations remained high through 2004, they dropped to previous levels soon after. Goertzel and Kahn (2009) argue the increased penalties associated with firearms acted as a deterrent. Fewer people risked carrying them on the streets thus resulting in less firearm confiscations. Further the introduction of stricter gun control was supported by all political parties in Brazil, highlighting strong political commitment to the legislation. Goertzel and Kahn (2009) believe 'the great São Paulo homicide drop shows that effective measures can be taken to reduce lethal crime without waiting to solve underlying socioeconomic problems' (p.407).

Restricting firearm access, Colombia

Steps to restrict firearm access were also undertaken by police in two Colombian cities suffering from high rates of homicide (Villaveces et al., 2000). As part of this intervention, citizens were prohibited from carrying firearms during designated periods including weekends after paydays, on holidays and on election days. The public were notified about the ban through the media and police established checkpoints throughout the city to enforce the ban on intervention days; however, the ban was actually only enforced intermittently during the intervention days (Villaveces et al., 2000). During the ban, police were instructed to arrest any citizens carrying a firearm and to permanently confiscate the weapon. Through an interrupted time series analysis, Villaveces and colleagues (2000) found homicides were lower when the firearm carrying ban was in place compared to other similar time periods. In Cali, they found that the rate of homicide was 14 per cent lower than expected during intervention periods. Similar results were also found in Bogota where the expected homicide rate reduced by 13 per cent (Villaveces et al., 2000). From these findings, Villaveces and colleagues (2000) argue that 'police programs such as those applied in Cali and Bogota can suppress serious interpersonal violence and save lives' (p.1209). The authors suggest the programme may have helped to prevent violent crime by incarcerating potentially violent persons and acting as a deterrent. Thus the authors propose this type of programme may be transferrable to other developing regions plagued by high levels of homicide (Villaveces et al., 2000).

⁵ In their analyses, the authors combined firearm deaths and blunt object deaths due recording issues with the health department data.

2001 Drug Policy Crackdown, Thailand

In Thailand, a police crackdown on illicit drugs aimed to curb high rates of crime. While this policy involves both a social and police response to the problem, Khruakham (2011) argues that the law enforcement aspect is favoured. In line with this policy, drug laws were amended to allow greater police authority for arrest, search and seizure of illegal substances (Khruakham, 2011). During the crackdowns, several thousand drug dealers and drug users were shot dead by police. In evaluating the effect of this new drug policy, Khruakham (2011) examined whether its implementation was linked to reduced levels of violent crime by comparing official violent crime data from pre and post intervention periods of time. Using an interrupted time series analyses, the sequence for ten regions was created to allow for regional variation in outcomes. By employing the ARIMA model, Khruakham (2011) confirmed that the 2001 drug policy did not significantly reduce violent crime in Bangkok.

Summary

Police enforced bans and crackdowns require less organisational change compared to other violence prevention initiatives such as community-oriented policing. For this reason, it is not surprising that some police enforced bans have seen promising results in developing nations. According to the authors cited in this review, the success of these police enforced bans is attributable to strong political support and increased police visibility and deterrence.

6.3.6. Visible policing and increased police contact, South Africa

As the name suggests, visible policing involves the noticeable presence of the police in the community (Burger, 2006). Put simply, it requires the public to see police patrol local areas, enforce laws and perform other duties in clearly marked vehicles and uniforms (Burger, 2006). This high police presence in the community can act as a deterrent for potential offenders thereby preventing crime (Burger, 2006). High visibility actions can also improve public confidence in the police and feelings of safety throughout the wider community. Burger (2006) explains 'there is a general belief that if South Africa had enough police, crime will eventually go away' (p.2). Between 2001 and 2004, police numbers rose in South Africa from approximately 120,000 to 148,000. Official police reports indicate that despite this increased police presence, violent crime in 2004/2005 was 12 per cent higher compared to 1994/1995. Thus Burger (2006) believes visible policing is largely ineffective at reducing violent crime rates in South Africa, arguing the activities of police are more important to crime reduction than visibility.

Table 13: Characteristics of studies of visible policing and combatant reintegration interventions

Study	Country	Intervention	Method of data collection	Method of analysis	Quality assessment
Burger (2006)	South Africa	<u>Visible policing</u> : increasing police numbers to provide a more visible presence of police in the community.	Police administrative data.	Analysed trends in violent crime over time against increases in South African police numbers.	Low quality. Lacks analytic rigour.
McRae (2010)	Indonesia	<u>Combatant reintegration schemes</u> : increases police contact with combatants and then leverages this contact to gather information after incidents and to identify potential security threats	100 participant interviews, interviews with key informants and 16 focus group discussions.	Method of analysis not clear.	Medium quality. While data collection was stated, method of analysis was not.

6.3.7. Combatant reintegration schemes, Indonesia

In investigating the effectiveness of two combatant reintegration programs conducted in Poso, Indonesia, McRae (2010) found that policing interventions that involve increased police contact with potential offenders can be effective in managing violence. As part of this program, police increased their levels of contact with combatants through reintegration and other informal economic incentives (McRae, 2012). McRae's (2012) evaluation of the programme included almost 100 participant interviews, interviews with key informants and 16 focus group discussions. From this data, McRae (2012) argues that police were able to utilise this contact with combatants to prevent developing security disturbances and gather information following security incidents. McRae (2012) suggests that increased police contact can be leveraged by a police as a tool to effectively manage violence in developing areas.

6.3.8. Crime observatories

Information technologies are key resources employed by police in developed countries to gather better intelligence. Developing countries however often lack access or capacity to utilise these resources to the same extent. Two studies located in the systematic search evaluated the effectiveness of crime observatories which utilise technology to gather intelligence. Details on the study characteristics are provided in Table 14.

Since 2002, 21 epidemiologically based municipal crime observatories have been established in intermediate-sized municipalities in Colombia to target crime and violence at the local and regional level (Gutierrez-Martinez, Del Villin, Fandiño, & Oliver, 2007). Primarily these observatories seek to provide information on the characteristics and demographics of various crimes in an attempt to create evidence based policy and increase police accountability (Concha-Eastman, 2005). Further they attempt to maximise cooperation between government institutions by involving people from several government agencies such as the police, the health sector and forensics (Concha-Eastman, 2005).

By systemising information, police and other relevant parties are able to statistically analyse and geo-reference crime problems. To disseminate the information gathered, information sharing tools such as the regular distribution of information bulletins was also introduced (Gutierrez-Martinez et al., 2007). Further, all information gathered was made publically available on the internet thereby allowing citizens to monitor the program's progress (Concha-Eastman, 2005). Concha-Eastman (2005) suggests that the ongoing month to month monitoring in Bogota allows for the city to continuously review the impact of the programme and to quickly address any crime issues that may arise (Concha-Eastman, 2005).

Table 14: Characteristics of studies of crime observatory interventions

Study	Country	Intervention	Method of data collection	Method of analysis	Quality assessment
Concha-Eastman (2005)	Colombia	<u>Crime observatories</u> : seek to provide information on the characteristics and demographics of various crimes in an attempt to create evidence-based policy and increase police accountability.	Administrative data.	Analysed homicide rates over time.	Low quality. Pre-post design without control group but over 12 years – sufficient to warrant inclusion.
Gutierrez-Martinez, Del Villin, Fandino & Oliver (2007)	Colombia	<u>Crime observatories</u> : see Concha-Eastman (2005).	Administrative data	Used the assigned ranges of the Wilcoxon test for paired data to compare the number of deaths by municipality over two years	Medium quality. Pre-post only so not included in review of effectiveness.

6.4. Thematic Summary

The following section provides a thematic summary of the reasons for implementation success or failure for policing interventions in developing countries. As part of this thematic summary, each individual text was examined and any reasons cited by the author for implementation success or failure were noted. Results from individual studies were collapsed down into intervention type (i.e. community-oriented policing, policing partnerships etc.) and tallied (see Appendix 12). Once all texts were assessed, two researchers searched for larger overriding themes. From this process, 13 key⁶ reasons for implementation success or failure were determined across the seven intervention categories. Due to the diverse range of the interventions included in this review, it is not surprising that the reasons for success or failure vary considerably across intervention types. This thematic summary offers valuable insight by not only highlighting overall issues surrounding intervention implementation but by also identifying the specific challenges faced by different types of policing interventions in the developing context.

6.4.1. Reasons for the success and failure of policing interventions in developing countries

Training and education

The most commonly cited reason for implementation success or failure was the provision (or lack thereof) of adequate training and education (n=12). As the name suggests, interventions categorised under training and education place a strong focus on delivering violence reduction training programs to police and/or potential victims (n=6). These programs were found to have experienced some degree of success due to their ability to change police attitudes, improve sensitivity towards female victims of violence and/or educate vulnerable groups.

Introducing community-oriented policing in developing countries requires a radical shift in police attitudes and behaviour. Supplying police with the necessary skills to effectively perform their duties was highlighted in two community-oriented policing studies as a reason for implementation success. Alternatively inadequate training was linked to implementation failure for one of the reviewed community-oriented policing initiatives.

Issues with poor training were particularly prevalent in the gender-based literature (n=3). Female police officers were tasked with running specialised female police stations but received little training support. As a result, female police officers were poorly equipped and

⁶ To be considered a “key” reason for intervention success or failure it needed to be cited by more than one author. Certain themes cited only twice were also excluded from the thematic summary if they were not perceived to be an important issue for implementation success or failure by the study’s author/s.

lacked the necessary skills to effectively implement the intervention. Bridging gaps in training may help improve future outcomes for gender-based interventions.

Political commitment

Strong political commitment ensures programs receive sufficient financial support and encourages cooperation between government agencies and police. Further commitment from all sides of the political spectrum guarantees that changes in political leadership will not consequently lead to the abandonment of violence reduction interventions. Authors cited political commitment to be a reason for success for eight interventions across five categories including bans and crackdowns, partnerships, visible policing, community-oriented policing and crime observatories. As a reason for success or failure for multiple and somewhat diverse categories, political commitment appears to be important for the successful implementation of policing interventions in developing countries.

Police cooperation and acceptance of change

If officers resist reform, policing interventions will be fruitless. Thus police cooperation and acceptance of change is vital if policing interventions are to succeed in developing areas. Yet some policing interventions require more radical organisational change than others. Authors included in this review cited police cooperation to be important for community oriented policing initiatives (n=3) and policing partnerships (n=1): interventions which require considerable organisational and behavioural change. It is evident from this literature that long term success depends on effectively reorienting police training and employing police leaders who strongly support the interventions' goals.

Community participation/community awareness

Community-oriented policing interventions count on the participation of community members for implementation success. Indeed eight programme evaluations argued that strong community participation was a reason for success. Alternatively a lack of community participation and awareness was linked to implementation failure with three community-oriented policing interventions pointing to issues with weak or low levels of community participation.

Community awareness and community participation go hand in hand. If community members are not aware of the programme then it is unlikely to attract a high level of citizen involvement. Creating general public awareness of violence reduction programs is therefore crucial to ensure implementation success for community-oriented policing programs in developing countries.

Social support and recreational programs

Policing interventions which offer participants access to social services and recreational programs have seen some promising results. Indeed six authors across three categories (community-oriented policing initiatives n=4, policing partnerships n=1 and gender based interventions n=1) attribute programme success to the provision of social support and recreational programs. In the case of community-oriented policing in the developing context, interventions are introduced into areas characterised by high levels of poverty. Thus addressing the underlying social conditions as part of a policing intervention can contribute to implementation success in the developing context.

Resources and funding

Issues with adequate resources and suitable funding were acknowledged by several authors as a primary reason for implementation failure. This issue was addressed in nine evaluations across three intervention categories (gender-based interventions n=3, community-oriented policing interventions n=5 and policing partnerships n=1).

Understandably, if a policing intervention lacks human resources and financial support, carrying out the intervention is bound to be fraught with difficulties. By securing sufficient long term funding, the programs inhibited by such challenges may experience greater success in the future.

Continued perpetration of male bias against victims/secondary victimisation

The continued perpetration of male bias against female victims and in some cases, the secondary victimisation of female victims by police was the most frequently cited reason for intervention failure in the gender-based literature (n=5). Efforts to improve female access to the criminal justice system for women are destined to fall short if police officers – the gatekeepers to the criminal justice system – fail to appropriately respond to female victims of violence.

Deterrence

By increasing the chance of apprehension and severity of punishment, police can establish a strong deterrence mechanism and reduce the occurrence of interpersonal violence.

Deterrence was particularly central to the implementation success of police enforced bans. Both studies of police enforced bans cited in this review argued that the success of the weapons ban relied heavily upon the police's ability to deter potential offenders from carrying weapons due to high police visibility and harsher penalties.

Discrimination

Discrimination was a common issue related to implementation failure across several intervention categories. Issues with discrimination were highlighted in two gender-based interventions, a training programme and a community-oriented policing program. This discrimination took two main forms: (1) female police officers reported feeling isolated and marginalised in their duties; and (2) there were low levels of female officer involvement in the program. Avoiding discrimination against female officers is crucial to ensure these women play an important role in delivering policing interventions, especially when the intervention is designed to improve female access to the criminal justice system.

Continuity in personnel

The regular rotation of officers assigned to policing interventions can significantly disrupt the progress made by these initiatives. An issue with continuity in personnel was a reason for intervention failure cited in both the policing partnership (n=1) and community oriented policing (n=1) literature. Lack of continuity in personnel can lead to two main outcomes: (1) the assignment of officers without suitable training to carry out the intervention; or (2) the appointment of officers who do not share the same level of commitment to the program's success. Ensuring the continued involvement of officers who are familiar with and support programs is therefore essential for long-term success.

Police abuse and corruption

Issues with police corruption and abuse are particularly prevalent in the developing context due to the authoritarian legacies that dictate practices in many policing institutions (Alves & Arias, 2012). In total, four studies captured in this review discussed police abuse and corruption following implementation. In some cases, preventing police abuse and corruption was central to implementation success (n=2), in others, continued police abuse and corruption was linked to implementation failure (n=2). Stopping police corruption and abuse appears to be particularly important for community oriented policing programs. Such interventions rely upon a strong relationship between the community and the police which is ultimately undermined by police corruption and abuse.

Taking a multiagency approach

Taking a multiagency approach to violence reduction recognises that the police cannot be solely responsible for prevention efforts. Overall, the importance of a multiagency approach is stressed by seven authors across four categories in this review (community-oriented policing, policing partnerships, training and education, and gender-based interventions). As a reoccurring theme across categories, it is suggested that policing interventions designed to target interpersonal violence in the developing context should look to garner the support of all relevant stakeholders in order to increase the likelihood of positive outcomes.

Communication

Communication is important for policing partnerships and community-oriented policing initiatives (n=2). Without ongoing communication between parties, the programme is unlikely to succeed. By clearly defining goals, assigning tasks and creating a bilateral channel of communication, the chances of implementation success may be improved.

7. Summary & conclusions

This review had two main objectives. The first objective was to review the evidence on the effectiveness of policing interventions in reducing interpersonal violent crime in developing countries. The second objective was to assess the reasons that policing interventions addressing interpersonal violent crime may fail or succeed in developing countries.

The systematic search identified 2,765 records. After extensive screening, 53 studies were found to relate to policing interventions targeting violence in developing countries. After excluding documents that did not evaluate either the effectiveness or the implementation of interventions, 5 studies were included in the review of intervention effectiveness and 37 studies were included in the narrative review of reasons for intervention success or failure.

The identified studies tended to be of medium quality at best. Only two of the identified studies were assessed as high quality studies. The majority of studies (n=21) were of medium quality, and the remainder were assessed as low quality studies (n=14).

With such a small number of studies contributing to the evidence base of this review, it is important to recognise that the findings from these studies may not be generalizable across developing nations as a whole. This review does, however, synthesise the findings of the extant research and provides an insight into the facilitators and barriers to successful implementation of policing interventions. As the body of empirical research grows, particularly the body of impact evaluations, this evidence base will become more generalizable across a wider range of interventions and a broader population of settings. In addition, the overall methodological quality of many of the eligible studies in this review is not particularly strong, and we encourage future research to focus on impact evaluations that can be used for causal inference.

We summarise the findings of the review, first by type of policing intervention and then across the key themes identified in the literature.

7.1. Summary of findings by type of policing intervention

Seven key policing interventions were identified in the evaluation literature:

1. gender-based interventions
2. policing partnerships
3. training and education strategies
4. community-oriented policing
5. police-enforced bans and crackdowns
6. visible policing and increased police contact
7. crime observatories

Of these seven intervention types, the review only identified impact evaluations for community-oriented policing, crime observatories, and police-enforced bans and crackdowns; studies that evaluated the remaining intervention types used qualitative techniques or quantitative methods that did not meet the inclusion criteria for impact evaluations. We briefly summarise the findings of the systematic review for each intervention type in turn.

7.1.1. Gender-based interventions

Seven studies evaluated the implementation of gender-based policing interventions, including specialised police stations for women and families, and the implementation of legislative changes around domestic violence. These interventions are designed to change the ways that police interact with victims of domestic violence. The literature in this review suggests that gender-based initiatives are more likely to succeed when policing is coupled with increased social services. Insufficient training is a frequently cited barrier to the successful implementation of these programs. Adequate funding, resourcing and training is needed in order to overcome ongoing discrimination practised by both male and female police officers towards the victims of domestic violence.

7.1.2. Policing partnerships

Four studies evaluated the implementation of partnership policing interventions, where police form partnerships with industry or government agencies. The literature identified in the review highlights the mixed outcomes of policing partnerships. These interventions are most likely to be successful where the partnership is clearly defined and has achievable goals. Political buy-in and community engagement are also cited as facilitators of partnership success, along with social support and flexibility to community needs. Barriers to success of policing partnerships include lack of communication, limited resources, and a lack of continuity in personnel.

7.1.3. Training and education strategies

Six studies evaluated training and education programs aimed towards improving both the professional capabilities of police and their sensitivity towards victims of violent crime. The authors cited varying degrees of success of these programs, and emphasised that long term follow up and refresher courses are required in order to sustain the impact of training programs.

7.1.4. Community-oriented policing

Thirteen studies evaluated community-oriented policing interventions, and three studies were included in the review of intervention effectiveness. All of these studies were conducted in Latin America. The impact evaluation studies overall showed no evidence of a significant change in violent crime due to community-oriented policing, although there was significant variability in effect sizes between intervention sites. The Fica Vivo programme in Brazil showed mixed results across sites, with one site showing a significant increase in homicide after the intervention, whilst the remaining four sites showed no evidence of an effect. The Safer Commune programme in Chile also showed no evidence of an effect on four violent crime outcomes, although the authors cite a significant reduction in battery after the intervention. The Building Citizenship Culture programme in Colombia showed a significant reduction in homicide following the intervention; however the methodology was unable to adequately demonstrate that this change was caused by the intervention.

The review of factors influencing success or failure indicates that community-oriented policing interventions are more likely to be successful when they encourage community awareness and participation, are supported both internally by the police and externally by government and political will, and involve multiple agencies providing social support.

Barriers to success include inadequate resources and funding, and a lack of continuity of personnel. Community-oriented policing programs that are implemented in locations with high levels of gang violence, police corruption or a lack of support from lower-ranking officers are also more likely to fail.

7.1.5. Police-enforced bans and crackdowns

Three studies reported on police-enforced bans or crackdowns. One study reported the results of an impact evaluation of a firearms ban implemented in Colombia, and showed that homicide was significantly reduced on days when the ban was enforced by a combination of checkpoints, police searches of citizens and arrests or fines associated with carrying firearms when the ban was in place. The study that reported on the impact evaluation of a police drug crackdown in Thailand showed no significant effect on violent crime as a result of the intervention.

The study authors indicated that these bans are more likely to reduce violent crime when there is strong political support and increased police visibility leading to deterrence.

7.1.6. Visible policing and increased police contact

One study reported on visible policing interventions. The authors suggest that these interventions are more likely to be successful if there is political commitment and increased contact with police leading to deterrence. The increased visibility of police is also expected to lead to increased public confidence and feelings of safety in the community. Two combatant reintegration programs in Indonesia were evaluated and the authors suggest that increased contact between police and combatants can help with information gathering and early intervention activities to manage violent crime.

7.1.7. Crime observatories

Two studies report on the crime observatories set up in Colombia. These observatories provide additional information on the demographics, temporal and spatial patterns of crime in order to create evidence-based policing and increase police accountability. One study was included in the review of effectiveness with results showing a decrease in homicide following the intervention, although we urge caution as the evaluation used a short time-series design without a control group. The authors indicate that political commitment and the use of technology to inform policing activity is likely to lead to implementation success.

7.2. Summary of thematic analysis of reasons for success or failure

7.2.1. Training and education

The most commonly cited reason for implementation success or failure was the provision (or lack thereof) of adequate training and education. This theme was common across the gender-based initiatives, community-oriented policing, and training and education programmes.

7.2.2. Political commitment

The need for political commitment to the implementation of new policing interventions was highlighted across bans and crackdowns, partnership policing, visible policing, community-oriented policing and crime observatories.

7.2.3. Police cooperation and acceptance of change

The need for police officers to cooperate with changes to their practice was highlighted by authors examining policing partnerships and community-oriented policing.

7.2.4. Community participation/community awareness

Community-oriented policing interventions depend on the participation of community members for successful implementation. In order for the community to participate, they must first be made aware of new initiatives. This theme was cited in studies evaluating partnership policing and community-oriented policing.

7.2.5. Social support and recreational programs

Authors reporting on community-oriented policing initiatives, policing partnerships, and gender based interventions have argued that it is important to address the underlying social conditions that contribute to violence if policing interventions addressing violence are to gain traction.

7.2.6. Resources and funding

Issues with adequate resources and suitable funding were acknowledged by several authors as a primary reason for implementation failure. This issue was discussed across gender-based interventions, community-oriented policing interventions, and policing partnerships. Lack of long term funding was seen as a major impediment to programme success.

7.2.7. Continued perpetration of male bias against victims/secondary victimisation

Male bias against female victims and in some cases, secondary victimisation by police was the most commonly cited reason for intervention failure in the studies of gender-based initiatives. The continuity of gendered discrimination in the application of criminal justice was seen as a major barrier to women accessing justice after violent victimisation.

7.2.8. Deterrence

The studies evaluating police-enforced bans and visible policing argued that high police visibility and harsher penalties provided a deterrent effect which increased the likelihood of the bans' success. Deterrence was also cited as a reason that gender-based initiatives were more likely to succeed.

7.2.9. Discrimination

Discrimination against female officers, due to marginalisation and low levels of female officer involvement in the implementation, was cited as a barrier to the successful

implementation of interventions across several categories, including gender-based interventions, training programs and community-oriented policing.

7.2.10. Continuity in personnel

The lack of continuity of trained and committed officers within policing interventions can interfere with the long-term success of a program. This reason was in both the policing partnership and community oriented policing literature.

7.2.11. Police abuse and corruption

Four studies captured in this review discussed police abuse and corruption after intervention implementation. Issues regarding corruption and abuse were highlighted in the training and education programs and the community-oriented policing programs. Interventions that rely on a strong relationship between the community and the police are less likely to be successful where police corruption is present.

7.2.12. Taking a multiagency approach

The importance of a multiagency approach is stressed across four categories in this review: community oriented policing, policing partnerships, training and education, and gender based interventions. As a frequently occurring theme, it is suggested that policing interventions should aim to engage with relevant stakeholders to increase the likelihood of successful programme implementation.

7.2.13. Communication

The importance of ongoing and clear communication is cited within both the policing partnerships and community-oriented policing literature. By clearly defining goals, assigning tasks and creating a bilateral channel of communication, the chances of implementation success may be improved.

7.3. Implications for research and practice

This systematic review had a very broad scope and yet only yielded 37 studies that evaluated the implementation or the effectiveness of policing interventions targeting interpersonal violence in developing countries. One clear implication from this finding alone is that there is, at present, a dearth of methodologically sound research from which policing agencies can hope to draw empirically-based conclusions on this topic. The geographical remit of this review was very broad, and the review timeframe covered over thirty years. Certainly within this time there has been a great deal of innovation within policing agencies, along with a large amount of government and donor aid dollars spent on policing in developing countries. Unfortunately the implementation of new programs does not always come with the dissemination of evaluations. We urge researchers, policymakers and practitioners to seek to address this imbalance when new interventions are put in the field and incorporate evaluations into the lifecycle of implementation.

In particular, we would encourage evaluations that are able to make causal attributions. In order to determine whether an intervention is responsible for an effect on a particular outcome, the evaluation must control for other potential influences on that outcome. The most rigorous method of evaluation is the use of randomised control trials (RCTs). This

experimental design takes a set of subjects or locations, and randomly allocates each subject or location to either the intervention or a control activity (in the case of policing interventions, the control group usually receives business-as-usual policing). When the outcome is measured after the intervention, the evaluators are able to confidently state that any difference between the groups has been caused by the intervention. Where it is not practical to randomly allocate the intervention, quasi-experimental techniques can be used. In these designs, other alternate sources of change are controlled for by comparing locations that receive the intervention with locations that do not, after statistically matching the pairs of locations on key variables. Ideally in these instances, the outcome of interest should be measured at both sets of locations both before and after the intervention. We must stress that measuring the pre-post intervention change in an outcome at locations which have all received the intervention does not control for any other potential sources of change and will provide highly biased estimates of effectiveness.

Future research should not only aim to be methodologically rigorous, but should also aim to evaluate any all policing programs that are trialled or implemented in the field. In terms of the policing interventions that aim to reduce interpersonal violence in low- and middle-income countries, we would hope to see more evaluations of the effectiveness of police training programs, interventions to address gender-based violence, changes to staffing models and police visibility, community-oriented policing, partnership policing, and police crackdowns. As new models of policing are adopted, it is important to evaluate them using both quantitative evaluations to assess effectiveness, and qualitative evaluations to uncover key insights into the barriers and facilitators to successful implementation, in order to systematically capture important organisational learning.

This systematic review has examined both quantitative and qualitative evidence on policing interventions targeting interpersonal violence in low- and middle-income countries. We do not go so far as to argue that the barriers or facilitators of success identified in this review are solely an issue within developing countries; however, these issues may be more difficult to overcome in low- and middle-income countries with limited financial and human resources and often recent histories of conflict or corruption. For policymakers and practitioners, we suggest that the key themes that come from the literature in this review can be used as recommendations and reminders of the issues that can impact on the success of a new policing intervention.

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Thanks go to the review Advisory Group for their feedback and guidance.

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Appendix 2: Documents excluded from review with reasons for exclusion

Legend: 1 = Yes; 0 = No

Excluded document citation	Is the document unique?	1975 or later?	Is it in a developing country?	Is there an intervention?	Is it aimed at interpersonal violence?	Is there a policing intervention?	Descriptive review only
Aanchal Kapur (1998): 'I am witness to...': A profile of Sakshi Violence Intervention Centre in New Delhi, India, <i>Gender & Development</i> , 6:3, 42-47	1	1	1	1	1	0	-
Abdullatif, A. A. Violence at home: Experience from the eastern mediterranean. Retrieved from http://libdoc.who.int/hq/2000/WHO_WKC_SYM_00.1_pp206-303.pdf	1	1	1	0	-	-	-
African Development Bank & African Development Fund. (2005). Kingdom of Lesotho. Retrieved from http://www.afdb.org/fileadmin/uploads/afdb/Documents/Project-and-Operations/ADB-BD-IF-2005-270-FR-LESOTHO-PROFIL-MULTISECTORIEL-DU-GENRE-PAR-PAYS.PDF	1	1	1	0	-	-	-
African Development Bank. (2006). <i>Journal of the Right to Development</i> , 1, 1-408.	1	1	1	0	-	-	-
African Union Commission (AUC), African Development Bank Group (AfDB), & Economic Commission for Africa (ECA) (no date). Strategy for the harmonization of statistics in Africa.	1	1	1	1	0	0	-
Allen Pusey. (2009). Justice in the rough. <i>ABA Journal</i> , 95(7), 44.	1	1	1	1	1	0	-
Amnesty International (2005) Russian Federation: Nowhere to Turn to: Violence Against Women in the Family. Retrieved from: http://www.amnesty.org/en/library/asset/EUR46/056/2005/en/d61aeef6-d47e-11dd-8743-d305bea2b2c7/eur460562005en.pdf .	1	1	1	0	-	-	-
Armstrong, S. (1994). Rape in South Africa: An invisible part of apartheid's legacy. <i>Gender & Development</i> , 2(2), 35-39.	1	1	1	0	-	-	-

Arredondo Sanchez Lira, J. (2012). Mapping Violence Homicides Trends in Mexico and Brazil 1990-2010 (Masters thesis, University of California, San Diego, UMI No. 1519337). ProQuest Dissertations & Theses (PQDT).	1	1	1	1	1	0	-
Excluded document citation	Is the document unique?	1975 or later?	Is it in a developing country?	Is there an intervention?	Is it aimed at interpersonal violence?	Is there a policing intervention?	Descriptive review only
Artz, L. & Smythe, D. (2007). Case attrition in rape cases: A comparative analysis. <i>South African Journal of Criminal Justice</i> , 20(2), 158-181.	1	1	1	0	-	-	-
Artz, L., & Smythe, D. (2008). Should we consent? Rape law reform in South Africa. Cape Town: Juta.	1	1	1	0	-	-	-
Asian Development Bank (2006). Strengthening the Criminal Justice System. From the ADB Regional Workshop in Dhaka, Bangladesh, 30–31 May 2006.	1	1	1	1	0	0	-
Bailey, C. (2007). Fear and policing violent inner-city communities. <i>Wadabagei</i> , 10(1), 24-43.	1	1	1	0	-	-	-
Baker, B. (2004). Protection from crime: What is on offer for Africans? <i>Journal of Contemporary African Studies</i> , 22(2), 165-188.	1	1	1	0	-	-	-
Baker, B. (2005). Who do people turn to for policing in Sierra Leone. <i>Journal of Contemporary African Studies</i> , 23(3), 371-390.	1	1	1	0	-	-	-
Baker, B. (2006). Beyond the state police in urban Uganda and Sierra Leone. <i>Africa Spectrum</i> , 41(1), 55-76.	1	1	1	0	-	-	-
Barner, J. C. (2011). "Interventions for intimate partner violence: A historical review", <i>US: American Psychological Association</i> , 40(3), pp. 223-233.	1	1	0	1	-	-	-
Blair, H., & Hansen, G. (1994). "Weighing in on the scales of justice: Strategic approaches for donor-supported rule of law programs". USAID Program and Operations Assessment Report No. 7.	1	1	1	0	-	-	-
BMC Public Health. 2010 Aug 11;10:476. doi: 10.1186/1471-2458-10-476. Violence against female sex workers in Karnataka state, south	1	1	1	1	1	0	-

India: impact on health, and reductions in violence following an intervention program.							
Booyesen, N., Brown, C., Collison, N., Diedericks, R., Ginger, F., Hatherill, S., Hendricks, S., Loleka, N., Karp, L., Pieters, A., Slabbert, L., & van As, S. (2007). "Child abuse and our society", South African Medical Journal, 97 (3).	1	1	1	0	-	-	-
Bourlet, A. (1990). Police intervention in marital violence. Milton Keynes, UK: Open University Press.	1	1	0	0	-	-	-
Braga, Anthony A. & Weisburd, David L. (2012). The effects of focused deterrence strategies on crime: A systematic review and meta-analysis of the empirical evidence. Journal of Research in Crime and Delinquency, 49: 323	1	1	0	1	-	-	-
Bribery Act 1954 (Sri Lanka).	1	1	1	0	-	-	-
Bush, D.M. (1992). Women's movements and state policy reform aimed at domestic violence against women: A comparison of the consequences of movement mobilization in the US and India. Gender & Society, 6:587.	1	1	1	0	-	-	-
Excluded document citation	Is the document unique?	1975 or later?	Is it in a developing country?	Is there an intervention?	Is it aimed at interpersonal violence?	Is there a policing intervention?	Descriptive review only
Callick, R. 2003, "Hands on", Far Eastern Economic Review, vol. 166, no. 43, pp. 26-26.	1	1	1	0	-	-	-
Chakravarty, S. (1998). Mainstreaming gender in the police: the Maharashtra experience. Development in Practice, 8(4), 430-438.	1	1	1	1	0	0	-
Cheema, S. (1993). International perspectives on violence against women (Doctoral dissertation, University of Ottawa, UMI No. MM89609). ProQuest Dissertations & Theses (PQDT).	1	1	1	0	-	-	-
Chu, V.S., & Krouse, W.J. (2009). Gun trafficking and the Southwest border. Congressional Research Service. Retrieved from www.crs.gov	1	1	1	1	0	0	-

Cohen, M. A. & Rubio. M. (2007). Solutions paper: Violence and crime in Latin America. Paper presented at Consulta de San José, Costa Rica, October 22-26. Retrieved from http://www.iadb.org/res/ConsultaSanJose/files/ViolenceCrime_Cohen_SP_Final.pdf	1	1	1	1	1	0	-
Crosby, J., & Van Soest, D. (1997). Challenges of violence worldwide. Washington, DC: National Association of Social Workers. Retrieved from http://pdf.usaid.gov/pdf_docs/PNACB692.pdf	1	1	1	0	-	-	-
Cruz, J. M. (2008). The impact of violent crime in the political culture of Latin America: The special case of Central. In M. A. Seligson (Ed.), Challenges to democracy in Latin America and the Caribbean: Evidence from the Americas barometer 2006-07 (Rese	1	1	1	0	-	-	-
de Beer, E. (2000). Community against family violence workshop. Servamus: policing magazine, 93(12), 26-27.	1	1	1	0	-	-	-
De Vries, I. D. (2008). Strategic issues in the South African police service (SAPS) in the first decade of democracy. Acta Criminologica, 21(2), 125-138.	1	1	1	0	-	-	-
del Felice, M.C. (2006). Youth criminality and urban social conflict in the city of Rosario, Argentina: Analysis and proposals for conflict transformation. Thesis submitted to the European University Center for Peach Studies, Stadtschlaining/Burg, Austria.	1	1	1	0	-	-	-
Department of Women's Health (1999). Beijing platform for action: A review of WHO's activities. Geneva: World Health Organisation.	1	1	1	0	-	-	-
Dirsuweit. T. C. (2007). Between ontological security and the right difference: road closures, communitarianism and urban ethics in Johannesburg, South Africa. Autrepart, 42, 53-71. doi: 10.3917/autr.042.0053	1	1	1	1	1	1	1
Dolan, M. (1995). Estrategias jurídicas contra la violencia en los hogares de las comunidades urbanas de Managua [Legal strategies against violence in the households of urban communities of Managua]. Revista Mexicana de Sociologia, 57(1), 151-166.	1	1	1	0	-	-	-

Excluded document citation	Is the document unique?	1975 or later?	Is it in a developing country?	Is there an intervention?	Is it aimed at interpersonal violence?	Is there a policing intervention?	Descriptive review only
Duailibi, S., Ponicki, W., Grube, J., Pinsky, I., Laranjeira, R., & Raw, M. (2007). The effect of restricting opening hours on alcohol-related violence. <i>American Journal of Public Health</i> , 97(12), 2276-2280. doi:10.2105/AJPH.2006.092684	0	1	1	1	-	-	-
Duailibi, S., Ponicki, W., Grube, J., Pinsky, I., Laranjeira, R., Raw, M. (2007). The effect of restricting opening hours on alcohol-related violence. <i>American Journal of Public Health</i> , 97(12), 2276-2280.	1	1	1	1	1	0	-
Duflou, Jalc Lamont, D. L. Knobel, G. J. (1988). Homicide in Cape Town, South Africa. <i>American Journal of Forensic Medicine and Pathology</i> , 9(4): 290-294.	1	1	1	0	-	-	-
Edgar Villa & Jorge A. Restrepo, 2010. "Do bans on carrying firearms work for violence reduction? Evidence from a department-level ban in Colombia," <i>Vniversitas Económica</i> 008298, UNIVERSIDAD JAVERIANA - BOGOTÁ.	1	1	1	1	1	0	-
Edwards, S. S. M. (1989). <i>Policing 'domestic' violence: Women, the law and the state</i> . London: Sage.	1	1	0	0	-	-	-
El Hadidi, Y.S. (no date). Violence against women in Egypt: A review of domestic violence and female genital mutilation. Retrieved from http://whqlibdoc.who.int/HQ/2000/WHO_WKC_SYM_00.1_pp103-205.pdf	1	1	1	0	-	-	-
Eloff, C., & Prinsloo, J. (2009). Application of spatial technology and multi-land use classes in aid of a crime management strategy: a microanalytical approach. <i>Acta Criminologica</i> , 22(3), 24-42.	1	1	1	0	-	-	-
Enzmann, D., & Podana, Z. (2010). Official crime statistics and survey data: Comparing trends of youth violence between 2000 and 2006 in cities of the Czech Republic, Germany, Poland, Russia, and Slovenia. <i>European Journal on Criminal Policy and Research</i> , 16: 191-205.	1	1	1	0	-	-	-

Fawole, O. I. Ajuwon, A. J. Osungbade, K. O. (2004). Violence and hiv/aids prevention among female out-of-school youths in southwestern nigeria: Lessons learnt from interventions targeted at hawkers and apprentices. African Journal of medicine and medical	0	1	1	1	-	-	-
Finn, M.A., & Stalans, L.J. (1997). The influence of gender and mental state on police decisions in domestic assault cases. Criminal Justice and Behavior, 24: 157.	1	1	0	0	-	-	-
Frias Martinez, S. (2008). Gender, the state and patriarchy: Partner violence in Mexico (Doctoral dissertation, The University of Texas at Austin, UMI No. 3311482). ProQuest Dissertations & Theses (PQDT).	1	1	1	1	1	0	-
Friday, P.C., Metzgar, S., & Walters, D. (1991). Policing domestic violence: Perceptions, experience, and reality. Criminal Justice Review, 16: 198.	1	1	0	0	-	-	-
Excluded document citation	Is the document unique?	1975 or later?	Is it in a developing country?	Is there an intervention?	Is it aimed at interpersonal violence?	Is there a policing intervention?	Descriptive review only
Gabor, L.A., Genovesis, A., Larsen, G.Y., Fullerton-Gleason, L., Davis, A., & Olson, L.M. (2008). A comparison of law enforcement and medical examiners reports in a violent-death surveillance system. Homicide Studies, 12: 249.	1	1	0	0	-	-	-
Gadoni-Costa, L.M., Zucatti, A.P.N., & Dell'Aglio, D.D. (2011). Violence against women: survey of the cases seen in the psychology service a a women's police station. Estudos de Psicologia, 28(2): 219-227.	1	1	1	0	-	-	-
Geethadevi, Meghana, Raghunandan, Renuka & Shobha (2000). Getting away with murder: How law courts and police fail victims of domestic violence. Manushi, 120: 31-41.	1	1	1	0	-	-	-
Gibson, J., & Kim, B. (2008). The effect of reporting errors on the cross-country relationship between inequality and crime. Journal of Development Economics, 87, 247-254.	1	1	1	0	-	-	-
Glebbeck, M. 2001, "Police Reform and the Peace Process in Guatemala: The Fifth Promotion of the National Civilian Police", Bulletin of Latin American Research, vol. 20, no. 4, pp. 431-453.	1	1	1	0	-	-	-

Goettig, A. (1989). Men who kill their mates: A profile. Journal of Family Violence, 4(3), 285-296.	1	1	0	0	-	-	-
Gopal, N., & Chetty, V. (2006). No women left behind: examining public perspectives on South African Police Services' handling of violence against South African women. Alternation: international journal for the study of Southern African literature and	1	1	1	1	1	0	-
Gossop, M., & Grant, M. (1990). The content and structure of methadone treatment programmes: a study in six countries. World Health Organization. Retrieved from http://whqlibdoc.who.int/HQ/1990/WHO_PSA_90.3.pdf	1	1	1	1	0	0	-
Groupe de la Banque Africaine de Developpement. (2008). 2008 Annual meetings ministerial round table and high-level seminar: documents of reflection. Retrieved from http://www.afdb.org/fileadmin/uploads/afdb/Documents/Knowledge/30722833-EN-ASSEMBLEES-ANNUELLES-2008-DOCUMENTS-DE-REFLEXION.PDF	1	1	1	0	-	-	-
Hamilton, M. V. (2008). Restorative justice: Reconceptualizing school disciplinary theory and practice (Doctoral dissertation, University of the Pacific, Stockton, CA, UMI No. 3303484). ProQuest Dissertations & Theses (PQDT).	1	1	0	1	-	-	-
Hautzinger, S. (1997). "Calling a state a state": feminist politics and the policing of violence against women in Brazil, Feminist Issues, 15(1/2), 3-30.	1	1	1	1	1	1	1
Excluded document citation	Is the document unique?	1975 or later?	Is it in a developing country?	Is there an intervention?	Is it aimed at interpersonal violence?	Is there a policing intervention?	Descriptive review only
Hautzinger, S. J. (1998). Machos and policewomen, battered women and anti-victims: Combating violence against women in Brazil. (Doctoral dissertation, The Johns Hopkins University, UMI No. 9832726). Retrieved from ProQuest Dissertations & Theses (PQDT) da	0	1	1	1	-	-	-
Hinton, M. S., & Newburn, T. (Eds). (2009). Policing developing democracies. London: Routledge.	1	1	1	0	-	-	-

Holston, J. (2009). Dangerous spaces of citizenship: Gang talk, rights talk and rule of law in Brazil. <i>Planning Theory</i> , 8(1), 12-31. doi: 10.1177/1473095208099296	1	1	1	0	-	-	-
Holtmann, B. (2007). Crime prevention technology sheds light on underlying problem. <i>Science Scope</i> , 2(3), 54-55.	1	1	1	0	-	-	-
Hough, M. (2008). Crime trends in Southern Africa : the contagion effect. <i>ISSUP Bulletin</i> , 5, 1-7.	1	1	1	0	-	-	-
Huisamen, M. (2000). Reducing gun violence in South Africa [part 1]. <i>Servamus: policing magazine</i> , 93(5), 25-27.	1	1	1	0	-	-	-
Human Rights Watch, (2001). Sacrificing women to save the family? Domestic violence in Uzbekistan. <i>Human Rights Watch</i> . July 2001, Vol. 13, No. 4 (D)	1	1	1	0	-	-	-
Inter-American Development Bank. (1997). Violence in Venezuela: Dimensions and control policies. Inter-American Development Bank: Washington DC.	1	1	1	0	-	-	-
International Alert (no date). "Local business, local peace: The peacebuilding potential fo the domestic private sector". Retrieved from www.international-alert.org	1	1	1	0	-	-	-
International Centre for the Prevention of Crime, Urban Crime Prevention and Youth at Risk: Compendium of Promising Strategies and Programmes from Around the World (Montreal, 2005).	1	1	1	1	1	1	1
Isla, A., & Miguez, D. P. (2011). Formations of violence in post-dictatorial contexts: Logics of confrontation between the police and the young urban poor in contemporary argentina. <i>International Journal of Conflict and Violence</i> , 5(2), 240-260.	1	1	1	0	-	-	-
Jang, Hyunseok & Joo, Hee-Jong & Zhao, Jihong (Solomon), 2010. "Determinants of public confidence in police: An international perspective," <i>Journal of Criminal Justice</i> , Elsevier, vol. 38(1), pages 57-68, January.	1	1	1	0	-	-	-
Jens Chr. Andvig & Odd-Helge Fjeldstad, 2008. "Crime, Poverty and Police Corruption in Developing Countries," CMI Working Papers 7, CMI (Chr. Michelsen Institute), Bergen, Norway.	1	1	1	0	-	-	-

Excluded document citation	Is the document unique?	1975 or later?	Is it in a developing country?	Is there an intervention?	Is it aimed at interpersonal violence?	Is there a policing intervention?	Descriptive review only
Julio, C. F., & Saavedra, C. F. (2004). Vulnerabilidades de una región pacífica: América latina a comienzos del siglo xxi [Vulnerabilities of a peaceful region: Latin America in the early twenty-first century]. Rio de Janeiro: Fundación Konrad Adenauer.	1	1	1	0	-	-	-
Kavakli Birdal, N. B. (2010). The interplay between the state and civil society: A case study of honor killings in Turkey (Doctoral dissertation, University of Southern California, UMI Number: 3403594). Retrieved from ProQuest Dissertations & Theses (PQDT)	1	1	1	0	-	-	-
Kethineni, S., & Srinivasan, M. (2009). Police handling of domestic violence cases in Tamil Nadu, India. (2009). Journal of Contemporary Criminal Justice, 25(2), 202-213. doi: 10.1177/1043986209333591	1	1	1	0	-	-	-
Kimou, J. C. A. (2012). Economic conditions, enforcement, and criminal activities in the district of Abidjan. International Tax and Public Finance, 19(6), 913. doi: 10.1007/s10797-010-9145-9	1	1	1	0	-	-	-
Kinnes, I. (2009). Uniforms, plastic cops and the madness of 'Superman': an exploration of the dynamics shaping the policing of gangs in Cape Town. South African Journal of Criminal Justice, 22(2), 176-193.	1	1	1	0	-	-	-
Kovats-Bernat, J. C. (2000). Anti-gang, Arimaj, and the war on street children. Peace Review, 12(3), 415-421.	1	1	1	0	-	-	-
Kudrati, M., Plummer, M. L., & El Hag Yousif, N. D. (2008). Children of the sug: A study of the daily lives of street children in Khartoum, Sudan, with intervention recommendations. Child Abuse & Neglect, 32(4), 439-448. doi: 10.1016/j.chiabu.2007.07.009	1	1	1	0	-	-	-
Lahiri, A., & Kar, S. (2007). Dancing boys: Traditional prostitution of young males in India. Situational assessment report on adolescents and young boys vulnerable to forced migration, trafficking and sexual exploitation in India. Kolkata,	1	1	1	0	-	-	-

India: People							
Leach, P. (2003). Citizen policing as civic activism: An international inquiry. <i>International Journal of the Sociology of Law</i> , 31, 267-294.	1	1	1	0	-	-	-
Livingston, J. (2004). Murder in Juarez: Gender, sexual violence, and the global assembly line. <i>Frontiers: A Journal of Women Studies</i> , 25(1), 59-76.	1	1	1	0	-	-	-
Lobo, J. (1993). Urban violence. <i>Social Action</i> , 43(2), 175-182.	1	1	1	0	-	-	-
López, R. H. (2003). Violencia doméstica homosexual y respuesta policial: Un estudio preliminar comparativo entre estado unidos y venezuela [Gay domestic violence and police responses: A preliminary comparative study of the United States and Venezuela]. R	1	1	1	0	-	-	-
Louw, A. (1997). Surviving the Transition: Trends and Perceptions of Crime in South Africa. <i>Social Indicators Research</i> , 41(1/3), 137-168. doi: 10.2307/27522260	1	1	1	0	-	-	-
Excluded document citation	Is the document unique?	1975 or later?	Is it in a developing country?	Is there an intervention?	Is it aimed at interpersonal violence?	Is there a policing intervention?	Descriptive review only
Luengas, P., & Ruprah, I. J. (2008). Fear of crime: Does trust and community participation matter? Working Paper OVE/WP-08/08. Washington, DC: Inter-American Development Bank, Office of Evaluation and Oversight (OVE).	1	1	1	1	0	1	-
M.R. Gökdoğan, J. Bafra, Development of a sexual assault evidence collection kit – The need for standardization in Turkey, <i>Nurse Education Today</i> , Volume 30, Issue 4, May 2010, Pages 285-290, ISSN 0260-6917, 10.1016/j.nedt.2009.07.015.	1	1	1	0	-	-	-
MacDowell Santos, C. (2004). En-gendering the police: Women's police stations and feminism in São Paulo. <i>Latin American Research Review</i> , 39(3), 29-55.	1	1	1	1	1	1	1
Maddaleno, M., Concha-Eastman, A., & Marques, S. (2006). Youth violence in Latin America: A framework for action.	1	1	1	0	-	-	-

African Safety Promotion, 4(2), 120-136.							
Malby, S. (2008). Juvenile justice and the united nations survey on crime trends and criminal justice systems. In Aromaa, K. & Heiskanen (Eds.), Crime and Criminal Justice Systems in Europe and North America 1995-2004 (pp. 118-148). Helsinki: European Ins	1	1	1	0	-	-	-
Malby, S. (2011). Understanding urban Crime: Cross-national data collection. In M. Shaw & V. Carli (Eds.), Practical approaches to urban crime prevention. Proceedings of the workshop held at the 12th UN Congress on Crime Prevention and Criminal Justice, S	1	1	1	0	-	-	-
Manby, B. (2002). A failure of rural protection. Transformation: Critical Perspectives on Southern Africa, 49, 86-104.	1	1	1	1	1	1	1
Masuku, S. (2003). Finding local solutions: Crime prevention in the Nelson Mandela Metro. SA Crime Quarterly, 5, 29-35. Retrieved from http://www.iss.co.za/pubs/CrimeQ/No.5/6Crime.html	1	1	1	0	-	-	-
Matzopoulos, R., Myers, J. E., Bowman, B., & Mathews, S. (2008). Interpersonal violence prevention: Prioritising interventions. SAMJ, 98, 682-690.	1	1	1	1	1	1	1
Minnaar, A. (2002). Witness protection programmes: Some lessons from the South African experience. Acta Criminologica, 15(3), 118-133.	1	1	1	1	1	1	1
Mogar, A. (2009). Fostering better policing through the use of indicators to measure institutional strengthening. International Journal of Police Science & Management, 12(2),	1	1	1	0	-	-	-
Monaghan, R. (2008). Community-based justice in Northern Ireland and South Africa. International Criminal Justice Review, 18(1), 83-105.	1	1	1	1	1	0	-
Moncada, E. (2010). Counting bodies: Crime mapping, policing and race in Colombia. Ethnic and Racial Studies, 33(4), 696-716	1	1	1	0	-	-	-

Excluded document citation	Is the document unique?	1975 or later?	Is it in a developing country?	Is there an intervention?	Is it aimed at interpersonal violence?	Is there a policing intervention?	Descriptive review only
Muganyizi, P. S., Nyström, L., Axemo, P., & Emmelin, M. (2011). Managing in the contemporary world: Rape victims' and supporters' experiences of barriers within the police and the health care system in Tanzania. <i>Journal of Interpersonal Violence</i> , 26(16),	1	1	1	0	-	-	-
Murphy, R. A., Rosenheck, R. A., Berkowitz, S. J., & Marans, S. R. (2005). Acute service delivery in a police-mental health program for children exposed to violence and trauma. <i>The Psychiatric Quarterly</i> , 76(2), 107-121. doi: 10.1007/s11089-005-2334-2	1	1	0	1	-	-	-
Nadanovsky, P. (2009). Increased incarceration rate and reduction in homicides in São Paulo, Brazil, from 1996 to 2005. <i>Cad Public Health</i> , 25(8), 1859-1864.	1	1	1	0	-	-	-
Ngantweni, G.X. (2008). Selected crime prevention issues in South Africa: lessons from Zambia. <i>Acta Criminologica</i> , 16(3), 92-108.	1	1	1	0	-	-	-
Ogulmus, S., Piskin, M., & Kumandas, H. (2011). Does the school police project work? The effectiveness of the school police project in Ankara, Turkey. <i>Procedia Social and Behavioral Sciences</i> , 15, 2481-2486.	1	1	1	1	0	1	-
Okonkwo, J.E.N. & Ibehb, C. C. (2003). Female sexual assault in Nigeria. <i>International Journal of Gynecology and Obstetrics</i> , 83, 325-326.	1	1	1	0	-	-	-
Olatunbosun, A. & Oluduro, O. (2012). Crime forecasting and planning in developing countries: Emerging issues. <i>Canadian Social Science</i> , 8(1), 2012, 36-43.	1	1	1	0	-	-	-
Ophra Keynan , Hannah Rosenberg , Beni Beili , Michal Nir , Shlomit Levin , Ariel Mor , Ibrahim Agabaria & Avi Tefelin (2003): Beit Noam, <i>Journal of Aggression, Maltreatment & Trauma</i> , 7:1-2, 207-236	1	1	1	1	1	1	1
Ostermann, A. C. & da Costa, C. C. (2012). Gender and professional identity in three institutional settings in Brazil: The case of responses to assessment turns. <i>Pragmatics</i> , 22(2),	1	1	1	1	1	1	1

203-230.							
Ostermann, A. C. (2003a). Localizing power and solidarity: Pronoun alternation at an all-female police station and a feminist crisis intervention center in Brazil. <i>Language in Society</i> , 32, 351–381	1	1	1	1	1	1	1
Ostermann, A. C. (2003b). Communities of practice at work: Gender, facework and the power of habitus at an all-female police station and a feminist crisis intervention centre in Brazil. <i>Discourse & Society</i> , 14(4), 473-505. doi: 10.1177/0957926503014004004	1	1	1	1	1	1	1
Ostermann, A. C. (2008). (Applied) Conversation Analysis as an approach for the study of language and gender: The case of services for female victims of violence in Brazil. <i>Athenea Digital</i> , 14, 245-266.	1	1	1	1	1	1	1
Excluded document citation	Is the document unique?	1975 or later?	Is it in a developing country?	Is there an intervention?	Is it aimed at interpersonal violence?	Is there a policing intervention?	Descriptive review only
Pearce, B. (2008). A preventative policing style for public violence in the towns of Harrismith and Warden in the eastern Free State (Master's thesis). Retrieved from http://uir.unisa.ac.za/bitstream/handle/10500/1813/dissertation.pdf?sequence=1	1	1	1	1	0	1	-
Penacino, G. A. (2006) Organizing the Argentinean Combined DNA Index System (CODIS). <i>International Congress Series (Special Issue: Progress in Forensic Genetics 11 — Proceedings of the 21st International ISFG Congress held in Ponta Delgada, The Azores, Po</i>	1	1	1	0	-	-	-
Pino, N., & Wiatrowski, M. D. (Eds.). (2006). <i>Democratic policing in transitional & developing countries</i> . Aldershot, UK: Ashgate	1	1	1	0	-	-	-
Pinto, L. A., Murakami, L. C., Pimenta, M. L., & Nunes, N. S. (2012). Valores em serviços de policiamento comunitário: O Programa Ronda do Quarteirão sob a ótica da teoria da cadeia de meios e fins [Values in communitarian police services: The Block Pat	1	1	1	1	0	1	-

Pokhariyal, G., & Muthari, R. K. (2003). Strategic measures to curb crime rates in Nairobi. <i>International Journal on World Peace</i> , 20(1), 55-69.	1	1	1	0	-	-	-
Poklewski-Koziell, K. (1981). Policies and programmes with potential for the prevention and control of violence in the light of the experience of socialist countries of Eastern Europe. [Article]. <i>International Review of Criminal Policy</i> , 37, 28-37.	1	1	1	1	1	0	-
Rachel Neild, 1999. "The Role of the Police in Violence Prevention," IDB Publications 51358, Inter-American Development Bank.	1	1	1	1	1	1	1
Rokvić, V. (2002) Police Responses to Domestic Violence in Serbia. <i>Police Reform and Cooperation in the Western Balkans on the Path to EU Integration</i> . Paper presented at 10th Young Faces Conference. Geneva: Centre for Security, Development and Rule of Law	1	1	1	0	-	-	-
Rothman, E. F., Butchart, A., & Cerdá, M. (2003). Intervening with perpetrators of intimate partner violence: A global perspective. Geneva: World Health Organization.	1	1	1	1	1	1	1
Rute Imanishi Rodrigues, 2005. "O Lugar Dos Pobres E A Violência Na Cidade: Um Estudo Para O Município De São Paulo," <i>Anais do XXXIII Encontro Nacional de Economia [Proceedings of the 33th Brazilian Economics Meeting]</i> 154, ANPEC - Associação Nacional dos	1	1	1	0	-	-	-
Ruteere, M., & Pommerolle, M. (2003). Democratizing security or decentralizing repression? the ambiguities of community policing in kenya. <i>African Affairs</i> , 102(409), 587-604. doi: 10.1093/afraf/adg065	1	1	1	1	0	1	-
S. Chakravarty (1998): Mainstreaming gender in the police: The Maharashtra experience, <i>Development in Practice</i> , 8:4, 430-438	1	1	1	1	1	1	1
Excluded document citation	Is the document unique?	1975 or later?	Is it in a developing country?	Is there an intervention?	Is it aimed at interpersonal violence?	Is there a policing intervention?	Descriptive review only
Santos, C. M. (2004). En-gendering the police: Women's police stations and feminism in Sao Paulo. <i>Latin American Research Review</i> , 39(3), 29-55. doi: 10.1353/lar.2004.0059	1	1	1	1	1	1	1

Schaefer, S. C., & Berger, L. R. (1993). Surveillance of children as victims of domestic violence. <i>Clinical Research</i> , 41(1), A100-A100.	1	1	1	0	-	-	-
Schmidt, H. C., & Tredoux, C. G. (2006). Utilisation and usefulness of face composites in the South African Police Service -- an evaluation study. <i>South African Journal of Criminal Justice</i> , 19(3), 303-314.	1	1	1	0	-	-	-
Schmidt, H.C., & Tredoux, C.G. (2006). Utilisation and usefulness of face composites in the South African Police Service - an evaluation study. <i>South African Journal of Criminal Justice</i> , 19(3), 303-314.	1	1	1	0	-	-	-
Schmitz, P., & Cooper, A. (2008). Crime mapping proves its worth as crime-fighting tool: behavioural modelling. <i>Science Scope</i> , 2(4), 66-67.	1	1	1	0	-	-	-
Schmitz, P., Stylianides, T., & Eloff, C. (2010). Strengthening our criminal justice system. <i>Science Scope</i> , 4(4), 6-11.	1	1	1	0	-	-	-
Shaw, M. (1996). South Africa: Crime in transition. <i>Terrorism and Political Violence</i> , 8(4), 156-175	1	1	1	1	1	1	1
Shaw, M. (2002). <i>Crime & policing in post-apartheid South Africa: Transforming under fire</i> . London : Hurst & Company.	1	1	1	0	-	-	-
Shaw, M., & Carli, V. (Eds) (2011). <i>Practical Approaches to Urban Crime Prevention</i> . Proceedings of the Workshop held at the 12th UN Congress on Crime Prevention and Criminal Justice, Salvador, Brazil, April 12-19, 2010.	1	1	1	0	-	-	-
Shaw, M., & Gastrow, P. (2001). Stealing the show? Crime and its impact in post-apartheid South Africa. <i>Daedalus</i> , 130(1), 235-258.	1	1	1	0	-	-	-
Shaw, M., & Tschiwula, L. (2002). Developing citizenship among urban youth in conflict with the law. <i>Environment and Urbanization</i> , 14(2), 59-69. doi: 10.1177/095624780201400205	1	1	1	0	-	-	-
Shaw, M., & Tschiwula, L. (2002). Developing citizenship among urban youth in conflict with the law. <i>Environment and Urbanization</i> , 14, 59-69.	1	1	1	0	-	-	-
Shelley, L., & Vigh, J. (Eds.) (1995). <i>Social changes, crime and police : International Conference, June 1-4, 1992, Budapest, Hungary</i> . Harwood Academic.	1	1	1	0	-	-	-
Shepherd, Joanna M, 2002. "Police, Prosecutors, Criminals, and Determinate Sentencing: The Truth about Truth-in-Sentencing Laws," <i>Journal of Law and Economics</i> , University of Chicago Press, vol. 45(2), pages 509-34, October.	1	1	0	1	-	-	-

Excluded document citation	Is the document unique?	1975 or later?	Is it in a developing country?	Is there an intervention?	Is it aimed at interpersonal violence?	Is there a policing intervention?	Descriptive review only
Sherman, L.W. (2012). Developing and evaluating citizen security programs in Latin America: A protocol for evidence-based crime prevention. Inter-American Development Bank, Institutions for Development (IFD), Technical Note No. IDB-TN-436.	1	1	1	1	1	1	1
Shrader, Elizabeth, 2001. "Methodologies to measure the gender dimensions of crime and violence," Policy Research Working Paper Series 2648, The World Bank.	1	1	0	0	-	-	-
Smit, J., & Nel, F. (2002). An evaluation of the implementation of the Domestic Violence Act: What is happening in practice. Acta Criminologica, 15, 45-55.	1	1	1	1	1	1	1
Soto, J.R. (1992) Evaluation of the Usaid-Rhudo/sa-Usaid-Wid-lula/Celcadel Program "Women in Local Development". Retrieved from: http://pdf.usaid.gov/pdf_docs/PNABN343.pdf .	1	1	1	1	0	1	-
Stavrou, A. (2002). Crime in nairobi: Results of a citywide victim survey (Safer Cities: Series #4). Nairobi, Kenya: UN-Habitat. Retrieved from http://www.unhabitat.org/pmss/listItemDetails.aspx?publicationID=1693	1	1	1	0	-	-	-
Steinberg, J. (2012). Establishing police authority and civilian compliance in post-apartheid Johannesburg: an argument from the work of Egon Bittner. Policing & Society, 22(4), 481-495. doi: 10.1080/10439463.2011.641552	1	1	1	0	-	-	-
Stockton, D. (2000). FBI trains elite crime fighters. Law & Order, 48(10), 56-60.	1	1	1	0	-	-	-
Strachan, I. G. (2000). Columbus's Ghost: Tourism, Art and National Identity in the Bahamas [Inter-American Development Bank Lecture, No. 37]. Retrieved from http://ideas.repec.org/p/idb/brikps/8217.html	1	1	1	0	-	-	-
Subramanian, K. S. (2010). State response to maoist violence in India: A critical assessment. Economic and Political Weekly, 45(32), 23-26.	1	1	1	0	-	-	-

Tata Institute of Social Sciences (1998). The Special Cell for Women and Children of the Mumbai Police Commissionerate. The Indian Journal of Social Work, 59(4), 1052-1057.	1	1	1	1	1	1	1
Tatil, S. 2009, Effects of tasks on information-seeking behavior in a police work environment in the context of criminal intelligence, University of North Texas.	1	1	1	0	-	-	-
Toch, H. (1977). Police, prisons, and the problem of violence. Washington, DC: National Institute of Mental Health.	1	1	0	0	-	-	-
Tuaño, P. (2011) "Philippine non-government organizations (ngos): Contributions, capacities, challenges". Civil Society Resource Institute (CSRI), Philippines.	1	1	1	0	-	-	-
Excluded document citation	Is the document unique?	1975 or later?	Is it in a developing country?	Is there an intervention?	Is it aimed at interpersonal violence?	Is there a policing intervention?	Descriptive review only
Turbiville Jr, G. H. (2010). Firefights, raids, and assassinations: Tactical forms of cartel violence and their underpinnings. Small Wars and Insurgencies, 21(1), 123-144.	1	1	1	0	-	-	-
UNICEF. (2001). Profiting from abuse : an investigation into the sexual exploitation of our children. New York : UNICEF	1	1	1	1	1	1	1
United Nations Economic and Social Council. (2002). Report of the 54th session of the sub-commission on promotion and protection of human rights. Retrieved from http://www.unodc.org/pdf/crime/terrorism/unhchr/46f.pdf	1	1	1	0	-	-	-
United Nations Office on Drugs and Crime. (2009). Cadre d'action international: Pour l'application du Protocole relatif à la traite des personnes. Vienna: Author.	1	1	0	0	-	-	-
UNODC. (2009) Thematic programme: Addressing Health and human development vulnerabilities in the context of drugs and crime. UNODC.	1	1	1	1	0	1	-
UNODC. (2012). "CORRUPTION, ENVIRONMENT AND THE UNITED NATIONS CONVENTION AGAINST CORRUPTION". United Nations Office on Drugs and Crime, Indonesia.	1	1	1	0	-	-	-
USAID. (2006). Linking gender-based violence research to practice in East, Central and Southern Africa: A review of risk	1	1	1	1	1	1	1

factors and promising interventions.							
Van der Hoven, A. (2001). Domestic violence in South Africa. <i>Acta Criminologica</i> , 14(3), 13-25.	1	1	1	0	-	-	-
van Dijk, J. Manchin, R. van Kesteren, J. (2006) "Burden of crime in the eu research report: A comparative analysis of the european crime & safety survey 2005", <i>Burden of Crime in the EU</i> , European Commission.	1	1	1	0	-	-	-
van Duyne, P.C. (2001), "Will 'Caligula go transparent'? Corruption in acts and attitude", <i>Forum on Crime and Society</i> , Vol. 1 No. 2, pp. 73-98.	1	1	1	0	-	-	-
Van Jaarsveld, L. (2008). Violence in schools: A security problem? <i>Acta Criminologica</i> , 21 (special edition 2), 175-188.	1	1	1	0	-	-	-
Van Soest, D., & Crosby, J. (1997). <i>Challenges of violence worldwide</i> . Washington, DC: National Association of Social Workers (NASW) Press. Retrieved from http://pdf.usaid.gov/pdf_docs/PNACB691.pdf	1	1	1	0	-	-	-
Vecchi, G.M., Van Hasselt, V.B., & Romano, S.J. (2005). Crisis (hostage) negotiation: current strategies and issues in high risk conflict resolution. <i>Aggressive and Violent Behaviour</i> 10, 533-551.	1	1	0	1	-	-	-
Wacquant, L. (2008). The militarization of urban marginality: Lessons from the Brazilian metropolis. <i>International Political Sociology</i> , 2, 56-74.	1	1	1	0	-	-	-
Excluded document citation	Is the document unique?	1975 or later?	Is it in a developing country?	Is there an intervention?	Is it aimed at interpersonal violence?	Is there a policing intervention?	Descriptive review only
Ward, C.L., Artz, L., Berg, J., Boonzaier, F., Crawford-Browne, S., Dawes, A., Foster, D., Matzopoulos, R., Nicol, A., Seekings, J., van As, A.B., & van der Spuy, E. (2012). Violence, violence prevention, and safety: A research agenda for South Africa. <i>South African Medical Journal</i> , 102 (4), 215-218.	1	1	1	0	-	-	-
Werb, D., Rowell, G., Guyatt, G., Kerr, T., Montaner, J., & Wood, E. (2011). Effect of drug law enforcement on drug market violence: A systematic review. <i>International Journal of</i>	1	1	0	1	-	-	-

Drug Policy, 22: 87-94.							
Wilding, P. (2010). 'New Violence': Silencing Women's Experiences in the Favelas of Brazil. <i>Journal of Latin American Studies</i> , 42, 719-747. doi: 10.1017/s0022216x10001343	1	1	1	0	-	-	-
World Economic Forum, World Bank, & African Development Bank (2007). "Report on competitiveness in Africa 2007". Retrieved from http://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/ACR2007-0.0-FR-RAPPORT-COMPLET.PDF	1	1	1	0	-	-	-
World Economic Forum, World Bank, & African Development Bank (2009). "Rapport sur la compétitivité en Afrique 2009 (Report on competitiveness in Africa 2009)". Retrieved from http://www.afdb.org/fr/documents/document/africa-competitiveness-report-2009-16795/	1	1	1	0	-	-	-
World Health Organization. (1999). <i>Elimination of violence against women: In search of solutions (WHO/FIGO Pre-Congress Workshop 30–31 July 1997)</i> . Geneva: Author. Retrieved from http://apps.who.int/iris/bitstream/10665/65898/1/WHO_HSC_PVI_99.2.pdf	1	1	1	1	1	0	-
World Health Organization. (2007). <i>Global strategy for the prevention and control of sexually transmitted infections: 2006-2014: Breaking the chain of transmission</i> . WHO Press: Geneva.	1	1	1	1	0	0	-
Xu, J. (2012). Drive-away policing and situational crime prevention in China: An analysis of motorcycle ban (jinmo) policy in Guangzhou. <i>International Journal of Offender Therapy & Comparative Criminology</i> , 56(2), 239-264. doi: 10.1177/0306624x10395715	1	1	1	1	0	1	-
Zhang, L., Messner, S.F., & Liu, J. (2007). An exploration of the determinants of reporting crime to the police in the city of Tianjin, China. <i>Criminology</i> , 45 (4), 959-984.	1	1	1	0	-	-	-
Zhang, X. (2001). "The emergence of 'black society' crime in china", <i>Forum on Crime and Society</i> , 1(2).	1	1	1	0	-	-	-
Zvekic, U. & Alvazzi del Frate, A. (1995). <i>Criminal victimisation in the Developing World (UNICRI Publication no. 55)</i> . Rome: United Nations Interregional Crime and Justice Research Institute (UNICRI).	1	1	1	0	-	-	-

Appendix 3: Studies eligible for the review of effectiveness

* Study was not included in the analysis as it did not use unique data

Alves, M.C. & Arias, E.D. (2012). Understanding the Fica Vivo programme: two-tiered community policing in Belo Horizonte, Brazil. *Policing and Society: An International Journal of Research and Policy*, 22(1): 101-113.

Concha-Eastman, A. (2005). Ten years of a successful violence reduction program in Bogota, Colombia. In *Preventing violence: from global perspective to national action*. Liverpool: Center for Public Health, John Moores University, 13-18.

Khruakham, S. (2011). Assessing the effectiveness of the 2001 drug policy and drug enforcement in Thailand: A time-series analysis of police data (Doctoral dissertation, Sam Houston State University, UMI No. 3484771). Retrieved from ProQuest Dissertations & Theses (PQDT) database.
<http://search.proquest.com/docview/904567912?accountid=14723>

*Matta, R. A. & Andrade, M. V. (2005). Economic evaluation of the impact of program control homicide Stay Alive. Paper presented at the 33rd Brazilian Economics Meeting. Retrieved from <http://www.anpec.org.br/encontro2005/artigos/A05A153.pdf>

*Peixoto, B. T., Andrade, M. V., & Azevedo, J. P. (2008). Prevention and control of homicide: an impact assessment in Brazil. (Text for Discussion No. 337). Retrieved from Federal University of Minas Gerais Development Center of Regional Planning website:
<http://www.cedeplar.ufmg.br/pesquisas/td/TD%20337.pdf>

*Peixoto, B., Andrade, M., & Azevedo, J. P. (2009, November 3). Prevention and control of homicides: An impact evaluation in Brazil. Paper presented at the Annual Meeting of the American Society of Criminology, Philadelphia, PA.

Ruprah, I. J. (2008). An impact evaluation of a neighbourhood crime prevention program: Does Safer Commune make Chileans safer? *Inter-American Development Bank Office of Evaluation and Oversight working paper OVE/WP-09/08*.

Villaveces, A., Cummings, P., Espitia, V. E., Koepsell, T. D., McKight, B., Kellermann, A. L. (2000). Effect of a ban on carrying firearms on homicide rates in two Columbian cities. *Journal of the American Medical Association*, 283: 1205-1209.

Appendix 4: Studies included in the narrative review of reasons for intervention success or failure

Alda, E., Buvinic, M., & Lamas, J. (2006). Neighbourhood peacekeeping: The Inter-American Development Bank's violence reduction programs in Columbia and Uruguay. *Civil Wars*, 8(2): 197-214.

Alves, M.C. & Arias, E.D. (2012). Understanding the Fica Vivo programme: two-tiered community policing in Belo Horizonte, Brazil. *Policing and Society: An International Journal of Research and Policy*, 22(1): 101-113.

Arias, E. D. & Ungar, M. (2009). Community policing and Latin America's citizen security crisis. *Comparative Politics*, 41(4): 409-429.

Burger, J. (2006). Deterring (or preventing) crime: Sector policing and visible policing in South Africa. *Strategic Review for Southern Africa*, 28(2): 55-72.

Concha-Eastman, A. (2005). Ten years of a successful violence reduction program in Bogota, Colombia. In *Preventing violence: from global perspective to national action*. Liverpool: Center for Public Health, John Moores University, 13-18.

Fawole, O. I., Ajuwon, A. J., Osungbade, K. O., & Faweya, O. C. (2003). Interventions for violence prevention among young female hawkers in motor parks in south-western Nigeria: A review of effectiveness. *African Journal of Reproductive Health*, 7(1): 71-82.

Fawole, O. I., Ajuwon, A. J., & Osungbade, K. O. (2005). Evaluation of interventions to prevent gender-based violence among young female apprentices in Ibadan, Nigeria. *Health Education*, 105(3): 186-203.

Frühling, H. (2007). The impact of international models of policing in Latin America: The case of community policing. *Police practice and research*, 8(2): 125-144.

Goertzel, T. & Kahn, T. (2009). The great Sao Paulo homicide drop. *Homicide Studies*, 13(4): 398-411.

Gurnani, V., Beattie, T. S., Bhattacharjee, P., CFAR Team, Mohan, H. L., Maddur, S., Washington, R. et al. (2011). An integrated structural intervention to reduce vulnerability to HIV and sexually transmitted infections among female sex workers in Karnataka state, South India. *PMC Public Health*, 11: 755-766.

Gutierrez-Martinez, M. I., Del Villin, R., Fandiño, A., & Oliver, R. L. (2007). The evaluation of a surveillance system for violent and non-intentional injury mortality in Colombian cities. *International Journal of Injury Control and Safety Promotion*, 14(2): 77-84.

Hautzinger, S. (1997). "Calling a state a state": Feminist politics and the policing of violence against women in Brazil. *Feminist Issues*, 15: 3-30.

Hautzinger, S. (1998) *Machos and policewomen, battered women and anti-victims: Combating violence against women in Brazil*, Proquest dissertations and Theses. Retrieved from: <http://search.proquest.com.ezproxy.library.uq.edu.au/docview/304419431>.

Hornberger, J. (2003). "Maman bat papa": La loi sur la violence domestique à Sophiatown, Johannesburg. *Politique Africaine*, 91(3), 83-99.

Keegan, M. (2004). 'Igun iflop': Gun Free South Africa work with youth in schools. *African Safety Promotion*, 2(1), 73-77. Retrieved from <https://my.unisa.ac.za/portal/tool/fa0edd64-ecd6-4033-800a-25de3667a3ff/contents/faculties/humanities/shs/docs/a-safety.pdf#page=76>

Khalique, H. (2011). *Evaluation Report: Rabta Programme, Rozan 1999-2010*. Retrieved from http://www.endvawnow.org/uploads/browser/files/rozanrabta_evaluation_khalique_2011.pdf

- Khruakham, S. (2011). Assessing the effectiveness of the 2001 drug policy and drug enforcement in Thailand: A time-series analysis of police data (Doctoral dissertation, Sam Houston State University, UMI No. 3484771). Retrieved from ProQuest Dissertations & Theses (PQDT) database. <http://search.proquest.com/docview/904567912?accountid=14723>
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- Manby, B. (2001). *Unequal protection: The state response to violent crime on South African farm*. New York: Human Rights Watch. Retrieved from <http://www.hrw.org/reports/2001/safrica2/>
- Masuku, S. & Maepa, T. (2004). *City Safety: Nelson Mandela Metro Municipality's Crime Reduction Strategy*. Pretoria, South Africa: Institute for Security Studies.
- Matta, R. A. & Andrade, M. V. (2005). Economic evaluation of the impact of program control homicide Stay Alive. Paper presented at the 33rd Brazilian Economics Meeting. Retrieved from <http://www.anpec.org.br/encontro2005/artigos/A05A153.pdf>
- McRae, D. (2010). Reintegration and localised conflict: Security impacts beyond influencing spoilers. *Conflict, Security & Development*, 10(3): 403-430.
- Natarajan, M. (2006). Dealing with domestic disputes/violence by women police in India: Results of a training program in Tamil Nadu Mangai. *International Journal of Criminal Justice Sciences*, 1: 1-19.
- Ostermann, A. C. (2000). Reifying and defying sisterhood in discourse: Communities of practice at work at an all-female police station and a feminist crisis intervention center in Brazil (Doctoral dissertation, University of Michigan, UMI No. 9990957). Retrieved from ProQuest Dissertations & Theses (PQDT) database <http://search.proquest.com/docview/304608772?accountid=14723>
- Peixoto, B. T., Andrade, M. V., & Azevedo, J. P. (2008). Economic evaluation of the Staying Alive Program: The pilot case. (Text for Discussion No. 336). Retrieved from Federal University of Minas Gerais Development Center of Regional Planning website: <http://www.cedeplar.ufmg.br/pesquisas/td/TD%20336.pdf>
- Peixoto, B. T., Andrade, M. V., & Azevedo, J. P. (2008a). Prevention and control of homicide: an impact assessment in Brazil. (Text for Discussion No. 337). Retrieved from Federal University of Minas Gerais Development Center of Regional Planning website: <http://www.cedeplar.ufmg.br/pesquisas/td/TD%20337.pdf>
- Peixoto, B., Andrade, M., & Azevedo, J. P. (2009, November 3). Prevention and control of homicides: An impact evaluation in Brazil. Paper presented at the Annual Meeting of the American Society of Criminology, Philadelphia, PA.
- Rifiotis, T. (2004). As delegacias especiais de proteção à mulher no brasil e a judicialização dos conflitos conjugais. *Sociedade e Estado, Brasília*, 19 (1): 85-119.
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Appendix 5: References for background & methodology

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Appendix 6: Data extraction codesheets

The codesheets will be implemented in Microsoft Access. The following guide will be given to every person coding:

Use this document together with the review protocol to help you fill out the coding sheet.

Before coding

1. Open the review database
2. The form is divided into two main areas – the top section relates to the document as a whole and the sub-form relates to each individual study in the document.
3. Note that documents can report on multiple studies and that studies can report on multiple outcomes.
4. The form should either display an icon in the PDF button on the top left, or indicate that the document needs to be ordered. For documents with a PDF icon, double-click on the PDF icon at the top left and select an attachment to open. For documents that were ordered, check if the document has arrived and if so, use the physical copy.
5. The first 6 fields of the form are not editable, but provide information on the document to be coded.
6. Coding begins at “Coder”
7. Start coding the document using the guidelines below.
8. Note: if you cut and paste information from the source document, please paste the text in between “ ” so that we do not accidentally plagiarise a document when summarising.
9. Start coding the document using the guidelines below.

Document ID

These numbers are unique identifiers for each document assigned at the end of the systematic search phase of the review.

Full reference

The document’s full reference in APA format

Coder

Select your name from the drop down list

Date coded

Click in this field for today’s date

Document Eligibility

These questions determine whether the document is eligible for inclusion in the systematic review. The answers to these questions combine to automatically determine eligibility for both narrative review and meta-analysis.

If the document is eligible for narrative review, the button next to “eligible for narrative review” will be highlighted.

If the document is eligible for meta-analytic review, the button next to “eligible for meta-analytic review” will be highlighted.

Unique

This question is a filter to prevent coding of multiple documents that are reporting on the same intervention. Put yes or no. If no, put the Study ID of the document reporting on the same intervention as this one. Please note that it does not count as the same intervention if it is implemented in a different place.

Developing country

Put yes or no. The intervention has to take place in a developing country to be eligible. Developing countries for the purposes of coding include any countries except for the United States, Canada, the United Kingdom, Australia, New Zealand, Japan, and Western Europe (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Monaco, the Netherlands, Norway, Spain, Switzerland, and Vatican City). Do not confuse with the country where the study was published.

After 1975

Put yes or no. Documents published before 1975 are not eligible for this review. Documents published after 1975 but reporting on an intervention that took place before 1975 are also not eligible; however, don't feel the need to go looking for this information yet if it's not immediately apparent.

Intervention

Put yes or no. Is this document reporting on an intervention? An intervention is some kind of strategy, funding change, organisational change, campaign, training, or directive that is different from business as usual. If the document is merely describing the way things are, and does not report on any specific action that is different, it is not eligible. If the document is talking about change in general terms, or suggesting an intervention, but is not actually reporting on a specific intervention that has actually taken place, it is not eligible.

Aimed at interpersonal violent crime

Put yes or no. There are two ways of determining whether the intervention is aimed at preventing/reducing violent crime. First, check whether the outcomes of the intervention include some measure of violent crime (including violent crime broadly, homicide, assault, rape, robbery, domestic violence, or other forms of interpersonal violence). Note that self-directed violence (self harm, suicide) and collective violence (protesting, looting, war, state violence, terrorism) do not count under our definition of violent crime. The violent act does not have to be illegal in the study country to be included in our definition (e.g. if the intervention aims to prevent rape but rape is not illegal in the country, it is still eligible for inclusion). If the document reports a violent crime outcome, the answer to this question is yes. If the document does not report a violent crime outcome, look at the introductory text of the document to see whether the authors say the intervention is aimed at violent crime. If they explicitly say the intervention is intended to impact some kind of violent crime, put yes. If they don't explicitly say that one of the aims is to impact violent crime, and they don't measure violent crime as an outcome, put no – the study is not eligible for inclusion in this review.

Policing intervention

Put yes or no. Did the intervention involve public police, alone or in partnership with another party?

Descriptive review only

Tick the box for yes. The document must only describe an intervention, but provide no quantitative or qualitative evaluation of the intervention.

Process evaluation

Tick the box for yes. There must be a qualitative evaluation of the intervention; that is, they report on how successful the implementation of the intervention was, but do not actually provide any comparative outcome data.

Process evaluation with raw data

Tick the box for yes. The authors report on how successful the implementation of the intervention was, and provide raw data to support their conclusions, but do not actually provide a statistical analysis of the outcome data with sufficient data to calculate a standardised effect size. Examples of raw data include graphs or tables of outcomes per year, but with no calculations of differences before and after an intervention, or no correlations of outcomes with the intervention. Note: most data which is summarised separately for the control group and the intervention group could be considered an impact evaluation, even if an effect size has not been calculated. For further clarification, see the impact evaluation, below.

Impact evaluation

Tick the box for yes. There must be a quantitative evaluation of the impact of the intervention. This can include impact on local or global supply or consumption, impact on the environment or other factors included in the outcomes section. Do not include documents that say they are evaluations but are actually process evaluations; that is, they report on how successful the implementation of the intervention was, but do not actually provide any comparative outcome data. Impact evaluations report statistics (e.g. p values, r, d, g, t, F, Chi²) or report data summarised for the control and intervention groups, such as frequency tables, before and after means, and contingency tables.

Should you continue to code?

- Depending on the type of document, the form will enable certain fields
- Descriptive review documents require no more coding
- Process evaluation documents require no more coding; however, should there be insufficient impact evaluation documents, process evaluation documents will be coded in a second pass of coding, and qualitatively synthesised.
- Impact evaluation documents can be coded for studies and outcomes

Study info overview

These questions provide information about the document that will help us to determine whether the features of the study impact the outcomes of interventions.

Study name

If the document contains an eligible study, enter a “Study name”. This will automatically generate a new record for the study. If the study is not named in the document, invent an appropriate name e.g. “Author year study 1”.

Coded by

Select your name from the drop down list

Date coded

Click in this field for today's date

Study info tab

Country of intervention

Write the name of the country in which the intervention was implemented (note: do not confuse with the country in which the study was published; they may be different, e.g. a DFID study implemented in Congo but published in the United Kingdom).

Language

Write the name of the language of publication when we first retrieved it (i.e. some documents will have been sent to the translators – if you are reading the English translation but the original document was in Spanish, put Spanish).

Research timeframe

Write the years in which the study was running. If in doubt, the document should include information on what year the intervention was first implemented; write that in.

Intervention info tab

These questions provide information about the intervention that will help us determine whether the features of the interventions impact their outcomes.

Intervention name

Many intervention strategies have a name, e.g. “Project Peace”. Write in the name of the intervention. If you can't find one, write “none”.

Intervention strategy

Most interventions fall under a broad definition of some kind of strategy, e.g. community-oriented policing, alternative dispute resolution, prison reform, diversion, training, citizen education, organisational restructuring, intelligence led policing, etc. Try to identify a broad definition for this intervention. If the authors have identified what type of strategy it is, use their terms.

Full description

Write a full description of the intervention strategy (but limit to two or three sentences). Where possible, use the exact words used to describe the intervention in the text.

Theoretical background

If the authors have identified a particular theoretical background to the intervention (e.g. zero tolerance, restorative justice, procedural justice, empowerment, etc.) write it here. If they haven't, write "no information".

Comparison group

Describe what happened to the group / area that did not receive the intervention (the "business as usual" condition). If there is no information in the document about what usually happens in the absence of the intervention, write "no information". Note: if the comparison group is not "business as usual", but is an alternative intervention, the document is not eligible for review. Write "alternative intervention", and stop coding.

Police led

Write yes or no. This question asks whether the police actors were leading the intervention. If the funding is provided by, or primarily to, public police; or if the actions are primarily police orientated; or if you have some other reason to think the police actors were leading the intervention (e.g. the authors said so); put yes. If the policing component was a small part of the intervention (e.g. it was a health intervention that included some training of police officers) or there were no clear leaders (e.g. a multi sector intervention where no sector was clearly leading the intervention), put no.

Other components

Write what other actors were involved in the intervention. Use broad terms, e.g. health system, education system, government, NGO, volunteers, etc.

Funded by

Write what agency is funding the intervention. Use broad terms, e.g. federal government, local government, NGO, foreign government aid programme (Foreign government here refers to the government of a country other than the country in which the intervention was actually implemented. For example, the United Kingdom's Department for International Development funding police training in Nigeria would count as a foreign government aid program).

Evaluated by

Write what agency was responsible for evaluating the program. Use broad terms, e.g. local university, foreign university, local government, foreign government aid program, NGO.

Unit of treatment assignment

Write individual, geographic area, group, or other. This question is asking at what level the treatment was assigned; e.g. if some individuals received the intervention but others didn't, write individual; if some areas received the intervention but others didn't, write geographic area. Write the specific geographic area, e.g. town, city, beat, neighbourhood, etc.

Unit of analysis

Write individual, geographic area, group, or other. This question is asking at what level the data were collected; were data collected from individuals, or do we have e.g. crime rates in an area?

Intervention context tab

These questions help us to determine whether the context in which the intervention is implemented has an effect on its success.

Conflict

Put yes or no. Do the authors explicitly mention that the intervention takes place in the context of current conflict? If conflict is mentioned as part of the country's recent history, but not talked about in the immediate context of the intervention, put no. If the authors do not explicitly mention anything about conflict, put no. If the authors explicitly mention that the intervention is taking place in the midst of a war, genocide, rebellion, etc., put yes.

Political activity

Put yes or no. Do the authors explicitly mention that the intervention takes place in the context of political change, e.g. transition to democracy, elections, governmental change, etc.? Again, it must be explicitly stated by the authors, and in the immediate context of the intervention (not a historical context).

Other contextual information

Write in anything the authors have mentioned about the intervention context that may affect the way the intervention was implemented, or may make it difficult to compare the outcomes of this intervention to interventions in other contexts (e.g. during reconstruction after a natural disaster). If the authors haven't mentioned anything, put "none".

Implementation success tab

These questions are intended to capture information about whether the intervention was implemented as intended.

Implemented as planned

Put yes or no. Did the authors mention any problems with the implementation of the intervention, e.g. funding didn't reach the right people, activities were not carried out, changes in project staff caused delays, etc.; if so, put yes.

Agency partnerships

Put yes if the authors say that the agencies who were supposed to contribute did contribute everything they had agreed to ; put no if the authors mention any problems with the partnerships; put unclear if nothing is mentioned ; put not applicable if the intervention was implemented by only one agency.

Issues in implementation

Write in what, if any, problems the authors identified in implementing the intervention. If none, put "none".

Ethical issues

Write yes or no. This question is asking whether there are any ethical issues with the intervention itself. You may have to apply some judgment here. For example, if the intervention aims to control crime by severely restricting individual freedoms, if it seems to impinge on human rights, etc., then there may be ethical issues in implementing the

intervention in other places. An example would be an intervention that locks up everyone under 15 to stop juvenile crime. Slight incursions on individual freedoms do not count as ethical issues because most interventions include some degree of restriction of freedoms. For example, a juvenile curfew doesn't count as ethically problematic under this definition. Yes means there are problems with the ethics of this intervention.

Quality tab

These questions are asking about the quality of the evaluation studies.

Monitoring of treatment delivery

Put yes or no. Does the paper identify any strategies for monitoring how the intervention was delivered (making sure that all participants who were supposed to receive the intervention received the intervention)? If the paper includes some figures on how the intervention money was spent, or on the activities undertaken by people working in the program, this counts as monitoring of treatment delivery and you should put yes.

Treatment integrity

Put yes or no. Did the evaluators check that the people who were not supposed to be receiving the intervention did not receive the intervention? If there was potential for treatment contamination (e.g. the intervention was delivered in a geographic area but people from the control areas could have travelled into the area to access it) and the authors don't mention any strategies for trying to control this potential, put no.

Intent to treat analysis

Put yes or no. In the analysis, were the groups separated by how they were assigned (intent to treat – put yes) or whether or not they actually received the treatment (put no)?

Differential attrition

Put yes or no. Attrition is the loss of participants from a study. Differential attrition is where one group (treatment or control) loses substantially more participants than the other group; so much so that there is a possibility the attrition could be affecting the results. If there is substantial difference in attrition, or if the authors mention that participants dropped out for particular reasons in one group but not the other, put yes.

Sample bias

Put yes or no. Was the sample selected randomly? If so, put no. Was the sample selected on the basis of the dependent variable (e.g. high crime areas selected for a crime reduction intervention)? If so, put yes. If the sample was selected by convenience (e.g. because the area had the resources to fund the intervention), put "unclear".

Randomised

Put yes or no. Were participants (or areas) allocated to treatment and control at random?

Type of comparison group

Describe the comparison group, e.g. nonparticipants in the program, randomly selected controls, and matched controls, pre-test.

Research standards

Put yes or write in the problem. This is a catch-all question for any serious failings in intervention or evaluation design that are not captured by the other quality questions. If there are no obvious serious issues with the study, put yes. If the study is clearly affected by some kind of bias not captured in the other questions, write what the bias is. Examples are: pre post test without a comparison group (stop coding if this is the case), statistical tests that don't match the data collected, outcomes that are measured but not reported, participants are systematically different in treatment and control groups, other events systematically co-occurring with the treatment that could have affected the outcome, outcomes are measured differently in treatment and control groups, etc.

Sample tab

These questions cover characteristics of the sample under study that may differ between studies.

Age

Put the general age range of the people under study (that is, wherever the data were collected from): adult, elderly, children, or all. If the intervention is delivered at an aggregate level (e.g. towns) and data collected at this aggregate level, just put all.

Gender

Put males, females, or all.

SES

SES stands for socio-economic status. The intervention may have been targeted at "low SES" or "low income" participants. Put low, high, or all.

Other

Put any other distinctive characteristics of the sample, e.g. offenders, victims, police officers, etc. Don't worry about general sample descriptors, only put in things that obviously make this sample different from the general population. If none, put "none".

Outcomes tab

This section is about the particular outcomes reported in the study. Only report outcomes that are evaluated, i.e. for which there is data for both treatment and comparison groups – don't include process-related outcomes for which there is no comparative data. Fill out this section for every outcome, including non violent crime outcomes.

Outcome

Put the general outcome category, e.g. violent crime, aggregate crime, disorder, satisfaction, etc.

Conceptual definition

Write in the definition used by the authors. If the authors don't provide a definition, write in whatever they've called the outcome.

Operational definition

Write in exactly how the outcome was measured; is it a count, sum, average, etc.; if it's officially recorded information e.g. crime, what was the source, and in what timeframe; if it's a survey measure, write in the exact wording of the items; and any other information on the measurement.

Data source

Write official data, self-report, observations, etc.: where did the data come from?

Authors' conclusions

Write in what the authors concluded about the impact of the intervention on this outcome. Use their exact words where possible. Fill out this section for every outcome, including non-violent crime outcomes.

Was a standardised effect size reported?

Select yes or no. A standardised effect size is a value which is comparable across studies and not a function of the sample size (unlike, for example, a t , Chi^2 or F statistic). Standardised effect sizes include: standardised mean difference (g or d), odds ratio (OR), risk ratio (RR), correlation coefficient (r).

Effect size page number

Enter the page number on which the effect size is found. Please note: use the page number of the original document, not the page number of the pdf.

Effect size measure

Write in the type of effect size calculated e.g. standardised mean difference (g or d), odds ratio (OR), risk ratio (RR), correlation coefficient (r).

Effect size

Write in the value of the standardised effect size reported

Are data available to calculate an effect size?

Yes or no. An effect size can be calculated from mean and standard deviations, t or F value, Chi^2 , frequencies or proportions, pre and post etc. If no, we will need to contact the author/s to request missing information.

Data to calculate effect size

Write in all of the statistics reported for this outcome. If the effect size estimates for this outcome are particularly complex (e.g. a regression table), place a note in this field to direct us to the correct page of the document (e.g. "See regression table 2 on page 37"). Please note: use the page number of the original document, not the page number of the pdf. This data will be entered into Comprehensive Meta Analysis to calculate a standardised effect size.

Outcome coded by

Select your name from the drop down list

Date outcome coded

Click in this field for today's date

Another outcome?

If the study contains another outcome, click the "Add another outcome" button at the bottom of the tab.

If there are no further outcomes to code, are there any more studies in the document? If yes, click the "Add another study" button at the bottom of the form. If no, click the right arrow button at the top of the form to bring up the next document.

Appendix 7: IDCG Risk of Bias Tool

Tool to assess risk of bias and internal validity of social experiments and quasi-experiments⁷

The following tool enables the consistent assessment of internal validity of social experiments and quasi-experiments including randomised control trials (RCTs), regression discontinuity designs (RDDs), non-randomised studies based on participant self-selection (panel data models, propensity score and covariate matching, and cross-sectional regression), and studies using instrumental variables estimation for causal identification. The tool consists of eight evaluation criteria to identify threats to validity arising due to the following sources: selection bias, confounding, motivation bias, performance bias, outcome reporting bias, analysis reporting bias, other sources of bias, and threats to the correct calculation of statistical significance of the effect. Application of the tool is likely to require advanced knowledge of statistics and econometrics.

1. Mechanism of assignment: was the allocation or identification mechanism able to control for selection bias?

a) For Randomised assignment (RCTs),

Score “YES” if:

- a random component in the sequence generation process is described (e.g. referring to a random number table)⁸;
- and if the unit of allocation was at group level (geographical/ social/ institutional unit) and allocation was performed on all units at the start of the study,
- or if the unit of allocation was by beneficiary or group and there was some form of centralised allocation mechanism such as an on-site computer system;
- and if the unit of allocation is based on a sufficiently large sample size to equate groups on average.

Score “UNCLEAR” if:

⁷ The tool has been developed by Jorge Hombrados and Hugh Waddington, drawing on existing tools, in particular EPOC (n.d.), Higgins and Green (2011) and Coalition for Evidence-Based Policy (2010). Thanks to Richard Palmer-Jones, Maren Duvendack and Phil Davies for comments on previous drafts.

⁸ If a quasi-randomised assignment approach is used (e.g. alphabetical order), you must be sure that the process truly generates groupings equivalent to random assignment, to score “Yes” on this criteria. In order to assess the validity of the quasi-randomization process, the most important aspect is whether the assignment process might generate a correlation between participation status and other factors (e.g. gender, socio-economic status) determining outcomes; you may consider covariate balance in determining this (see question 2).

- the paper does not provide details on the randomisation process, or uses a quasi-randomisation process for which it is not clear has generated allocations equivalent to true randomisation.

Score “NO” if:

- the sample size is not sufficient or any failure in the allocation mechanism could affect the randomisation process⁹.

b) For discontinuity assignment (Regression Discontinuity Designs)

Score “YES” if:

- allocation is made based on a pre-determined discontinuity on a continuous variable (regression discontinuity design) and blinded to participants or,
- if not blinded, individuals reasonably cannot affect the assignment variable in response to knowledge of the participation decision rule;
- and the sample size immediately at both sides of the cut-off point is sufficiently large to equate groups on average.

Score “UNCLEAR” if:

- the assignment variable is either non-blinded or it is unclear whether participants can affect it in response to knowledge of the allocation mechanism.

Score “NO” if:

- the sample size is not sufficient or
- there is evidence that participants altered the assignment variable prior to assignment¹⁰.

c) For assignment based non-randomised programme placement and self-selection (studies using a matching strategy or regression analysis, excluding IV)

Score “YES” if:

- Participants and non-participants are either matched based on all relevant characteristics explaining participation and outcomes, or
- all relevant characteristics are accounted for.^{11 12}

⁹ If the research has serious concerns with the validity of the randomisation process or the group equivalence completely fails, we recommend to assess the risk of bias of the study using the relevant questions for the appropriate methods of analysis (cross-sectional regressions, difference-in-difference, etc) rather than the RCTs questions.

¹⁰ If the research has serious concerns with the validity of the assignment process or the group equivalence completely fails, we recommend to assess the risk of bias of the study using the relevant questions for the appropriate methods of analysis (cross-sectional regressions, difference-in-difference, etc) rather than the RDDs questions.

¹¹ Accounting for and matching on all relevant characteristics is usually only feasible when the programme allocation rule is known and there are no errors of targeting. It is unlikely that studies not based on randomisation or regression discontinuity can score “YES” on this criterion.

Score “UNCLEAR” if:

- it is not clear whether all relevant characteristics (only relevant time varying characteristics in the case of panel data regressions) are controlled.

Score “NO” if:

- relevant characteristics are omitted from the analysis.

d) For identification based on an instrumental variable (IV estimation)

Score “YES” if:

- An appropriate instrumental variable is used which is exogenously generated: e.g. due to a ‘natural’ experiment or random allocation.

Score “UNCLEAR” if:

- the exogeneity of the instrument is unclear (both externally as well as why the variable should not enter by itself in the outcome equation).

Score “NO” otherwise.

2. Group equivalence: was the method of analysis executed adequately to ensure comparability of groups throughout the study and prevent confounding?

a) For randomised control trials (RCTs) and quasi-RCTs,

Score “YES” if:¹³

- baseline characteristics of the study and control/comparisons are reported and overall¹⁴ similar based on t-test or ANOVA for equality of means across groups,
- or covariate differences are controlled using multivariate analysis;
- and the attrition rates (losses to follow up) are sufficiently low and similar in treatment and control, or the study assesses that loss to follow up units are random draws from the sample (e.g. by examining correlation with determinants of outcomes, in both treatment and comparison groups);

¹² There are different ways in which covariates can be taken into account. Differences across groups in observable characteristics can be taken into account as covariates in the framework of a regression analysis or can be assessed by testing equality of means between groups. Differences in unobservable characteristics can be taken into account through the use of instrumental variables (see also question 1.d) or proxy variables in the framework of a regression analysis, or using a fixed effects or difference-in-differences model if the only characteristics which are unobserved are time-invariant.

¹³ Please note that when a), b) or f) score no or large differences in baseline characteristics, we suggest assessing risk of bias considering other study design (Diff-in-Diff, cross-sectional regression, instrumental variables)

¹⁴ Even in the context of RCTs, when randomisation is successful and carried out over sufficiently large assignment units, it is possible that small differences between groups remain for some covariates. In these cases, study authors should use appropriate multivariate methods to correcting for these differences.

- and problems with cross-overs and drop outs are dealt with using intention-to-treat analysis or in the case of drop outs, by assessing whether the drop outs are random draws from the population;
- and, for cluster-assignment, authors control for external cluster-level factors that might confound the impact of the programme (eg weather, infrastructure, community fixed effects, etc) through multivariate analysis.

Score “UNCLEAR” if:

- insufficient details are provided on covariate differences or methods of adjustment;
- or insufficient details are provided on cluster controls.

Score “NO” otherwise.

b) For regression discontinuity designs (RDDs),

Score “YES” if:

- the interval for selection of treatment and control group is reasonably small,
- or authors have weighted the matches on their distance to the cut-off point,
- and the mean of the covariates of the individuals immediately at both sides of the cut-off point (selected sample of participants and non-participants) are overall not statistically different based on t-test or ANOVA for equality of means,
- or significant differences have been controlled in multivariate analysis;
- and, for cluster-assignment, authors control for external cluster-level factors that might confound the impact of the programme (eg weather, infrastructure, community fixed effects, etc) through multivariate analysis.

Score “UNCLEAR” if:

- there are covariate differences across individuals at both sides of the discontinuity which have not been controlled for using multivariate analysis, or if insufficient details are provided on controls,
- or if insufficient details are provided on cluster controls.

Score “NO” otherwise.

c) For non-randomised trials using difference-in-differences methods of analysis,

Score “YES” if:

- the authors use a difference-in-differences (or fixed effects) multivariate estimation method;
- the authors control for a comprehensive set of time-varying characteristics;¹⁵

¹⁵ Knowing allocation rules for the programme – or even whether the non-participants were individuals that refused to participate in the programme, as opposed to individuals that were not given the opportunity to participate in the programme – can help in the assessment of whether the covariates accounted for in the regression capture all the relevant characteristics that explain differences between treatment and comparison.

- and the attrition rate is sufficiently low and similar in treatment and control, or the study assesses that drop-outs are random draws from the sample (e.g. by examining correlation with determinants of outcomes, in both treatment and comparison groups);
- and, for cluster-assignment, authors control for external cluster-level factors that might confound the impact of the programme (eg weather, infrastructure, community fixed effects, etc) through multivariate analysis.

Score “UNCLEAR” if:

- insufficient details are provided,
- or if insufficient details are provided on cluster controls.

Score “NO” otherwise.

d) For statistical matching studies including propensity scores (PSM) and covariate matching,¹⁶

Score “YES” if:

- matching is either on baseline characteristics or time-invariant characteristics which cannot be affected by participation in the programme; and the variables used to match are relevant (e.g. demographic and socio-economic factors) to explain both participation and the outcome (so that there can be no evident differences across groups in variables that might explain outcomes) (see fn. 6).
- In addition, for PSM Rosenbaum’s test suggests the results are not sensitive to the existence of hidden bias.
- and, with the exception of Kernel matching, the means of the individual covariates are equated for treatment and comparison groups after matching;
- and, for cluster-assignment, authors control for external cluster-level factors that might confound the impact of the programme (eg weather, infrastructure, community fixed effects, etc) through multivariate or any appropriate analysis.

Score “UNCLEAR” if:

- relevant variables are not included in the matching equation, or if matching is based on characteristics collected at endline,
- or if insufficient details are provided on cluster controls.

Score “NO” otherwise.

e) For regression-based studies using cross sectional data (excluding IV)

Score “YES” if:

- the study controls for relevant confounders that may be correlated with both participation and explain outcomes (e.g. demographic and socio-economic factors at

¹⁶ Matching strategies are sometimes complemented with difference-in-difference regression estimation methods. This combination approach is superior since it only uses in the estimation the common support region of the sample size, reducing the likelihood of existence of time-variant unobservables differences across groups affecting outcome of interest and removing biases arising from time-invariant unobservable characteristics.

individual and community level) using multivariate methods with appropriate proxies for unobservable covariates (see fn. 6),

- and a Hausman test¹⁷ with an appropriate instrument suggests there is no evidence of endogeneity,
- and none of the covariate controls can be affected by participation;
- and either, only those observations in the region of common support for participants and non-participants in terms of covariates are used, or the distributions of covariates are balanced for the entire sample population across groups;
- and, for cluster-assignment, authors control particularly for external cluster-level factors that might confound the impact of the programme (eg weather, infrastructure, community fixed effects, etc) through multivariate analysis.

Score “UNCLEAR” if:

- relevant confounders are controlled but appropriate proxy variables or statistical tests are not reported,
- or if insufficient details are provided on cluster controls.

Score “NO” otherwise.

f) For instrumental variables approaches,

Score “YES” if:

- the instrumenting equation is significant at the level of $F \geq 10$ (or if an F test is not reported, the authors report and assess whether the R-squared (goodness of fit) of the participation equation is sufficient for appropriate identification);
- the identifying instruments are individually significant ($p \leq 0.01$); for Heckman models, the identifiers are reported and significant ($p \leq 0.05$);
- where at least two instruments are used, the authors report on an over-identifying test ($p \leq 0.05$ is required to reject the null hypothesis); and none of the covariate controls can be affected by participation and the study convincingly assesses qualitatively why the instrument only affects the outcome via participation¹⁸.
- and, for cluster-assignment, authors particularly control for external cluster-level factors that might confound the impact of the programme (eg weather, infrastructure, community fixed effects, etc) through multivariate analysis.

Score “UNCLEAR” if:

17 The Hausman test explores endogeneity in the framework of regression by comparing whether the OLS and the IV approaches yield significantly different estimations. However, it plays a different role in the different methods of analysis. While in the OLS regression framework the Hausman test mainly explores endogeneity and therefore is related with the validity of the method, in IV approaches it explores whether the author has chosen the best available strategy for addressing causal attribution (since in the absence of endogeneity OLS yields more precise estimators) and therefore is more related with analysis reporting bias.

18 If the instrument is the random assignment of the treatment, the reviewer should also assess the quality and success of the randomisation procedure in part a).

- relevant confounders are controlled but appropriate statistical tests are not reported or exogeneity¹⁹ of the instrument is not convincing,
- or if insufficient details are provided on cluster controls (see category f) below).

Score “NO” otherwise.

3. Hawthorne and John Henry effects: was the process of being observed causing motivation bias?

Score “YES” if either:

- a) For data collected in the context of a particular intervention trial (randomised or non-randomised assignment), the authors state explicitly that the process of monitoring the intervention and outcome measurement is blinded, or argue convincingly why it is not likely that being monitored in ways that could affect the performance of participants in treatment and comparison groups in different ways.
- b) The study is based on data collected in the context of a survey, and not associated with a particular intervention trial, or data are collected in the context of a retrospective (ex post) evaluation.

Score “UNCLEAR” if:

- it is not clear whether the authors use an appropriate method to prevent Hawthorne and John Henry Effects (e.g. blinding of outcomes and, or enumerators, other methods to ensure consistent monitoring across groups).

Score “NO” otherwise.

4. Spill-overs: was the study adequately protected against performance bias?

Score “YES” if:

- the intervention is unlikely to spill-over to comparisons (e.g. participants and non-participants are geographically and/or socially separated from one another and general equilibrium effects are unlikely)²⁰.

Score “UNCLEAR” if:

- spill-overs are not addressed clearly.

Score “NO” if:

19 An instrument is exogenous when it only affects the outcome of interest through affecting participation in the programme. Although when more than one instrument is available, statistical tests provide guidance on exogeneity (see background document), the assessment of exogeneity should be in any case done qualitatively. Indeed, complete exogeneity of the instrument is only feasible using randomised assignment in the context of an RCT with imperfect compliance, or an instrument identified in the context of a natural experiment.

20 Contamination, that is differential receipt of other interventions affecting outcome of interest in the control or comparison group, is potentially an important threat to the correct interpretation of study results and should be addressed via PICO and study coding.

- allocation was at individual or household level and there are likely spill-overs within households and communities which are not controlled for in the analysis;
- or if allocation at cluster level and there are likely spill-overs to comparison clusters.

5. Selective outcome reporting: was the study free from outcome reporting bias?

Score “YES” if:

- there is no evidence that outcomes were selectively reported (e.g. all relevant outcomes in the methods section are reported in the results section).

Score “NO” if:

- some important outcomes are subsequently omitted from the results or the significance and magnitude of important outcomes was not assessed.

Score “UNCLEAR” otherwise.

6. Selective analysis reporting: was the study free from analysis reporting bias?

Score “YES” if:

- authors use ‘common’ methods²¹ of estimation and the study does not suggest the existence of biased exploratory research methods²².

Score “NO” if:

- authors use uncommon or less rigorous estimation methods such as failure to conduct multivariate analysis for outcomes equations where it has not been established that covariates are balanced.

See also the following for particular estimation methodologies.

For PSM and covariate matching, score “YES” if:

- Where over 10% of participants fail to be matched, sensitivity analysis is used to re-estimate results using different matching methods (Kernel Matching techniques).
- For matching with replacement, no single observation in the control group is matched with a large number of observations in the treatment group.

Where not reported, score “UNCLEAR”. Otherwise, score “NO”.

For IV (including Heckman) models, score “YES” if:

- the authors test and report the results of a Hausman test for exogeneity ($p \leq 0.05$ is required to reject the null hypothesis of exogeneity).

21 ‘Common methods’ refers to the use of the most credible method of analysis to address attribution given the data available.

22 A comprehensive assessment of the existence of ‘data mining’ is not feasible particularly in quasi-experimental designs where most studies do not have protocols and replication seems the only possible mechanism to examine rigorously the existence of data mining.

- the coefficient of the selectivity correction term (Rho) is significantly different from zero ($P < 0.05$) (Heckman approach).

Where not reported, score “UNCLEAR”. Otherwise, score “NO”.

For studies using multivariate regression analysis, score “YES” if:

- authors conduct appropriate specification tests (e.g. reporting results of multicollinearity test, testing robustness of results to the inclusion of additional variables, etc).

Where not reported or not convincing, score “UNCLEAR”. Otherwise, Score “NO”.

7. Other: was the study free from other sources of bias?

Important additional sources of bias may include: concerns about blinding of outcome assessors or data analysts; concerns about blinding of beneficiaries so that expectations, rather than the intervention mechanisms, are driving results (detection bias or placebo effects)²³; concerns about courtesy bias from outcomes collected through self-reporting; concerns about coherence of results; data on the baseline collected retrospectively; information is collected using an inappropriate instrument (or a different instrument/at different time/after different follow up period in the comparison and treatment groups).

Score “YES” if:

- the reported results do not suggest any other sources of bias.

Score “UNCLEAR” if:

- other important threats to validity may be present

Score “NO” if:

- it is clear that these threats to validity are present and not controlled for.

8. Confidence intervals

NOTE: for full internal validity assessment – ie risk of bias in effects and precision based on true confidence intervals (Type I error, Type II error) – assessment should include the following:

a) For studies using parametric regression methods such as OLS (distribution of error term, and heteroscedasticity):

Score “YES” if:

²³ All interventions may create expectations (placebo effects), which might confound causal mechanisms. In social interventions, which usually require behaviour change from participants, expectations may form an important component of the intervention, so that isolating expectation effects from other mechanisms may be less relevant.

- the authors test and fail to reject the null of homoscedasticity (e.g. through a Breusch-Pagan test for heteroscedasticity ($p > 0.05$)) and test for the assumed error distribution (e.g. Kolmogorov-Smirnov test for non-normality ($p > 0.05$))
- or if the test suggests the existence of heterogeneity or non-normality, the study corrects for them (e.g. use of log transformation in the dependent variable).

Score “UNCLEAR” if:

- the results of any test are not reported.

Score “NO” otherwise²⁴.

b) If, despite large effects, the study fails to find the effects significant (Power of the study),

Score “YES” if:

- the sample size is enough to detect a relevant significant effect.

Score “UNCLEAR” if:

- it is not clear whether the sample size is sufficiently large to detect medium or large significant effects.

Score “NO” if:

- the sample size is not sufficiently large to detect medium or large significant effects.

c) For clustered studies (unit of analysis error),

Score “YES” if:

- the analysis is carried out at the relevant unit of treatment assignment,
- or the study accounts for lack of independence between observations within assignment clusters.

Score “UNCLEAR” if:

- the study does not report enough information on the unit of treatment assignment.

Score “NO” if:

- the analysis is carried out at a different unit than the assignment.

²⁴ Standard errors may be inflated in parametric approaches if the intervention does not have a homogeneous effect across the whole sample population, and the authors fail to conduct appropriate sub-group analyses.

Appendix 8: Calculation of effect sizes for studies included in review of effectiveness

Alves, M.C. & Arias, E.D. (2012). *Understanding the Fica Vivo programme: two-tiered community policing in Belo Horizonte, Brazil.*

Alves and Arias (2012) reported on seven years of homicides between 2001 and 2007 inclusive, across five target locations. The rest of the city of Belo Horizonte was used as the comparison group. Locations implemented the intervention in either 2002, 2004 or 2005.

We treated the data as coming from an underlying uniform distribution for homicide, with a step function for the effect of the intervention on the outcome. The average number of homicides per year was calculated for each treated and control area, across the years prior to the implementation of the programme and the years following the implementation. As such this evaluation examines the average long-term effect of the intervention. The data are presented in Table 15.

Table 15: Data available to calculate effect sizes (Alves & Arias, 2012)

Location	Implemented	2001	2002	2003	2004	2005	2006	2007
Alto Vera Cruz & Taquaril	2005	18	54	53	67	63	36	31
Cabana do Pai Tomas	2005	14	36	26	16	16	12	11
Paulo VI & Ribeiro de Abreu	2005	19	26	39	57	52	29	12
Pedreira Prado Lopes	2004	9	11	5	61	23	14	9
Morro das Pedras & Ventosa	2002	19	27	33	16	11	16	18
City of Belo Horizonte	-	640	900	1174	1284	1100	998	1002

Source: Alves & Arias (2012)

As the data were counts of events in areas, rather than the means of responses by a sample, we followed Bowers et al. (2011), Farrington et al. (2007) and Mazerolle et al. (2007) in calculating the log odds ratio as the effect size, along with its variance. We conceptualise that if a certain number of crimes occurred in an area over the full time frame, that the treatment effect can be seen as the odds that any crime occurs prior to the intervention. A positive log odds ratio indicates increased odds of a crime occurring prior to the intervention, compared to after the intervention (i.e. there is a decrease in crime post-intervention). The log odds ratio was calculated using the following formula:

$$\text{Log odds ratio} = \ln (ad / bc)$$

where a = the average count of crime in the treatment area before the intervention, b = the average count of crime in the treatment area after the intervention, c = the average count of crime in the control area before the intervention, and d = the average count of crime in the control area after the intervention. The variance of the log odds ratio was calculated as:

$$\text{Variance log odds ratio} = \frac{1}{a} + \frac{1}{b} + \frac{1}{c} + \frac{1}{d}$$

We then calculate the standard error of d as the square root of the variance. We show the effect sizes for each target group in Table 16 below.

Table 16: Calculated effect sizes (Alves & Arias, 2012)

Location	Homicide effect sizes		
	Log Odds Ratio	Variance	SE
Alto Vera Cruz & Taquaril	0.136	0.046	0.215
Cabana do Pai Tomas	0.604	0.122	0.349
Paulo VI & Ribeiro de Abreu	0.162	0.063	0.251
Pedreira Prado Lopes	-0.974	0.159	0.399
Morro das Pedras & Ventosa	0.460	0.105	0.324

Ruprah, I. J. (2008). An impact evaluation of a neighbourhood crime prevention program: Does Safer Commune make Chileans safer?

The study reported the propensity-score matched mean differences, the marginal impact of the intervention (reported as a percentage change), and the 95% confidence intervals of the propensity-score matched mean differences. We interpret the percentage impact change as an equivalent to the odds ratio, as it demonstrates the change in crime that occurs after the programme is implemented. We converted the marginal percentage to odds ratios using the following formula:

$$\text{Odds ratio} = (\text{marginal effect} + 100)/100$$

The study reported a standardised effect size; however, it did not report standardised confidence intervals or variance. We used the presented data to transform the odds ratio to Cohen's d using the following formula:

$$d = \ln(\text{odds ratio}) \frac{\sqrt{3}}{\pi}$$

As the original study did not report standard errors, we calculated the variance of the effect size using d and the sample sizes:

$$v = \frac{n_1 + n_2}{n_1 n_2} + \frac{d^2}{2(n_1 + n_2)}$$

We then calculated the standard error of d as the square root of the variance. The marginal effects and the transformed effect sizes are shown in Table 17 below.

Table 17: Impact of the Safer Commune programme on reported crime (Ruprah, 2008)

Outcome	Marginal effect	Odds ratio	d	Variance	SE
Robbery with violence or intimidation	18.7%	1.187	0.095	0.191	0.437
Battery	-27%*	0.73	-0.174	0.192	0.438
Homicide	41.2%	1.412	0.190	0.192	0.438
Rape	-54.4%	0.456	-0.433	0.195	0.442

Source: Ruprah (2008) (* reported as statistically significant reduction in original paper)

Concha-Eastman, A. (2005). Ten years of a successful violence reduction program in Bogota, Colombia.

The study reported a time series of annual homicide rates for Bogota (reported in Table 18 below), with no control group. The intervention was implemented during 1995.

Table 18: Data available to calculate effect sizes (Concha-Eastman, 2005)

Pre					Post							
1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	
55.8	63.1	79.9	69.6	58.9	56.5	47.0	40.4	39.5	35.3	31.0	28.4	
7	7	9	9	1	3	8	3		7	5	2	

Source: Concha-Eastman (2005)

We treat the observations prior to implementation in 1995 as the control group and the observations after implementation as the treatment group. The effect size was calculated by treating the data as a pre-post comparison and using the results of a t-test of the difference in means. We calculated Cohen’s d using the t -statistic and the sample sizes in the model:

$$d = t \sqrt{\frac{n_1 + n_2}{n_1 n_2}}$$

where n_1 and n_2 are the pre- and post-intervention samples sizes respectively and the variance of the effect size was calculated as:

$$v = \frac{n_1 + n_2}{n_1 n_2} + \frac{d^2}{2(n_1 + n_2)}$$

We then calculate the standard error of d as the square root of the variance. The calculated effect size is negative and statistically significant, indicating a decrease in homicide following the intervention. The effect sizes are shown in Table 19 below.

Table 19: Calculated effect sizes (Concha-Eastman, 2005)

Pre mean	Pre SD	Post mean	Post SD	t	n ₁	n ₂	Homicide effect size		
							d	Variance	SE
65.526	9.606	39.783	9.654	4.5660	5	7	2.674	0.6407	0.800

Khruakham, S. (2011). Assessing the effectiveness of the 2001 drug policy and drug enforcement in Thailand: A time-series analysis of police data

The study used a time-series of 14 years of monthly violent crime data from 1995 to 2008 for ten regions, with no control group. There were 100 months classified as pre-intervention and 68 months classified as post-intervention. The study reports ARIMA models including the regression coefficient of the dummy intervention variable Drug Policy. The data available to calculate an effect size is shown in Table 20.

Table 20: ARIMA coefficients for Thailand police drug crackdown (Khruakham, 2011)

Region	Coefficients for Violent Crime as outcome						
	Estimate	Estimate	Estimate	Estimate	SE	t-value	p-value
	AR1	MA1	MA2	Drug policy	Drug policy	Drug policy	(drug policy)
Metro	-	.798*	-	.003	.011	.281	.779
1	-	.521*	-	.000	.006	.035	.972
2	.145	.829*	-	.007	.006	1.123	.263
3	-	.387*	.198*	-.009	.007	-1.301	.195
4	.306*	.908*	-	-.002	.005	-.387	.699
5	.179	.894*	-	-.003	.004	-.766	.445
6	.183	.759*	-	-.006	.006	-1.143	.255
7	.804*	-	-	.002	.006	.275	.784
8	-	.406*	-	-.016	.008	-1.892	.060
9	-.157	.430*	-	-.010	.006	-1.590	.114

Source: Khruakham (2011) (* p-value < .05)

As the data in table 20 shows, there was no significant change in violent crime rates in any of the 10 regions as a result of the drug crackdown. Limitations identified by the authors of the study are the lack of controls for extraneous variables that might also impact on crime, and the lack of data on police activity.

The regression models contained various combinations of an autoregressive term (AR1), moving average terms (MA1, MA2) and the coefficient for the dummy variable drug policy, with no other control variables. We therefore considered the intervention coefficient to be

effectively representing a zero-order effect size, estimating the average difference in violent crime rate between months pre- and post- intervention. We calculated Cohen’s *d* using the *t*-statistic from the intervention coefficient, and the degrees of freedom in the model:

$$d = t \sqrt{\frac{n_1 + n_2}{n_1 n_2}}$$

and the variance of the effect size was calculated as:

$$v = \frac{n_1 + n_2}{n_1 n_2} + \frac{d^2}{2(n_1 + n_2)}$$

where *n*₁ and *n*₂ are the pre- and post-intervention samples sizes respectively. In this instance we substitute the number of months pre- and post-intervention as the sample size equivalent. We then calculate the standard error of *d* as the square root of the variance. The calculated effect sizes are shown in Table 21, below. None of the effect sizes are significantly different from zero, indicating that the intervention had no effect on violent crime in the treatment areas.

Table 21: Calculated effect sizes (Khruakham, 2011)

Region	Violent crime effect sizes		
	d	Variance	SE
Metro	0.044	0.025	0.157
1	0.006	0.025	0.157
2	0.177	0.025	0.157
3	-0.204	0.025	0.158
4	-0.061	0.025	0.157
5	-0.120	0.025	0.157
6	-0.180	0.025	0.157
7	0.043	0.025	0.157
8	-0.297	0.025	0.158
9	-0.250	0.025	0.158

Villaveces, A., Cummings, P., Espitia, V. E., Koepsell, T. D., McKight, B., Kellermann, A. L. (2000). Effect of a ban on carrying firearms on homicide rates in two Colombian cities.

The authors presented their results as both a standardised homicide rate per 100,000 persons and as a standardised mortality ratio per 100,000 with 95% confidence intervals. We used the standardised mortality ratio data in our calculations. The original and calculated effect sizes are shown in Table 22 below. Both Cali and Bogota show a statistically significant reduction in homicide in the intervention periods compared to the non-intervention periods.

Table 22: Impact of firearms ban on homicide (Villaveces et al., 2000)

City		Reported effect sizes	
		Standardised homicide rate per 100,000	Standardised mortality ratio (95% CIs) per 100,000
Cali	Intervention	89.0	0.83 (0.77-0.89)
	Non-intervention	107.5	
Bogota	Intervention	54.2	0.92 (0.86-0.97)
	Non-intervention	59.3	

Source: Villaveces et al., (2000)

Appendix 9: Risk of Bias assessment of studies included in effectiveness review

Study	Is this study free from:								Overall assessment of study quality
	Mechanism of assignment	Group equivalence	Hawthorne and John Henry effects	Spill-overs	Selective outcome reporting	Selective analysis reporting	Other sources of bias	Confidence intervals	
Alves & Arias (2012)	N	N	Y	N	Y	N	U	U	Medium
Concha-Eastman (2005)	NA	NA	Y	NA	U	N	N	U	Low
Khruakham (2011)	NA	NA	Y	NA	Y	Y	N	U	Medium
Matta & Andrade (2005)	N	N	Y	N	Y	N	U	U	Medium
Peixoto et al. (2008; 2009)	N	Y	Y	N	Y	Y	U	U	Medium
Ruprah (2008)	N	Y	Y	N	Y	U	Y	U	Medium
Villaveces et al (2000)	Y	Y	Y	Y	Y	Y	Y	U	High

Appendix 10: Qualitative research checklist (CASP)

©Critical Appraisal Skills Programme (CASP) Qualitative Research Checklist 31.05.13

#	Question	Id	Code
1	<p>Was there a clear statement of the aims of the research?</p> <p>HINT: Consider:</p> <ul style="list-style-type: none"> - What was the goal of the research? - Why was it thought important? - Its relevance 	Research Aims	Yes = 1 No = 0 Can't tell = 9
2	<p>Is a qualitative methodology appropriate?</p> <p>HINT: Consider:</p> <ul style="list-style-type: none"> - If the research seeks to interpret or illuminate the actions and/or subjective experiences of research participants - Is qualitative research the right methodology for addressing the research goal? 	Appropriate Method	Yes = 1 No = 0 Can't tell = 9
3	<p>Was the research design appropriate to address the aims of the research?</p> <p>HINT: Consider:</p> <ul style="list-style-type: none"> - If the researcher has justified the research design (e.g. have they discussed how they decided which method to use)? 	Research Design	Yes = 1 No = 0 Can't tell = 9
4	<p>Was the recruitment strategy appropriate to the aims of the research?</p> <p>HINT: Consider:</p> <ul style="list-style-type: none"> - If the researcher has explained how the participants were selected - If they explained why the participants they selected were the most appropriate to provide access to the type of knowledge sought by the study - If there are any discussions around recruitment (e.g. why some people chose not to take part) 	Recruitment Strategy	Yes = 1 No = 0 Can't tell = 9
5	<p>Was the data collected in a way that addressed the research issue?</p> <p>HINT: Consider:</p> <ul style="list-style-type: none"> - If the setting for data collection was justified 	Data Collection	Yes = 1 No = 0 Can't tell = 9

- If it is clear how data were collected (e.g. focus group, semi-structured interview etc.)
- If the researcher has justified the methods chosen
- If the researcher has made the methods explicit (e.g. for interview method, is there an indication of how interviews were conducted, or did they use a topic guide)?
- If methods were modified during the study. If so, has the researcher explained how and why?
- If the form of data is clear (e.g. tape recordings, video material, notes etc)
- If the researcher has discussed saturation of data

<p>6 Has the relationship between researcher and participants been adequately considered?</p> <p>HINT: Consider:</p> <ul style="list-style-type: none"> - If the researcher critically examined their own role, potential bias and influence during <ul style="list-style-type: none"> (a) Formulation of the research questions (b) Data collection, including sample recruitment and choice of location - How the researcher responded to events during the study and whether they considered the implications of any changes in the research design 	<p>Conflict of Interest</p>	<p>Yes = 1 No = 0 Can't tell = 9</p>
<p>7 Have ethical issues been taken into consideration?</p> <p>HINT: Consider:</p> <ul style="list-style-type: none"> - If there are sufficient details of how the research was explained to participants for the reader to assess whether ethical standards were maintained - If the researcher has discussed issues raised by the study (e.g. issues around informed consent or confidentiality or how they have handled the effects of the study on the participants during and after the study) - If approval has been sought from the ethics committee 	<p>Ethical Issues</p>	<p>Yes = 1 No = 0 Can't tell = 9</p>
<p>8 Was the data analysis sufficiently rigorous?</p> <p>HINT: Consider:</p> <ul style="list-style-type: none"> - If there is an in-depth description of the analysis process - If thematic analysis is used. If so, is it clear how the 	<p>Analytic Rigour</p>	<p>Yes = 1 No = 0 Can't tell = 9</p>

categories/themes were derived from the data?

- Whether the researcher explains how the data presented were selected from the original sample to demonstrate the analysis process
- If sufficient data are presented to support the findings
- To what extent contradictory data are taken into account
- Whether the researcher critically examined their own role, potential bias and influence during analysis and selection of data for presentation

9 Is there a clear statement of findings?

Statement of Findings

Yes = 1

No = 0

Can't tell = 9

HINT: Consider:

- If the findings are explicit
- If there is adequate discussion of the evidence both for and against the researchers arguments
- If the researcher has discussed the credibility of their findings (e.g. triangulation, respondent validation, more than one analyst)
- If the findings are discussed in relation to the original research question

10 Is the research valuable?

Value

Yes = 1

No = 0

Can't tell = 9

HINT: Consider:

- If the researcher discusses the contribution the study makes to existing knowledge or understanding e.g. do they consider the findings in relation to current practice or policy?, or relevant research-based literature?
- If they identify new areas where research is necessary
- If the researchers have discussed whether or how the findings can be transferred to other populations or considered other ways the research may be used

Appendix 11: Critical appraisal of studies included in narrative review

Study	Research Aims	Appropriate Method	Research Design	Recruitment Strategy	Data Collection	Conflict of Interest	Ethical Issues	Analytic Rigour	Statement of Findings	Value	Overall assessment of study quality
Arias & Ungar (2009) (Qualitative Component)	1	1	1	0	1	0	9	0	1	1	Medium
Hautzinger (1997)	1	1	1	1	1	1	9	9	1	1	Medium
Hautzinger (1998)	1	1	1	1	1	1	9	9	1	1	Medium
Hornberger (2003)	1	1	0	9	1	9	9	0	1	1	Low
Khalique (2011)	1	1	1	1	1	0	0	9	1	1	Medium
Manby (2001)	1	1	1	0	1	9	9	0	1	1	Medium
Manamela et al. (2010) (Qualitative Component)	1	1	1	1	1	9	9	0	1	1	Medium
Masuku & Maepa (2004)	1	1	0	0	0	0	9	0	1	1	Low
McRae (2010)	1	1	1	1	1	9	9	9	1	1	Medium
Natarajan (2006)	1	1	1	1	1	1	9	9	1	1	Medium
Ostermann (2000)	1	1	1	1	1	1	1	1	1	1	High
Rifiotis (2004)	1	1	1	0	0	9	9	0	1	1	Low
Sacco & Twemlow (1997)	1	1	0	0	0	9	9	0	1	1	Low

Several quantitative studies based on descriptive data failed to meet the criteria of the meta-analysis but are included in the narrative review. Due to the limitations of these studies (recognised by their exclusion from the meta-analysis) utilizing the risk of bias assessment tool which considers the quality of quasi experimental studies is not appropriate. Instead, the CASP checklist was adapted to assess the quality of these studies.

Study	Research Aims	Appropriate Method	Research Design	Recruitment Strategy	Data Collection	Conflict of Interest	Ethical Issues	Analytic Rigour	Statement of Findings	Value	Overall assessment of study quality
Alda, Buvinic & Lamas (2006)	1	1	0	0	0	9	9	0	1	1	Low
Arias & Ungar (2009) (Quantitative Component)	1	1	1	1	1	9	9	0	1	1	Medium
Burger (2006)	1	1	n/a	n/a	n/a	n/a	n/a	0	1	1	Low
Fawole et al. (2003)	1	1	1	1	1	9	9	1	1	1	Medium
Fawole et al. (2005)	1	1	1	1	1	9	9	1	1	1	Medium
Fruhling (2007a)	1	1	n/a	n/a	n/a	n/a	n/a	0	1	1	Low
Fruhling (2007b)	1	1	n/a	n/a	n/a	n/a	n/a	0	1	1	Low
Fruhling (2007c)	1	1	n/a	n/a	n/a	n/a	n/a	0	1	1	Low
Fruhling (2007d)	1	1	n/a	n/a	n/a	n/a	n/a	0	1	1	Low
Goertzel & Kahn (2009)	1	1	1	n/a	n/a	9	9	1	1	1	Medium
Gutierrez-Martinez et al. (2007)	1	1	0	n/a	1	9	9	1	1	1	Medium
Gurnani et al. (2011)	1	1	n/a	n/a	n/a	9	9	0	1	1	Low
Keegan (2004)	1	1	1	9	9	9	9	0	1	1	Low
Khalique (2011)	1	1	1	1	1	9	9	0	1	1	Medium
Manamela et al. (2010) (Quantitative Component)	1	1	1	1	1	9	9	0	1	1	Medium
Ruiz Vasquez (2008)	1	1	n/a	n/a	n/a	n/a	n/a	9	1	1	Low

Appendix 12: Key themes by intervention type

Reasons cited by author/s for intervention success:

	Gender based (n=7)	Training/ Education (n=6)	Bans and crackdowns (n=3)	Partnerships (n=4)	Visible policing/ increased police contact (n=2)	Community oriented policing (n=13)	Crime observatories (n=2)	Total (n=37)
Political commitment			2	1	1	3	2	8
Police cooperation				1		3		4
Community Participation				1		7		8
Social support	1			1		4		6
Provides deterrence	1		2		1			4
Police visibility			1			1		2
Training and education		6				2		8
Multiagency approach		2		1		1		4
Prevents police abuse		1				1		2
Use of technology		1					2	3
Increased police contact					1			1
Flexible design				1				1

Reasons cited by author(s) for intervention failure:

	Gender based (n=7)	Training/ Education (n=6)	Bans and crackdowns (n=3)	Partnerships (n=4)	Visible policing/ increased police contact (n=2)	Community oriented policing (n=13)	Crime observatories (n=2)	Total (n=37)
Lack of communication				1		1		2
Lack of community awareness/participation						3		3
Discrimination of female officers	2	1				1		4
Limited resources/ inadequate funding	3			1		5		9
Continuity in personnel				1		1		2
Inadequate training	3					1		4
Police corruption/abuse						2		2
Continued perpetration of male bias against female victims/ secondary victimisation.	5							5
Lack of efficient multiagency approach	1			1		1		3
Intervention is not legally enforceable	1							1
Racial discrimination of victims				1				1
Ineffective police action	1							1
Different perceptions between higher and lower ranking officers						2		2
Contextual issues (gang violence etc)						2		2

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