# Community-oriented policing to reduce crime, disorder and fear and increase legitimacy and citizen satisfaction in neighborhoods

Article *in* Journal of Experimental Criminology · January 2012

**4 authors:**

David L. Weisburd
Hebrew University of Jerusalem
**272** PUBLICATIONS   **12,336** CITATIONS

SEE PROFILE

Charlotte Gill
George Mason University
**30** PUBLICATIONS   **742** CITATIONS

SEE PROFILE

Trevor Hugh Bennett
University of South Wales
**159** PUBLICATIONS   **2,956** CITATIONS

SEE PROFILE

Cody W. Telep
Arizona State University
**48** PUBLICATIONS   **1,680** CITATIONS

SEE PROFILE

Some of the authors of this publication are also working on these related projects:

Project  Proton (Modelling the PRocesses leading to Organised crime and TerrOrist Networks) FCT-16-2015) View project

Project  Correctional Programs in the Israel Prison Service A National Evaluation View project

# Community-oriented policing to reduce crime, disorder and fear and increase satisfaction and legitimacy among citizens: a systematic review

**Charlotte Gill · David Weisburd · Cody W. Telep · Zoe Vitter · Trevor Bennett**

**Abstract**

*Objectives* Systematically review and synthesize the existing research on community-oriented policing to identify its effects on crime, disorder, fear, citizen satisfaction, and police legitimacy.

*Methods* We searched a broad range of databases, websites, and journals to identify eligible studies that measured pre-post changes in outcomes in treatment and comparison areas following the implementation of policing strategies that involved community collaboration or consultation. We identified 25 reports containing 65 independent tests of community-oriented policing, most of which were conducted in neighborhoods in the United States. Thirty-seven of these comparisons were included in a meta-analysis.

*Results* Our findings suggest that community-oriented policing strategies have positive effects on citizen satisfaction, perceptions of disorder, and police legitimacy, but limited effects on crime and fear of crime.

*Conclusions* Our review provides important evidence for the benefits of community policing for improving perceptions of the police, although our findings overall are ambiguous. The challenges we faced in conducting this review highlight a need for

C. Gill (✉) · D. Weisburd · Z. Vitter
Center for Evidence-Based Crime Policy, Department of Criminology, Law and Society, George Mason University, 4400 University Dr. MS6D12, Fairfax, VA 22030, USA
e-mail: cgill9@gmu.edu

D. Weisburd
Institute of Criminology, Faculty of Law, Hebrew University, Jerusalem, Israel

C. W. Telep
School of Criminology and Criminal Justice, Arizona State University, Phoenix, AZ, USA

T. Bennett
Centre for Criminology, University of South Wales, Pontypridd, UK

 Springer

further research and theory development around community policing. In particular, there is a need to explicate and test a logic model that explains how short-term benefits of community policing, like improved citizen satisfaction, relate to longer-term crime prevention effects, and to identify the policing strategies that benefit most from community participation.

## Introduction

Community-oriented policing (COP) is a philosophy of policing that emphasizes community involvement in crime prevention efforts, in contrast to the focus of traditional policing on law enforcement and order maintenance. Previous narrative reviews have found limited effects of COP on reducing crime, but suggest that it may have benefits for other outcomes, including citizen satisfaction and trust in the police (Sherman and Eck 2002; Skogan and Frydl 2004; Weisburd and Eck 2004). There are a number of challenges in assessing the effectiveness of COP, including a broad interpretation of its scope and, subsequently, substantial heterogeneity in the types of strategies that are classified as COP, and the lack of a clear logic model or accepted structure for implementation. We therefore conducted a systematic review to attempt to identify and synthesize the various approaches that have been classified as COP.

This study sought to investigate the extent to which community-oriented policing impacts crime, disorder, fear of crime, citizen satisfaction with police, and police legitimacy, as well as identify the most effective strategies police can use in collaboration with the community to prevent crime. Our results reinforce earlier recognition of the benefits of community policing for increasing citizen satisfaction and trust in the police. Community policing strategies are also associated with a significant reduction in citizens' perceptions of disorder. In line with other reviews, we do not find an overall significant effect on crime, and COP does not appear to reduce fear of crime. Identifying the specific components that are implemented in collaboration with the community, such as problem solving, may be key to refining COP as an intervention and assessing its effectiveness. We begin with a review of the prior literature on community-oriented policing and some of the challenges of conceptualizing and measuring COP interventions, before discussing the systematic review and meta-analysis methodology and results. We conclude with a discussion of the implications of our findings for future research and the refinement of the community-oriented policing model.

## Background

Community-oriented policing (COP) is a law enforcement philosophy comprising three key components: community partnerships, organizational transformation, and problem solving (Office of Community Oriented Policing Services 2012; Skogan 2006a). COP is based on the premise that the police are not limited to traditional law enforcement

powers in carrying out their work, and should draw on community involvement and input to define, prioritize, and address crime problems (Weisburd and McElroy 1988). This approach requires the traditional hierarchy of the police department to be 'flattened' in order to delegate decision making to the frontline officers who directly engage the community (Cordner 1999; Office of Community Oriented Policing Services 2012; Trojanowicz et al. 1998; Weisburd et al. 2003a). Thus, COP is not simply about improving relationships between police and citizens. It is also a problem-solving process that draws upon citizens' expertise in identifying and understanding the social issues that create crime, disorder, and fear (Trojanowicz et al. 1998). Community members and the police officers who serve them, as well as the police organization more broadly, are therefore the 'co-producers' of public safety. In this way, COP is distinct from problem-oriented policing (POP; see Clarke 2002; Goldstein 1990; Scott 2000; Weisburd et al. 2010). The primary focus of POP is to find effective solutions to problems, which may or may not involve the community, while problem solving within the COP framework emphasizes community outreach and engagement and does not necessarily rely on thorough problem analysis approaches such as the SARA model.

COP is one of several policing innovations that became widely adopted in the 1990s after several decades of dissatisfaction with 'standard' police practices. Traditional policing approaches in the United States, also described as the 'professional model of policing,' have consisted of generic, reactive strategies to prevent or respond to crime (e.g., Weisburd and Eck 2004). These strategies largely emphasize inputs and outputs (for example, resource management and meeting targets) rather than longer-term outcomes like effectiveness, legitimacy of the police, and citizen satisfaction. Standard policing can also be insular, relying heavily on traditional law enforcement powers with very little input from or collaboration with non-police institutions and the community.

During the 1970s, rising crime and challenges to the effectiveness of a broad range of criminal justice practices (e.g., Martinson 1974) led to criticisms of the standard model of policing. The criminal justice system more generally had been criticized as being out of touch with and unsupported by the communities it served (see, e.g., the recommendations of the President's Commission on Law Enforcement and Criminal Justice 1967). Around the same time, several high-profile research studies suggested that two key elements of the standard model of policing, preventive patrol and rapid response, had little impact on crime rates (Kelling et al. 1974; Spelman and Brown 1984; see also Weisburd and Braga 2006). Much as Martinson's findings about the limitations of research on rehabilitation led to "nothing works" becoming the defining characteristic of the entire field, these studies raised questions about the effectiveness of the police in general. By the 1990s, many scholars believed that the police could do little to impact crime (e.g., Bayley 1994; Goldstein 1990; Gottfredson and Hirschi 1990).

This "crisis" in American policing arguably provided the foundation for the changes and innovations that led to developments such as COP (Weisburd and Braga 2006). Community-oriented policing recognized what scholars had begun to discover in observational studies (e.g., Reiss 1971), that much of the police role did not involve crime fighting. Rather, police work involved order maintenance, service provision, reduction of fear, and conflict resolution (Kelling and Moore 1988; Skogan and Frydl 2004; Skogan and Hartnett 1997; Weisburd and Braga 2006). Community-oriented

policing advocates brought to the fore aspects of policing that had been deemphasized through the characterization of the police solely as crime fighters. They also responded to the crisis in community support and legitimacy of policing at the time by placing the community as central to the police task, recognizing the community in a broad sense as the foundation of social institutions like the police and criminal justice system (Sherman 1997a).

COP has become extremely popular, particularly in the United States but also in other European countries (notably the United Kingdom) and Australia. In the U.S., Skogan and Frydl (2004: 232) report a major investment in COP by police agencies and communities in the two decades prior to their review (see also Skogan 2006a; Weisburd and Eck 2004). In a 1997 Police Foundation survey, all police departments in U.S. municipalities with populations greater than 100,000 who responded reported that they had adopted COP, with 85 % of the total sample claiming that they had adopted or planned to adopt it (Skogan 2004). Similarly, in a later survey, over 90 % of police departments in large urban areas indicated that they employed fully trained community-oriented policing officers (Hickman and Reaves 2001; see also Mastrofski et al. 2007). Much of this popularity in the United States was driven by the creation of the COPS Office (the U.S. Department of Justice's Office of Community Oriented Policing Services) in 1994. The COPS Office has provided significant funding to encourage agencies to implement COP. However, more recently, there has been an overall decline in the percentage of departments using full-time community-oriented policing officers. This drop-off has been most pronounced in smaller departments serving populations of less than 50,000 (Reaves 2010). In the United States at least, the impact of the economic downturn on the budgets of police departments and federal agencies may be partly responsible for the lower levels of investment compared to a decade ago, but some more fundamental challenges with the implementation of COP may also have played a role.

Stone and Travis (2011) suggest that COP has lost some of its momentum because some police departments felt unsure of what to ask of communities and felt the "transformative" power of the program did not live up to expectations. Mastrofski et al. (2007), in a national survey of U.S. police leaders, found that over half of respondents found obtaining sufficient resources to "do [community-oriented policing] right" very or extremely challenging, and over 40 % found it difficult to obtain the support of frontline officers for COP activities (see also Skogan and Hartnett 1997). The challenge may lie in the fact that, unlike other police innovations like hot spots or problem-oriented policing, COP is a philosophy or guiding framework for implementing strategies, and not a strategy in itself. Trojanowicz et al. (1998), in a revised edition of their seminal book on community-oriented policing, state that "[c]ommunity policing is not just a tactic that can be applied to solve a particular problem, one that can be abandoned once the goal is achieved." Weisburd et al. (2003b) also suggest that COP's demand for decentralization presented a threat to the traditional military model of policing, which may have led police to look to other innovations such as Compstat.

Furthermore, there are no specific criteria for implementing COP because the mission of each police department is assumed to be guided by the community it serves (Morabito 2010). Thus, the organizational transformation element of COP is crucial. Yet, it appears that few police departments that claim to be 'doing COP' have

implemented all three key components (Morabito 2010; Trojanowicz et al. 1998). COP is often introduced at the unit level, as a set of tactics employed by individual police officers, in specific beat areas, or by specialized teams (e.g., Weisburd et al. 1988). A diverse range of strategies have been employed under the auspices of COP over the past few decades—and have fallen in and out of favor as community-oriented strategies during that time—including problem-oriented policing (which, as we note above, does not necessarily require community collaboration), foot patrol, newsletters, door-to-door surveys, education programs in schools, neighborhood watch, and multi-agency partnerships with municipal organizations and community members (Mastrofski et al. 1995; Skogan 2006b; Weisburd and Eck 2004).

Mastrofski et al. (2007: 224) note that the resulting heterogeneity renders the COP approach "vague and difficult to execute," and that many of these tactics have not been rigorously tested (see also Eck and Rosenbaum 1994; Skogan and Frydl 2004). Weisburd and Eck (2004) found in a narrative review of community-oriented policing studies that the different strategies appear to have variable effects on crime. For example, community meetings, foot patrol, and providing information about crime prevention to the public had little effect on crime, while door-to-door visits reduced crime and fear of crime, and general improvements in police-community interactions also reduced fear and concern about crime.

The outcomes of COP programs may also have proved disappointing because there is no clear theory of change linking police–community collaboration to reduced crime. While crime reduction is now a desired goal of COP, it was not a key reason for the adoption of community-oriented policing (Skogan 2006a)—as discussed above, COP emerged from a desire to broaden the mandate of the police at a time when their effectiveness at controlling crime was in doubt. Community-oriented policing identified a host of roles for the police beyond crime fighting, including reducing fear, responding to social and physical disorder in the community, and forging positive relationships with residents to enhance police legitimacy, while rejecting law enforcement as the "core function" of police (Mastrofski et al. 1995). Crime control as a key outcome measure of COP interventions most likely arose from the growth of community-oriented policing in the 1990s, when the COPS Office spurred the development of programs that treated crime as a key issue (see also Klockars 1985). Skogan (2006a) notes that government agencies are concerned with crime control and want COP to be one tool for that purpose, but no police department likely adopted COP as the primary method of reducing crime and disorder. This may explain why prior narrative reviews (e.g., Sherman and Eck 2002; Skogan and Frydl 2004; Weisburd and Eck 2004) suggest that, despite the massive investment in COP, its impact on crime has been somewhat limited.

On the other hand, COP may have a positive impact on non-crime control outcomes related to community relations and trust in the police, such as fear of crime, legitimacy, and satisfaction with policing. The community-oriented approach, which promotes positive relationships and collaboration between police and citizens over police imposition of enforcement and control over citizens, may foster procedural justice (fair, consistent, respectful, and accountable policing), enhanced trust in police, and higher citizen ratings of their performance. Given that citizens who trust and accept the authority of the police are more likely to obey the law (Sunshine and Tyler 2003; Tyler 1990), citizens' perceptions of legitimacy and police effectiveness may be

important antecedents to crime control. Some recent research (e.g., Jackson and Sunshine 2007; Kochel 2012; Wells et al. 2006) also suggests that residents' assessments of the effectiveness and quality of policing and the behavior of police are related to collective efficacy—the "willingness [of residents] to intervene for the common good" (Sampson et al. 1997: 919)—which may in itself be a precursor to crime control (e.g., Weisburd et al. 2012).

The diversity of approaches to community-oriented policing reflects the substantial heterogeneity found across 'community crime prevention' programs in general (Gill 2014). Consistent with the broader body of research in this area (Welsh and Hoshi 2006), few studies of community-oriented policing programs explicitly define "the community." It is usually assumed to mean the general population of the target area, but the definition and role of the community in crime prevention varies depending on the context. Gill (2014) notes that "community" may refer to a physical setting, such as a neighborhood or other area with administrative or informal boundaries, at which interventions are targeted; a more abstract concept of place or belonging such as 'social fabric,' shared culture, or support networks; or the actual people within a place who can be mobilized in crime prevention efforts. Even this last more concrete definition poses challenges: even at the micro-geographic level, there may be multiple 'communities' delineated by cultural or socio-demographic factors, roles and use of space (e.g., business owners vs. residents, night vs. daytime economy), behavioral norms, and so on. Community engagement in crime prevention may be active or passive, direct or indirect.

The potential for these different definitions to influence the effectiveness of community crime prevention programs has not been studied. Furthermore, the vague definition of community found in the COP literature may dilute the ability of these studies to identify effects, particularly since the community is supposed to drive COP goals. In general, the literature on evidence-based crime prevention, whether in the context of policing high-crime places, or individual offender treatment, suggests that highly focused interventions targeted at specific populations and risk factors produce the most consistent reductions in crime (e.g., Andrews et al. 1990; Lowenkamp et al. 2006; Lum et al. 2011; Weisburd and Eck 2004).

Community-oriented policing, as it is done in practice, clearly faces a number of definitional and implementation challenges. As Weisburd and Eck (2004) note, it is surprising that there has been so little systematic study of such a widely-implemented policy that has been popular enough to have an entire federal agency created to provide it with resources. This may be explained by the lack of fidelity to the 'ideal' model of COP and the resulting morass of strategies that have come to define the approach; the lack of clarity around implementation and intended goals of COP; and the lack of definition of 'community.' We believe a systematic review and assessment of the existing evaluation research on community-oriented policing can help to make sense of some of this confusion.

We recognize at the outset that very few studies have examined 'model' COP programs in which a set of problem-solving strategies have evolved from a philosophical shift in departmental priorities toward community-oriented goals, and that most police departments have only adopted "the *language* of community-oriented policing" (Trojanowicz et al. 1998: 2). Thus, our goal is to evaluate COP as it has come to be understood in practice, rather than the theoretical ideal, in order to bring together a

'fractured' literature[1] and understand the circumstances under which COP approaches might be effective. Ultimately, this may help refine the approach and enhance fidelity to the philosophical model. Our objective is to synthesize the published and unpublished literature on the effectiveness of the various strategies and policies collectively termed 'community-oriented policing' in an effort to answer the following research questions:

1. To what extent do community-oriented policing strategies reduce crime and disorder in the target areas?
2. To what extent do community-oriented policing strategies reduce fear of crime and improve citizen satisfaction with police and perceived legitimacy of the police?
3. Do the effects of community-oriented policing vary according to the particular strategy/combination of strategies used?

## Methods

Inclusion criteria

The following criteria were developed to identify studies for inclusion in the review:

1. The study must evaluate a policing strategy that involved, at minimum, some type of consultation or collaboration between the police and local citizens for the purpose of defining, prioritizing, and/or solving problems (e.g., door-to-door visits by officers, providing information to the community, setting up a local police substation, or developing a crime prevention partnership). Interventions that *also* involved problem solving and/or organizational change in the police department (e.g., decentralization, streamlining of management, increased responsibility at street level, or community-oriented training and recruitment policies), which are closer to accepted definitions of COP (Skogan 2006a), are included. As discussed above, we recognize that this criterion dilutes the accepted definition of the community-oriented policing model, but our aim is to identify the broader range of approaches that have been implemented within a community collaboration framework. Studies related to COP but not involving a direct program evaluation (for example, an assessment of the impact of federal funding for hiring of community police officers on crime) were not eligible.
2. The study design must be a quantitative analysis including a control or comparison group and both pre- and post- (or pre- and during-) intervention measures of outcomes, such as a randomized controlled trial or quasi-experiment. Comparison areas may receive 'policing as usual,' the precise definition of which varies by study, or another policing intervention that does not include a community consultation element. Time series studies where outcomes are measured multiple times before and after the intervention, with adjustment for secular trends, are also eligible. Simple pre–post studies are excluded due to the risk of historical bias with such studies.

---

[1] We thank an anonymous peer reviewer for this useful description.

3. For official crime outcomes, the unit of analysis of the study must be a police jurisdiction or area within the jurisdiction, such as a community, neighborhood, precinct, beat, or 'micro-geographic' area such as a street segment (Weisburd et al. 2012). For outcomes involving citizen perceptions, such as fear of crime or satisfaction with police, individual citizens living within target and comparison areas are the unit of analysis.

4. The study must have assessed at least one outcome related to crime or disorder (e.g., arrests, police calls for service, incident reports, victimization reports); citizen satisfaction with police; fear of crime; and citizen perceptions of physical and social disorder and police legitimacy (measured through citizen surveys).

5. Studies from any country[2] published from 1970 onwards (reflecting the time period during which interest in COP increased) are eligible.

Search strategy for identification of relevant studies

Our initial searches were conducted in summer 2011 and updated in summer 2012. We used several strategies to conduct a thorough search for eligible studies: a keyword search of online databases; a review of the bibliographies of prior studies and reviews of community-oriented policing (e.g., Sherman 1997b; Sherman and Eck 2002; Skogan and Frydl 2004; Weisburd and Eck 2004); forward searches for works that have cited key community-oriented policing studies (e.g., Goldstein 1987; Greene and Mastrofski 1988; Kelling and Moore 1988; Skogan and Hartnett 1997; Trojanowicz et al. 1998); a review of abstracts from leading policing and criminology journals; and searches of the websites of research and professional agencies. A full list of online databases, journals, and agency websites, and the keywords used to search them, are reported in Appendix A.

Details of study coding categories

We coded a variety of pertinent information from each study. A full coding protocol is available on request from the lead author. We recorded basic reference information, details of the target and comparison sites, and the components of the COP intervention, as well as other police activities in the target and comparison sites. Details of the study design, unit of analysis, and measurement of specific outcomes, and the sample size were coded. We detailed any implementation difficulties reported by the study authors and information about the methodological quality and potential biases, such as attrition. To calculate effect sizes, we recorded the pre- and post-intervention outcome measure statistics in the target and comparison areas, including the statistical test(s) used and any reports of statistical significance. Finally, we noted the authors' conclusions about whether the intervention was effective. Given the complexity of COP interventions, we also captured quotations from the studies for qualitative analysis to ensure we did not miss any important characteristics.

---

[2] Studies were not excluded on the basis of language, but we lacked resources to conduct our search in languages other than English.

Statistical procedures

We used meta-analysis to combine quantitative findings from studies that reported sufficient data to calculate an effect size. We used several different methods for calculating effect sizes, depending on the outcome measure (crime data from geographic units of analysis called for different methods than attitudinal/perceptional data obtained from citizen surveys) and the presentation of results in the original study. Wherever possible, we follow standard procedures for effect size calculation and meta-analysis as set out in Lipsey and Wilson (2001) (deviations from these methods are described below). For ease of interpretation, all effect sizes are presented in the analysis as odds ratios (OR), where OR > 1 indicates a favorable outcome for the treatment group relative to the comparison. Where odds ratios were not calculated directly, we performed conversions using the Comprehensive Meta-Analysis (CMA) software (Borenstein et al. 2005), which was also used to conduct all analyses.[3]

Studies of policing interventions at places present particular challenges for effect size calculation because interventions are often targeted at a single geographic area and outcomes compared to a single control area. In such studies, there is only one observation in each group, so many standard measures of effect size (which rely on means and standard deviations) cannot be used. Studies using time series analysis present similar difficulties because they are also effectively single subject designs and the statistical tests from time series models such as ARIMA are not analogous to tests such as Student's $t$. Most of the studies that measured official crime outcomes also presented pre- and post-intervention counts of incidents, calls for service, etc., for treatment and comparison areas.

Following prior meta-analyses of place-based interventions (e.g., Bowers et al. 2011; Braga and Weisburd 2012; Weisburd et al. 2010), we use what Farrington et al. (2007) term the 'relative effect size' to obtain a measure of the relative change in crime counts that is analogous to an odds ratio (although it should be noted that this is not a true odds ratio). This method has limitations, notably that we cannot assume that the standard error of the relative effect size can be calculated in the same way as the standard error of an odds ratio.[4] We adjust for this limitation by following Farrington et al.'s (2007) conservative approach: we use the square of the odds ratio standard error formula to increase the size of the confidence intervals. Thus, we caution that the confidence intervals and $p$ values presented in the analysis of official crime outcomes later in this review are only approximations and should not be interpreted as precise. The formulas for calculating the relative effect size (RES) and its variance ($SE_{RES}$) are presented in Fig. 1.

Effect sizes for person-based outcomes, such as fear of crime, perceptions of disorder and legitimacy, and satisfaction with police, were simpler to calculate using standard methods (as were crime outcomes in studies that tested interventions at multiple places, such as street segments or multiple beat areas, and reported mean crime counts and standard deviations that were used to calculate standardized mean

---

[3] Note that meta-analysis is performed on the log odds ratio, but we present findings as odds ratios for simplicity.
[4] If we assume that crime counts follow a Poisson distribution, the standard error would be the same as for the odds ratio because Poisson is a generalization of the binomial distribution. However, this assumption is not realistic at places: counts tend to be overdispersed (see Bowers et al. 2011).

$$RES = \frac{ad}{bc} \qquad\qquad SE_{RES} = \frac{1}{a} + \frac{1}{b} + \frac{1}{c} + \frac{1}{d}$$

where $a$, $b$, $c$, and $d$ represent crime counts:

|  | Pre-intervention | Post-intervention |
|---|---|---|
| Treatment area | $a$ | $b$ |
| Comparison area | $c$ | $d$ |

Fig. 1 Formulas for relative effect size and adjusted variance

differences and converted to odds ratios). Person-based outcomes were typically binary measures (yes/no questions), reporting the number or proportion of people surveyed who felt safe, trusted the police, and so on, which allowed us to calculate a true odds ratio (OR). Because we are interested in pre–post changes in perceptions (e.g., the proportion of respondents who reported trusting the police before and after the intervention), we report an adjusted OR calculated by subtracting the pre-test log OR from the post-test log OR for person-based outcomes.[5]

Mean effect sizes across studies were calculated in CMA and weighted using the inverse variance weights to account for the greater precision of effect size estimates from larger samples. We assumed a random effects model for the meta-analysis, accounting for the diversity of approaches comprising community-oriented policing interventions across the eligible studies.

A number of studies in our review included multiple comparisons and/or multiple outcome measures for the same construct. Meta-analysis assumes that each effect size in the analysis is based on a statistically independent sample. In a number of studies, multiple independent comparisons were available for analysis (for example, a program was implemented in several neighborhoods, each with its own separate comparison neighborhood, and results for each treatment–comparison pair were reported separately in the same study). However, other studies contained comparisons that violated the independence assumption (for example, two different treatments in two neighborhoods were both compared to the same control neighborhood). In these cases, we picked a treatment–comparison pair at random for inclusion in the meta-analysis. Some studies also contained multiple outcome measures for the same construct, inclusion of which would also violate statistical independence. While there are methods available for including all measures in the analysis (Hedges et al. 2010), we elected to prioritize outcomes for the purpose of this review, given the overall complexity of the intervention and inconsistency in measures across studies.

---

[5] The method for calculating the variance of this adjusted OR varies depending on whether the same people were interviewed in the pre- and post-intervention surveys. If the samples are different, the variance is simply the sum of the variances of the pre- and post-test ORs. If the studies report panel data (measures based on the same sample), the variance falls between the post-test variance and the sum of the variances, depending on the pre-post covariance, which is not reported in studies. In this analysis, it was not always clear from the original studies whether panel samples were used, although it appeared that most studies surveyed different people in each wave. We performed sensitivity analyses and elected to use the sum of the variances for all effect size calculations based on survey data, which is correct for the majority of studies, and a more conservative estimate for the panel studies because it overestimates the variance of these studies.

For crime outcomes, we selected the most general measure of crime: in most cases, studies conducted in the United States (which comprised the majority of the sample) reported changes in UCR Part I crimes. We felt this would be most reliable, as Part I crimes are serious offenses that are likely to be recorded by police and must be reported by municipalities. However, we also included calls for service. Some studies separated outcomes into property and violent crimes and did not include an overall measure. We decided not to perform separate meta-analyses for these crime subtypes, because this analysis already faced challenges from the lack of precision, so we wanted to include as many studies as possible in the same pool. Furthermore, there was no clear hypothesis for a differential effect of COP across these broad crime types. Since most of the studies reporting separate outcome measures examined the more serious property and violent crime types defined in the UCR, we analyzed overall crime in two ways: once combining property crime and overall crime, and again combining violent crime and overall crime.

For citizen-based outcomes, we prioritized drug dealing and selling as the measure of perceived disorder over other measures like trash and graffiti; feelings of safety while walking at night as the measure for fear; effectiveness of police or perception that the police are doing a good job as the measure for satisfaction; and degree of trust in the police or perception that the police treated people fairly as the measure for legitimacy.

Assessment of publication bias

Publication bias may affect the validity of systematic review findings. Study authors and journal editors may be more inclined to submit or accept reports of statistically significant findings, perceiving them to be more 'interesting,' while studies showing no effect may never be published, or written up only in harder to find gray literature such as technical reports (Rothstein 2008; Rothstein and Hopewell 2009). We use the Duval and Tweedie (2000) trim and fill method to assess whether missing studies could have affected our estimated effect sizes.

# Results

Identification of eligible studies

Figure 2 shows a flow chart of the document search screening process that yielded our final sample of 65 independent comparisons. Our combined search strategies yielded approximately 35,000 hits, most of which were not relevant to this review (for example, not about policing or clearly not empirical studies). After an initial review of

**Fig. 2** Systematic search results

35,000 hits

7,000 downloads

1,300 reviewed

240 screened

25 eligible (65 comparisons) — 14 supplemental results/ relevant review — 201 ineligible
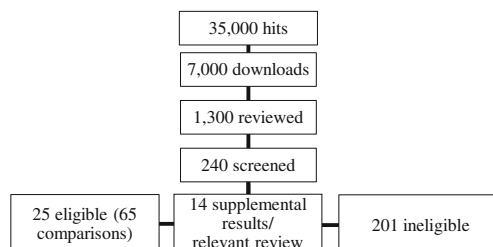
titles and removal of duplicates, we downloaded 7,000 abstracts for further review, of which 1,300 abstracts were read in full. We identified 240 potentially eligible studies, of which 25 met our eligibility criteria and were coded in full. The 25 studies contained reports on 65 independent treatment–control comparisons. For example, Tuffin et al. (2006) reported on a reassurance policing approach implemented in six separate police wards (beats), each with their own comparison ward. Wilson and Cox (2008) presented time series analyses of 20 individual police beats. Kessler and Duncan (1996) assessed three different interventions in four separate study sites.

Table 1 summarizes the characteristics of the eligible study comparisons.[6] Full details about the studies are reported in Appendix 2. The majority of comparisons ($n=51$, 78.5 %) were published in government or technical reports rather than traditional academic sources. There was only one randomized controlled trial, in which census block groups were randomly assigned to receive interventions (Weisburd et al. 2008). Telep et al. (2014) note that this may reflect the challenges of implementing policing interventions over large geographic areas. Many treatments were implemented in a single neighborhood and compared to another neighborhood, since finding comparable areas on such a scale is difficult. These single-subject designs also present complications for meta-analysis, as discussed above. Most of the remaining comparisons (61.5 %) were time series designs and a smaller proportion (36.9 %) were non-time series quasi-experiments (i.e. treatment and control areas were not selected at random). The vast majority of the comparisons ($n=55$, 84.6 %) were drawn from studies conducted in the United States.

The broad range of strategies that have been described as 'community-oriented policing' is reflected in our pool of eligible studies. In some cases, descriptions of the precise intervention were quite vague, and few of the studies adhered to the 'ideal' COP definition of community partnerships, organizational transformation, and problem solving.[7] In studies where the intervention most closely resembled this definition, policing operations were typically reorganized around small local areas and special COP teams were assembled who partnered with the community to identify and solve problems, while rapid response activities were shifted to other teams. In some cases, police–community advisory committees were formed to review problems and solutions, COP-oriented training was provided, and the police formed multi-agency partnerships with local agencies and organizations to implement strategies.

In some other studies, community collaboration and problem solving were combined with other tactics, such as sending out newsletters to inform citizens about crime, conducting bike patrols, and increasing police presence. In these 'medium-level' interventions, police typically reacted to known issues but there was no evidence that COP was adopted as a department-wide philosophy. Community members were often involved through town hall meetings or learning opportunities; for example, the police would hold open days at local substations, educate citizens in crime prevention techniques, and assist with property marking and other situational crime prevention efforts.

Finally, studies that met the minimum definition of COP typically involved citizens in a more passive or indirect way, rather than full collaboration with the police. In these studies, police conducted 'knock-and-talk' campaigns to get to know residents and find

---

[6] Note that the numbers in the table are based on the 65 independent treatment–control comparisons reported in the studies, not the 25 publications.
[7] All the studies involved some degree of community collaboration in order to meet our eligibility criteria.

**Table 1** Characteristics of eligible study comparisons

| Characteristic | Category | $n$ |
|---|---|---|
| Publication type | Journal article | 11 |
| | Book chapter | 1 |
| | Government/technical report | 51 |
| | Dissertation or thesis | 2 |
| Research design | Randomized controlled trial | 1 |
| | Quasi-experiment | 24 |
| | Time series | 40 |
| Country | United States | 55 |
| | United Kingdom | 8 |
| | Australia | 2 |
| COP component: Citizen involvement | Direct | 24 |
| | Indirect | 41 |
| COP component: Problem solving | Yes | 45 |
| | No | 20 |

out about problems in the neighborhood, but responses to these problems were typically planned and implemented solely by the police. Community members were also involved through meetings, neighborhood watch groups set up with police assistance, and police-sponsored recreational activities. There was little to no emphasis on problem solving in these interventions: most police activities centered on tactics like foot and bike patrols, and general crime prevention techniques.

Overall, we found by qualitatively analyzing descriptions of interventions that citizen involvement was direct or active in 24 of the 65 comparisons (36.9 %) and indirect or passive in the remainder (Table 1). On the other hand, 69.2 % of the interventions involved some degree of problem solving, although as we note above this does not necessarily mean that a systematic problem analysis was undertaken.[8] It is important to note that these descriptions summarize the interventions as they were intended to operate, according to study authors. While fidelity, dosage, and so on are not often reported in evaluation research in criminology (Gill 2011), some authors did note that there was no evidence the police actually carried out the planned activities.

Narrative review of results

The 65 study comparisons contained a total of 114 eligible outcome measures in five categories: official crime and victimization; citizen fear of crime; citizen perceptions of disorder; citizen satisfaction with police; and citizen perceptions of legitimacy of the police.[9] As we discuss above, not all of these outcome measures could be converted

---

[8] We did not code organizational transformation because this was rarely discussed in studies and was not well operationalized.

[9] Some reported outcome measures were ineligible for our review, even if the overall study was eligible. For example, in some studies, crime outcomes were measured pre- and post-intervention in treatment and control sites, but citizen surveys were only conducted in the treatment sites or only in the post-intervention period. Studies also reported an array of findings, not all of which were relevant to our outcomes of interest or comparable with outcomes measured in other studies.

into effect sizes for meta-analysis. Thus, we present a summary of the outcomes in Table 2 in order to represent the full range of findings before discussing the meta-analysis results, which are based on the subset of studies for which an effect size could be calculated. While 'vote-counting,' where conclusions are reached about the effectiveness of an intervention based on the number of studies reporting a statistically significant positive effect, is discouraged in systematic reviews (Petticrew and Roberts 2006; Bushman and Wang 2009), we follow Telep et al. (2014) and Bowers et al. (2011) by simply reporting the number and percentage of outcomes in each category that favored or did not favor COP, regardless of statistical significance.

Table 2 indicates that COP interventions are most successful at improving citizens' satisfaction with the police. Across the studies, satisfaction outcomes were measured by changes in citizens' ratings of the effectiveness of the police or the proportion reporting that the police were doing a good job to prevent crime. Satisfaction was measured in 23 of the 65 comparisons, and COP was associated with an improvement in 78.3 % of them. COP also improved legitimacy in the majority (60 %) of the 10 studies that measured this outcome. This indicates that residents typically perceived that officers in COP areas were more likely to treat them fairly and with respect, and that they trusted the police. COP helped to reduce citizens' perceptions of social and physical disorder in their neighborhood (such as drug dealing), and increase their feelings of safety, especially after dark, in about half of the comparisons that measured these outcomes. However, the effect of COP on official crime and victimization outcomes was more equivocal. Of the 47 comparisons that measured this outcome, COP only showed a positive effect in 36.2 %, and an equal percentage of studies indicated that COP was not effective. We caution that "not effective" does not necessarily mean COP was harmful. In many cases, the COP intervention made no difference while comparison areas experienced substantial improvements for some other reason (see Weisburd et al. 2003b).

Meta-analysis of results

The above summary of findings indicates the distribution of positive and negative results across all the studies that were eligible for our review. However, as discussed in "Methods", not all the comparisons lent themselves to the calculation of an effect size in order to conduct a meta-analysis of quantitative findings. While methods for estimating effect sizes in single-subject designs such as time series studies are in development, most of these studies did not report sufficient data to explore this approach. In other studies, insufficient statistical information was provided (for example, authors reported means but not standard deviations). We obtained raw data from one time series study (Koper et al. 2010) to calculate an effect size. We intend to continue to seek raw data so that more studies can be included in future updates of this review.

We were able to calculate odds ratios for at least one outcome in 37 of our 65 comparisons,[10] covering 27 official crime outcomes, 11 disorder outcomes, 10 fear outcomes, 17 satisfaction outcomes, and 10 legitimacy outcomes. Our results are presented as a series of forest plots in which odds ratios (OR) greater than 1, on the

---

[10] Only 34 of these comparisons are included in the meta-analyses. Pate et al. (1986) included 5 comparisons across two sites, but each site used a common control group so we picked one comparison from each of the two sites at random (PCS in Houston and CCPP in Newark) to maintain statistical independence.

**Table 2** Community policing outcomes relative to comparison groups

| Outcome | n (comparisons) | Effective n (%) | No difference n (%) | Not effective n (%) | Unclear n (%) |
|---|---|---|---|---|---|
| Citizen satisfaction | 23 | 18 (78.3) | 3 (13.0) | 2 (8.7) | 0 (0) |
| Legitimacy of police | 10 | 6 (60.0) | 2 (20.0) | 2 (20.0) | 0 (0) |
| Citizen perceived disorder | 16 | 8 (50.0) | 5 (31.3) | 3 (18.8) | 0 (0) |
| Citizen fear of crime | 18 | 8 (44.4) | 6 (33.3) | 4 (22.2) | 0 (0) |
| Official crime/victimization | 47 | 17 (36.2) | 9 (19.1) | 17 (36.2) | 4 (8.5)[a] |

[a] Indicates studies in which property and violent crimes were measured separately and results differed for each outcome

right-hand side of the plot, represent results that favor COP. In each figure, we present the OR or relative effect size (square boxes, the sizes of which represent the weighting of the study in the meta-analysis) and its $p$ value for each study and the mean OR and $p$ value across all the studies at the bottom of the plot (denoted by a diamond). The 'whiskers' around each point represent the 95 % confidence interval (for the overall estimate, the width of the diamond represents the confidence interval). As discussed earlier, due to limitations in our methods for calculating the relative effect size using count data the point estimates, confidence intervals, and $p$ values for official crime outcomes should be interpreted as guides rather than precise estimates.

Figure 3 shows the mean estimated effect of COP on official crime outcomes. As we describe above, we ran this analysis in two ways. Five studies reported property and violent crimes separately and did not include a measure of overall crime.[11] We could not include both outcomes in the same analysis as this would violate the assumption of statistical independence among the studies. We did not have raw data from these studies and most of the reports did not present the data in a way that allowed us to reasonably combine property and violent crime. As noted above, we wanted to avoid losing valuable information by excluding these studies altogether, but did not have a strong hypothesis for a differential effect of COP on these crime types. Thus, the top part of Fig. 3 presents a meta-analysis of overall crime that uses property crime outcomes from these five studies, and the lower part shows a separate meta-analysis that utilizes the violent crime outcomes alongside the same set of overall crime measures.

The overall OR in the first meta-analysis is 1.053 [confidence interval (CI): .978–1.133; $p \le .173$], indicating that COP was associated with a statistically non-significant 5 % greater odds of reduced crime. The second meta-analysis shows that when the violent crime outcomes are included instead of property crime for five studies in the analysis, COP is associated with a 10 % greater odds of reduced crime, which is statistically significant (OR=1.098; CI: 1.015–1.188; $p \le .020$). There is significant heterogeneity among the studies: the $Q$ statistic for the first meta-analysis is 112.421 ($p < .0001$) and for the second is 91.477 ($p < .0001$). The $I^2$ statistic is 83.99 in the first meta-analysis and 80.32 in the second, indicating that between-study variance accounts

---

[11] The five studies are Connell et al. 2008, Segrave and Collins 2005, and three comparisons reported in Uchida et al. 1992 (Kingston, Gate City, and Oakland).

| Study name | Comparison | Outcome | Statistics for each study | | | | Odds ratio and 95% CI |
|---|---|---|---|---|---|---|---|
| | | | Odds ratio | Lower limit | Upper limit | p-Value | |
| Giacomazzi 1995 | Official Crime | Burglary, Robbery, Sex Crimes | 1.610 | 0.964 | 2.690 | 0.069 | |
| Tuffin et al. 2006 Burghfield | Official Crime | Recorded crime | 1.588 | 1.315 | 1.917 | 0.000 | |
| Tuffin et al. 2006 Ingol | Official Crime | Recorded crime | 1.414 | 1.220 | 1.640 | 0.000 | |
| Cordner et al. 1999 N Manatee | Official Crime | Part I Crimes | 1.314 | 1.089 | 1.585 | 0.004 | |
| Bond & Gow 1995 | Official Crime | Calls for service | 1.270 | 0.993 | 1.623 | 0.057 | |
| Connell et al. 2008 | Official Crime | Property Crime | 1.146 | 1.017 | 1.291 | 0.025 | |
| Tuffin et al. 2006 Failsworth West | Official Crime | Recorded crime | 1.130 | 0.992 | 1.286 | 0.065 | |
| McElroy et al. 1990 | Official Crime | Calls for service | 1.073 | 0.469 | 2.452 | 0.868 | |
| Sabath & Carter 1998 | Official Crime | Calls for service | 1.065 | 1.007 | 1.127 | 0.028 | |
| Tuffin et al. 2006 E. Wickham | Official Crime | Recorded crime | 1.033 | 0.907 | 1.177 | 0.622 | |
| Uchida et al. 1992 Kingston | Official Crime | Property Crime | 1.033 | 0.945 | 1.130 | 0.474 | |
| Tuffin et al. 2006 New Parks | Official Crime | Recorded crime | 1.025 | 0.936 | 1.123 | 0.589 | |
| Koper et al. 2010 | Official Crime | All Part I crimes | 1.021 | 0.875 | 1.191 | 0.797 | |
| Cordner et al. 1999 Shreveport | Official Crime | Part I Crimes | 1.014 | 0.975 | 1.055 | 0.481 | |
| Esbensen 1987 | Official Crime | Overall Crime Rate | 0.912 | 0.584 | 1.424 | 0.685 | |
| Segrave & Collins 2005 | Official Crime | Property Crime | 0.907 | 0.698 | 1.178 | 0.464 | |
| Uchida et al. 1992 Gate City | Official Crime | Property Crime | 0.819 | 0.731 | 0.919 | 0.001 | |
| Uchida et al. 1992 Oakland | Official Crime | Burglary | 0.794 | 0.628 | 1.004 | 0.054 | |
| Tuffin et al. 2006 Ash Wharf | Official Crime | Recorded crime | 0.607 | 0.509 | 0.725 | 0.000 | |
| | | | 1.053 | 0.978 | 1.133 | 0.173 | |

0.1  0.2  0.5  1  2  5  10

Favors Control    Favors Treatment

**Random effects model**

| Study name | Comparison | Outcome | Statistics for each study | | | | Odds ratio and 95% CI |
|---|---|---|---|---|---|---|---|
| | | | Odds ratio | Lower limit | Upper limit | p-Value | |
| Giacomazzi 1995 | Official Crime | Burglary, Robbery, Sex Crimes | 1.610 | 0.964 | 2.690 | 0.069 | |
| Tuffin et al. 2006 Burghfield | Official Crime | Recorded crime | 1.588 | 1.315 | 1.917 | 0.000 | |
| Connell et al. 2008 | Official Crime | Violent Crime | 1.555 | 1.044 | 2.316 | 0.030 | |
| Tuffin et al. 2006 Ingol | Official Crime | Recorded crime | 1.414 | 1.220 | 1.640 | 0.000 | |
| Cordner et al. 1999 N Manatee | Official Crime | Part I Crimes | 1.314 | 1.089 | 1.585 | 0.004 | |
| Bond & Gow 1995 | Official Crime | Calls for service | 1.270 | 0.993 | 1.623 | 0.057 | |
| Tuffin et al. 2006 Failsworth West | Official Crime | Recorded crime | 1.130 | 0.992 | 1.286 | 0.065 | |
| McElroy et al. 1990 | Official Crime | Calls for service | 1.073 | 0.469 | 2.452 | 0.868 | |
| Uchida et al. 1992 Kingston | Official Crime | Violent Crime | 1.067 | 0.803 | 1.419 | 0.654 | |
| Sabath & Carter 1998 | Official Crime | Calls for service | 1.065 | 1.007 | 1.127 | 0.028 | |
| Uchida et al. 1992 Gate City | Official Crime | Violent Crime | 1.062 | 0.898 | 1.255 | 0.484 | |
| Segrave & Collins 2005 | Official Crime | Violent crime | 1.041 | 0.531 | 2.041 | 0.907 | |
| Tuffin et al. 2006 E. Wickham | Official Crime | Recorded crime | 1.033 | 0.907 | 1.177 | 0.622 | |
| Tuffin et al. 2006 New Parks | Official Crime | Recorded crime | 1.025 | 0.936 | 1.123 | 0.589 | |
| Koper et al. 2010 | Official Crime | All Part I crimes | 1.021 | 0.875 | 1.191 | 0.797 | |
| Cordner et al. 1999 Shreveport | Official Crime | Part I Crimes | 1.014 | 0.975 | 1.055 | 0.481 | |
| Esbensen 1987 | Official Crime | Overall Crime Rate | 0.912 | 0.584 | 1.424 | 0.685 | |
| Uchida et al. 1992 Oakland | Official Crime | Robbery | 0.800 | 0.477 | 1.343 | 0.398 | |
| Tuffin et al. 2006 Ash Wharf | Official Crime | Recorded crime | 0.607 | 0.509 | 0.725 | 0.000 | |
| | | | 1.098 | 1.015 | 1.188 | 0.020 | |

0.1  0.2  0.5  1  2  5  10

Favors Control    Favors Treatment

**Random effects model**

**Fig. 3** COP effects on official crime

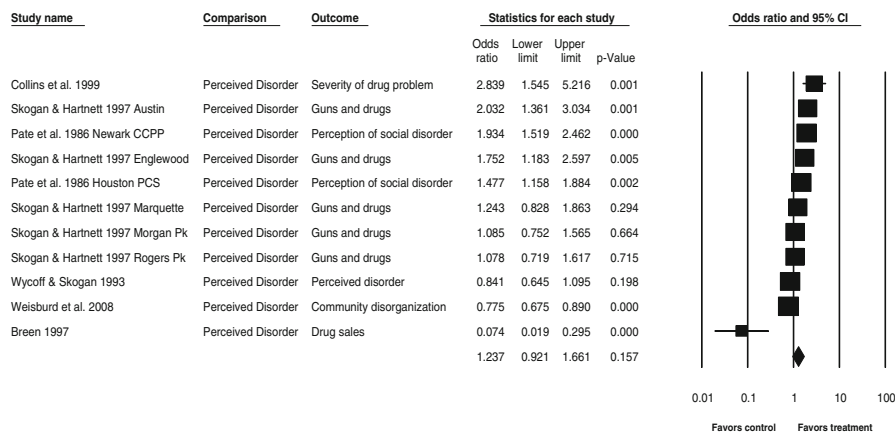for between 80 and 84 % of the variability in effect size estimates. We caution against placing too much emphasis on the significant finding in the second meta-analysis, given the lack of precision of the official crime estimates and the width of the confidence intervals, the extremely high degree of heterogeneity between studies, and the fact that the result is dependent on a small number of studies.

Recognizing that citizens' perceptions of crime and disorder may not always align with officially recorded incidents and calls for service, and conversely that the types of index crimes captured by the police may not reflect community concerns, we also assessed the impact of COP on citizens' ratings of disorder in their neighborhoods, highlighting drug dealing and firearms. Figure 4 shows that COP was associated with a 24 % increase in the odds of citizens perceiving improvements in disorder, although this increase was not statistically significant. However, we analyzed this outcome again after removing Breen (1997), which was a substantial outlier due to its small number of observations, and found that the OR increased to 1.355 (CI: 1.026–1.789; $p \leq .032$), indicating a favorable effect. There was also significant heterogeneity in disorder outcomes ($Q=78.976$, $p<.0001$; $I^2=88.60$ for the analysis excluding Breen).

We also considered whether increased collaboration between the police and community made citizens feel safer, improved their perceptions of police effectiveness, and enhanced their trust in the police. Figure 5 suggests that COP was associated with only a small, non-significant improvement in citizens' feelings of safety (OR=1.166; CI: .931–1.460; $p \leq .182$. Heterogeneity: $Q=28.102$, $p<.0001$; $I^2=67.97$). However, citizens in treatment areas nonetheless believed that the police in these areas were more effective at preventing crime. Figure 6 shows a moderate and statistically significant improvement in citizens' ratings of satisfaction with the police (OR= 1.373; CI: 1.096–1.719; $p \leq .006$. Heterogeneity: $Q=57.151$, $p<.0001$; $I^2=72.00$). Similarly, as shown in Fig. 7, citizens reported increased trust and confidence in the police following COP interventions and felt that they treated people more fairly (increased legitimacy). The mean OR for legitimacy is 1.276 (CI: .974–1.672; $p \leq .077$. Heterogeneity: $Q=40.93$, $p<.0001$; $I^2=78.01$). While the mean OR did not quite reach statistical significance for legitimacy, we again note the substantial heterogeneity between studies.

Moderator analysis: Impact of problem-solving

We coded a number of features of the studies, settings, and interventions with the intent of conducting moderator analyses to assess whether mean effects across studies varied



| Study name | Comparison | Outcome | Statistics for each study | | | | Odds ratio and 95% CI |
|---|---|---|---|---|---|---|---|
| | | | Odds ratio | Lower limit | Upper limit | p-Value | |
| Collins et al. 1999 | Perceived Disorder | Severity of drug problem | 2.839 | 1.545 | 5.216 | 0.001 | |
| Skogan & Hartnett 1997 Austin | Perceived Disorder | Guns and drugs | 2.032 | 1.361 | 3.034 | 0.001 | |
| Pate et al. 1986 Newark CCPP | Perceived Disorder | Perception of social disorder | 1.934 | 1.519 | 2.462 | 0.000 | |
| Skogan & Hartnett 1997 Englewood | Perceived Disorder | Guns and drugs | 1.752 | 1.183 | 2.597 | 0.005 | |
| Pate et al. 1986 Houston PCS | Perceived Disorder | Perception of social disorder | 1.477 | 1.158 | 1.884 | 0.002 | |
| Skogan & Hartnett 1997 Marquette | Perceived Disorder | Guns and drugs | 1.243 | 0.828 | 1.863 | 0.294 | |
| Skogan & Hartnett 1997 Morgan Pk | Perceived Disorder | Guns and drugs | 1.085 | 0.752 | 1.565 | 0.664 | |
| Skogan & Hartnett 1997 Rogers Pk | Perceived Disorder | Guns and drugs | 1.078 | 0.719 | 1.617 | 0.715 | |
| Wycoff & Skogan 1993 | Perceived Disorder | Perceived disorder | 0.841 | 0.645 | 1.095 | 0.198 | |
| Weisburd et al. 2008 | Perceived Disorder | Community disorganization | 0.775 | 0.675 | 0.890 | 0.000 | |
| Breen 1997 | Perceived Disorder | Drug sales | 0.074 | 0.019 | 0.295 | 0.000 | |
| | | | 1.237 | 0.921 | 1.661 | 0.157 | |

0.01   0.1   1   10   100

Favors control   Favors treatment

**Random effects model**

**Fig. 4** COP effects on citizen perceptions of disorder

| Study name | Comparison | Outcome | Statistics for each study | | | | Odds ratio and 95% CI |
|---|---|---|---|---|---|---|---|
| | | | Odds ratio | Lower limit | Upper limit | p-Value | |
| Pate et al. 1986 Houston PCS | Fear of Crime | Fear of personal victimization | 1.786 | 1.399 | 2.280 | 0.000 | |
| Tuffin et al. 2006 Ingol | Fear of Crime | Feelings of safety | 1.641 | 0.913 | 2.951 | 0.098 | |
| Tuffin et al. 2006 New Parks | Fear of Crime | Feelings of safety | 1.572 | 0.860 | 2.873 | 0.142 | |
| Pate et al. 1986 Newark CCPP | Fear of Crime | Fear of personal victimization | 1.279 | 1.006 | 1.626 | 0.045 | |
| Tuffin et al. 2006 E. Wickham | Fear of Crime | Feelings of safety | 1.222 | 0.693 | 2.154 | 0.489 | |
| Tuffin et al. 2006 Burghfield | Fear of Crime | Feelings of safety | 1.221 | 0.678 | 2.199 | 0.506 | |
| Tuffin et al. 2006 Ash Wharf | Fear of Crime | Feelings of safety | 1.076 | 0.609 | 1.902 | 0.801 | |
| Wycoff & Skogan 1993 | Fear of Crime | Feeling unsafe at night | 1.000 | 0.776 | 1.288 | 1.000 | |
| Tuffin et al. 2006 Failsworth West | Fear of Crime | Feelings of safety | 0.778 | 0.433 | 1.395 | 0.399 | |
| Segrave & Collins 2005 | Fear of Crime | Perceptions of safety | 0.636 | 0.440 | 0.917 | 0.015 | |
| | | | 1.166 | 0.931 | 1.460 | 0.182 | |

0.1  0.2    0.5   1   2    5   10

Favors control    Favors treatment
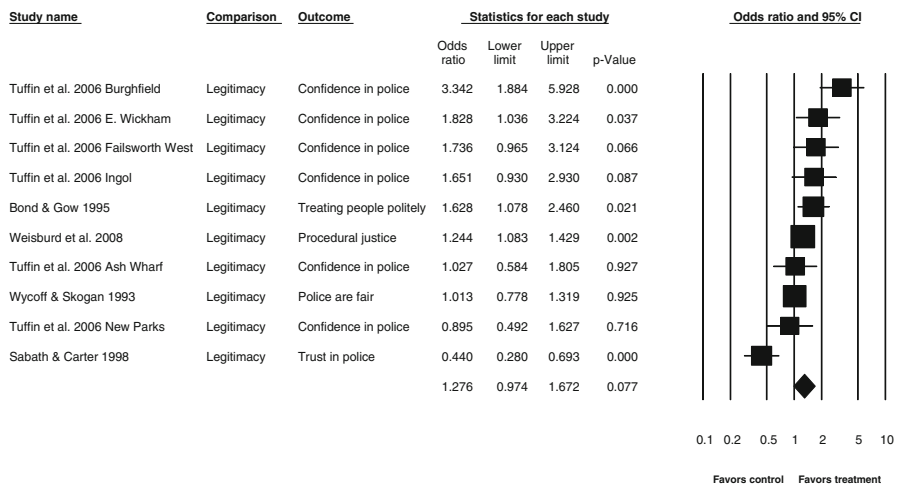
**Random effects model**

**Fig. 5** COP effects on citizen fear of crime

according to program or research-related characteristics. However, depending on the characteristic, studies were either too similar or too heterogeneous to conduct meaningful analyses. For example, most of the studies were conducted in the United States, published in technical reports, and were of similar methodological quality. However, in terms of the intervention, no two manifestations of COP were alike unless they were independent comparisons of the same program assessed by the same evaluators, and while some studies did adhere to the 'gold standard' definition of COP, very few discussed organizational transformation in detail, and it was not possible to reliably code whether or not organizational transformation occurred. However, we were able to

| Study name | Comparison | Outcome | Statistics for each study | | | | Odds ratio and 95% CI |
|---|---|---|---|---|---|---|---|
| | | | Odds ratio | Lower limit | Upper limit | p-Value | |
| Pate et al. 1986 Newark CCPP | Citizen Satisfaction | Evaluation of police | 2.749 | 2.153 | 3.510 | 0.000 | |
| Tuffin et al. 2006 Ash Wharf | Citizen Satisfaction | Effectiveness of police | 1.990 | 0.990 | 4.000 | 0.053 | |
| Skogan et al. 1995 Englewood | Citizen Satisfaction | Quality of policing | 1.879 | 0.920 | 3.837 | 0.083 | |
| Tuffin et al. 2006 Failsworth West | Citizen Satisfaction | Effectiveness of police | 1.752 | 0.920 | 3.337 | 0.088 | |
| Skogan et al. 1995 Marquette | Citizen Satisfaction | Quality of policing | 1.658 | 0.776 | 3.543 | 0.192 | |
| Skogan et al. 1995 Austin | Citizen Satisfaction | Quality of policing | 1.634 | 0.769 | 3.469 | 0.201 | |
| Bond & Gow 1995 | Citizen Satisfaction | Good job to prevent crime | 1.497 | 1.009 | 2.222 | 0.045 | |
| Tuffin et al. 2006 New Parks | Citizen Satisfaction | Effectiveness of police | 1.482 | 0.785 | 2.798 | 0.225 | |
| Sabath & Carter 1998 | Citizen Satisfaction | Police performance | 1.374 | 0.862 | 2.189 | 0.181 | |
| Segrave & Collins 2005 | Citizen Satisfaction | Satisfaction with police | 1.356 | 0.924 | 1.992 | 0.120 | |
| Tuffin et al. 2006 Burghfield | Citizen Satisfaction | Effectiveness of police | 1.229 | 0.643 | 2.349 | 0.533 | |
| Tuffin et al. 2006 E. Wickham | Citizen Satisfaction | Effectiveness of police | 1.229 | 0.643 | 2.349 | 0.533 | |
| Skogan et al. 1995 Morgan Pk | Citizen Satisfaction | Quality of policing | 1.128 | 0.515 | 2.468 | 0.764 | |
| Pate et al. 1986 Houston PCS | Citizen Satisfaction | Evaluation of police | 1.115 | 0.875 | 1.421 | 0.381 | |
| Tuffin et al. 2006 Ingol | Citizen Satisfaction | Effectiveness of police | 1.066 | 0.501 | 2.272 | 0.868 | |
| Wycoff & Skogan 1993 | Citizen Satisfaction | Satisfaction with recent contact | 0.827 | 0.635 | 1.078 | 0.160 | |
| Skogan et al. 1995 Rogers Pk | Citizen Satisfaction | Quality of policing | 0.479 | 0.196 | 1.170 | 0.106 | |
| | | | 1.373 | 1.096 | 1.719 | 0.006 | |

0.1  0.2    0.5   1   2    5   10

Favors control    Favors treatment

**Random effects model**

**Fig. 6** COP effects on citizen satisfaction

| Study name | Comparison | Outcome | Statistics for each study | | | | Odds ratio and 95% CI |
|---|---|---|---|---|---|---|---|
| | | | Odds ratio | Lower limit | Upper limit | p-Value | |
| Tuffin et al. 2006 Burghfield | Legitimacy | Confidence in police | 3.342 | 1.884 | 5.928 | 0.000 | |
| Tuffin et al. 2006 E. Wickham | Legitimacy | Confidence in police | 1.828 | 1.036 | 3.224 | 0.037 | |
| Tuffin et al. 2006 Failsworth West | Legitimacy | Confidence in police | 1.736 | 0.965 | 3.124 | 0.066 | |
| Tuffin et al. 2006 Ingol | Legitimacy | Confidence in police | 1.651 | 0.930 | 2.930 | 0.087 | |
| Bond & Gow 1995 | Legitimacy | Treating people politely | 1.628 | 1.078 | 2.460 | 0.021 | |
| Weisburd et al. 2008 | Legitimacy | Procedural justice | 1.244 | 1.083 | 1.429 | 0.002 | |
| Tuffin et al. 2006 Ash Wharf | Legitimacy | Confidence in police | 1.027 | 0.584 | 1.805 | 0.927 | |
| Wycoff & Skogan 1993 | Legitimacy | Police are fair | 1.013 | 0.778 | 1.319 | 0.925 | |
| Tuffin et al. 2006 New Parks | Legitimacy | Confidence in police | 0.895 | 0.492 | 1.627 | 0.716 | |
| Sabath & Carter 1998 | Legitimacy | Trust in police | 0.440 | 0.280 | 0.693 | 0.000 | |
| | | | 1.276 | 0.974 | 1.672 | 0.077 | |

Random effects model

**Fig. 7** COP effects on legitimacy of police

identify whether the problem-solving component of the COP definition was present, suggesting that the intervention at least partially conformed to the model. Furthermore, problem-oriented policing (POP) has been shown to be an effective crime prevention approach when targeted at specific places and problems, regardless of community involvement (Weisburd et al. 2010; see also Telep and Weisburd 2012). Thus, to the extent that COP incorporates elements of this approach, any effect of COP on crime and disorder may be confounded with POP (although, as we note at the outset, COP and POP are distinct strategies).

Figure 8 breaks down the meta-analysis for official crime by the presence or absence of problem-solving (PS) in the intervention. As in the main analysis of official crime, the top part of Fig. 8 shows the moderator analysis using property crimes from the five studies that did not report combined crime outcomes, and the lower part repeats the analysis using violent crime outcomes from those studies. The forest plot reveals that as a group, interventions involving problem-solving had a very slightly better impact on crime than those that did not in the first analysis, but this was not statistically significant (PS: OR=1.092; CI: .987–1.208; $p \leq .088$. No PS: OR=.967; CI: .854–1.095; $p \leq .599$). In the second analysis, the group-level estimates of effect size were statistically significant (but very small) for both the problem-solving and no problem-solving groups (PS: OR=1.118; CI: .999–1.251; $p \leq .051$. No PS: OR=1.064; CI: 1.011–1.120; $p \leq .018$). However, the moderator analyses indicate that there are no variations in the overall effect sizes in either analysis that can be attributed to problem-solving (Analysis 1: $Q_{between}$= 2.204, $p \leq .138$; Analysis 2: $Q_{between}$=.6195, $p \leq .431$). We once again caution that these estimates are not precise; we also note that while there are fewer studies in the no problem-solving group, the weights of some of these studies are disproportionately large.

Assessment of publication bias

As discussed above, publication bias may affect the findings of systematic reviews. Unusually, in this review, the majority of reports were published in technical reports

| Group by Problem Solving | Study name | Comparison | Outcome | Odds ratio | Lower limit | Upper limit | p-Value |
|---|---|---|---|---|---|---|---|
| No | Giacomazzi 1995 | Official Crime | Burglary, Robbery, Sex Crimes | 1.610 | 0.964 | 2.690 | 0.069 |
| No | McElroy et al. 1990 | Official Crime | Calls for service | 1.073 | 0.469 | 2.452 | 0.868 |
| No | Sabath & Carter 1998 | Official Crime | Calls for service | 1.065 | 1.007 | 1.127 | 0.028 |
| No | Uchida et al. 1992 Kingston | Official Crime | Property Crime | 1.033 | 0.945 | 1.130 | 0.474 |
| No | Esbensen 1987 | Official Crime | Overall Crime Rate | 0.912 | 0.584 | 1.424 | 0.685 |
| No | Uchida et al. 1992 Gate City | Official Crime | Property Crime | 0.819 | 0.731 | 0.919 | 0.001 |
| No | Uchida et al. 1992 Oakland | Official Crime | Burglary | 0.794 | 0.628 | 1.004 | 0.054 |
| No |  |  |  | 0.967 | 0.854 | 1.095 | 0.599 |
| Yes | Tuffin et al. 2006 Burghfield | Official Crime | Recorded crime | 1.588 | 1.315 | 1.917 | 0.000 |
| Yes | Tuffin et al. 2006 Ingol | Official Crime | Recorded crime | 1.414 | 1.220 | 1.640 | 0.000 |
| Yes | Cordner et al. 1999 N Manatee | Official Crime | Part I Crimes | 1.314 | 1.089 | 1.585 | 0.004 |
| Yes | Bond & Gow 1995 | Official Crime | Calls for service | 1.270 | 0.993 | 1.623 | 0.057 |
| Yes | Connell et al. 2008 | Official Crime | Property Crime | 1.146 | 1.017 | 1.291 | 0.025 |
| Yes | Tuffin et al. 2006 Failsworth West | Official Crime | Recorded crime | 1.130 | 0.992 | 1.286 | 0.065 |
| Yes | Tuffin et al. 2006 E. Wickham | Official Crime | Recorded crime | 1.033 | 0.907 | 1.177 | 0.622 |
| Yes | Tuffin et al. 2006 New Parks | Official Crime | Recorded crime | 1.025 | 0.936 | 1.123 | 0.589 |
| Yes | Koper et al. 2010 | Official Crime | All Part I crimes | 1.021 | 0.875 | 1.191 | 0.797 |
| Yes | Cordner et al. 1999 Shreveport | Official Crime | Part I Crimes | 1.014 | 0.975 | 1.055 | 0.481 |
| Yes | Segrave & Collins 2005 | Official Crime | Property crime | 0.907 | 0.698 | 1.178 | 0.464 |
| Yes | Tuffin et al. 2006 Ash Wharf | Official Crime | Recorded crime | 0.607 | 0.509 | 0.725 | 0.000 |
| Yes |  |  |  | 1.092 | 0.987 | 1.208 | 0.088 |
| Overall |  |  |  | 1.041 | 0.962 | 1.125 | 0.321 |

Random effects model

| Group by Problem Solving | Study name | Comparison | Outcome | Odds ratio | Lower limit | Upper limit | p-Value |
|---|---|---|---|---|---|---|---|
| No | Giacomazzi 1995 | Official Crime | Burglary, Robbery, Sex Crimes | 1.610 | 0.964 | 2.690 | 0.069 |
| No | McElroy et al. 1990 | Official Crime | Calls for service | 1.073 | 0.469 | 2.452 | 0.868 |
| No | Uchida et al. 1992 Kingston | Official Crime | Violent Crime | 1.067 | 0.803 | 1.419 | 0.654 |
| No | Sabath & Carter 1998 | Official Crime | Calls for service | 1.065 | 1.007 | 1.127 | 0.028 |
| No | Uchida et al. 1992 Gate City | Official Crime | Violent Crime | 1.062 | 0.898 | 1.255 | 0.484 |
| No | Esbensen 1987 | Official Crime | Overall Crime Rate | 0.912 | 0.584 | 1.424 | 0.685 |
| No | Uchida et al. 1992 Oakland | Official Crime | Robbery | 0.800 | 0.477 | 1.343 | 0.398 |
| No |  |  |  | 1.064 | 1.011 | 1.120 | 0.018 |
| Yes | Tuffin et al. 2006 Burghfield | Official Crime | Recorded crime | 1.588 | 1.315 | 1.917 | 0.000 |
| Yes | Connell et al. 2008 | Official Crime | Violent Crime | 1.555 | 1.044 | 2.316 | 0.030 |
| Yes | Tuffin et al. 2006 Ingol | Official Crime | Recorded crime | 1.414 | 1.220 | 1.640 | 0.000 |
| Yes | Cordner et al. 1999 N Manatee | Official Crime | Part I Crimes | 1.314 | 1.089 | 1.585 | 0.004 |
| Yes | Bond & Gow 1995 | Official Crime | Calls for service | 1.270 | 0.993 | 1.623 | 0.057 |
| Yes | Tuffin et al. 2006 Failsworth West | Official Crime | Recorded crime | 1.130 | 0.992 | 1.286 | 0.065 |
| Yes | Segrave & Collins 2005 | Official Crime | Violent crime | 1.041 | 0.531 | 2.041 | 0.907 |
| Yes | Tuffin et al. 2006 E. Wickham | Official Crime | Recorded crime | 1.033 | 0.907 | 1.177 | 0.622 |
| Yes | Tuffin et al. 2006 New Parks | Official Crime | Recorded crime | 1.025 | 0.936 | 1.123 | 0.589 |
| Yes | Koper et al. 2010 | Official Crime | All Part I crimes | 1.021 | 0.875 | 1.191 | 0.797 |
| Yes | Cordner et al. 1999 Shreveport | Official Crime | Part I Crimes | 1.014 | 0.975 | 1.055 | 0.481 |
| Yes | Tuffin et al. 2006 Ash Wharf | Official Crime | Recorded crime | 0.607 | 0.509 | 0.725 | 0.000 |
| Yes |  |  |  | 1.118 | 0.999 | 1.251 | 0.051 |
| Overall |  |  |  | 1.073 | 1.024 | 1.125 | 0.003 |

Random effects model



**Fig. 8** Moderating effect of problem-solving on COP effect on official crime

rather than journals (Table 1). Technical reports are usually the final reports of grant-funded projects, so all results are typically reported regardless of statistical significance. Nonetheless, we used the 'trim-and-fill' method (Duval and Tweedie 2000) to assess whether we may have missed any studies. The analysis suggested that we did not miss any studies in the official crime meta-analysis. Given this finding, we did not perform a trim-and-fill analysis for the other outcomes.

## Discussion

Our systematic review and meta-analysis find robust evidence that community policing increases citizen satisfaction with the police. While the meta-analytic result was not statistically significant, our findings also suggest that COP also improves perceptions of

police legitimacy. These findings reinforce what others have noted and are consistent with the main goals of COP. Despite its recent emphasis on crime prevention, COP was intended to change the relationship between the police and the public.

We do not find consistent evidence of a crime prevention effect of community-oriented policing. Although our analysis suggests that COP is associated with between 5 and 10 % greater odds of a decrease in crime, it is plausible under the confidence intervals that COP has no effect on crime. We also find no evidence that community policing decreases citizens' fear of crime, despite positive outcomes for other citizen perceptions. Finally, our results do not suggest that the presence or absence of a problem-solving approach as part of COP strategies affect the impact on crime.

Thus, our findings are ambiguous. Given that COP was not originally intended as simply another tool in police departments' crime-fighting toolkit, it is not clear that we should expect a crime prevention effect. COP does have a significant impact on serious crime when we 'stack the deck' in favor of violent crime, but the effect is very small and is driven by a handful of studies. One intended role of COP was to address 'quality of life' issues at the local level, but, while the interventions reviewed here had a significant effect on citizens' perceptions of disorder, they did not substantially improve their feelings of safety. These findings may reflect the complex relationship between informal social control, fear, disorder, and crime—disorder fuels fear of crime, which can lead to higher recorded crime rates as informal social controls break down (Hinkle 2005; Skogan 1990; Wilson and Kelling 1982). On the other hand, COP's impact on official crime may suggest that the police can play a role in reducing community conflict and enhancing social control. The favorable findings for outcomes of citizen satisfaction and perceptions of police legitimacy may also contribute to the variability of COP's effect on crime, given that increased satisfaction and trust in the police may increase willingness to report crime, creating a 'reporting effect' that masks actual crime reductions.

The varying effect of community-oriented policing across different outcomes highlights a key issue in evaluation research: what do we mean by whether a program "works?" Are we asking the correct questions in trying to identify which outcomes COP is supposed to affect and how? The limited results for crime outcomes reflect the lack of a clear mechanism by which COP is supposed to directly impact crime, as discussed above. Mastrofski (1988), citing Klockars (1985), suggests that crime fighting is so well-established as the main role of the police that policing strategies are always examined in terms of their crime control benefits, even if they are designed for other equally appropriate goals. Furthermore, COP is not in itself a crime prevention 'program' in the same sense as other policing and criminal justice approaches that have been subject to systematic review. As discussed above, it is more accurately described as a philosophy or guiding principle for policing; a foundation for effective and legitimate crime prevention strategies that require the police to collaborate proactively with citizens to address problems rather than reacting to incidents and calls for service (e.g., Cordner 1999). Goldstein (1979), in his seminal piece on problem-oriented policing, notes that it is the interests of the "consumer"—i.e., the citizens—that drive this philosophical shift.

Given that community-oriented policing was intended as a citizen-oriented cultural shift rather than a crime control tactic, future studies and reviews might seek to ask a more nuanced question: rather than examining the direct impact of COP on crime, what

crime control benefits are derived from strategies and tactics implemented in a community-oriented context? We know from prior research that problem-oriented policing, regardless of community involvement, is effective for crime prevention (Weisburd et al. 2010), and in this review we explored the impact of problem solving, which could be considered the 'tactical' element of COP (Cordner 1999), on the overall effect of COP on crime, and found no impact. In the COP studies we reviewed, not all problem-solving activities rose to the systematic "SARA model" of problem-oriented policing that was the focus of prior work. It is also evident that these activities were not always implemented in the context of organizational change. These factors may partly explain why we found no evidence of a moderating effect of problem solving. Nonetheless, if we consider the potential mechanisms by which crime prevention might be achieved directly through COP, it makes sense that a systematic process of collaborative problem solving should be more effective than the police simply talking to citizens (even though that may have beneficial effects on other outcomes).

Thus, a qualitative understanding of the nature and context of collaborative problem-solving initiatives is crucial. It is possible that the outcomes observed here are based more on a vision of what community-oriented problem solving should be, and not what actually happened. Implementation problems were not consistently described across the studies, but some hinted that activities like "knock and talks" did not actually happen during the intervention period, or that no steps were taken to record whether residents were actually at home when the police stopped by. Even where information was obtained from citizens, it was not clear what the police did with it or how consistently crime prevention efforts were followed up. Some community-oriented policing studies therefore simply measured the impact of the police knocking on people's doors or scheduling a meeting, rather than the steps that were taken to address crime based on identifying the appropriate community, prioritizing its problems, and implementing solutions based on good data. Future research might focus on identifying the optimal mix of tactics and strategies that can be implemented in a collaborative framework and the processes by which successful implementation is achieved, and assessing whether community involvement moderates the effectiveness of problem solving.

Our findings on legitimacy and citizen satisfaction provide further indication that it is too simplistic to think about the direct effect of community-oriented policing on crime. COP does appear to have a direct effect on these citizen-focused outcomes, and there is evidence that improved perceptions of legitimacy increase citizen compliance and are associated with lower crime rates (Mazerolle et al. 2013; Sherman and Eck 2002; Sunshine and Tyler 2003; Tyler 1990). This suggests that COP is in need of a logic model, in which citizen satisfaction, legitimacy, and immediate quality-of-life improvements (i.e., disorder reduction) might be proximal (short-term) outcomes that set the stage for distal (longer-term) outcomes such as fear reduction and crime control. Multiple studies have proposed definitions and dimensions of community-oriented policing (Maguire and Mastrofski 2000), but the approach lacks a clear theory of change that specifies the mechanisms by which community collaboration, problem solving, and organizational transformation should be operationalized to influence outcomes. Again, this could explain why so few police departments (and so few researchers) have attempted to implement and evaluate the full COP philosophy.

Such a logic model may be non-linear. The literature on collective efficacy, or the "willingness [of residents] to intervene for the common good," (Sampson et al. 1997: 919) suggests that communities in which residents self-regulate through systems of informal social control tend to have lower crime rates (see also Weisburd et al. 2012). Yet, how can police–community collaboration be achieved in socially disorganized places where collective efficacy is low, crime rates are high, and residents are fearful and do not trust the police? These places might benefit most from a community-oriented problem-solving approach, but can such an approach simply be imposed where the police and community have no pre-existing relationship?

Thus, full implementation of COP in a police department involves a long-term, multi-stage process. Organizational transformation—the reorientation of the entire police department around community-focused policing through training officers and moving away from a reactive model of policing to allow them time to build relationships with citizens—may be the first step in creating a baseline level of citizen satisfaction and trust that may be an important precursor to building collective efficacy (Kochel 2012; Silver and Miller 2004; Wells et al. 2006). While few of the studies in our review involved a full restructuring of the police department, it seemed that the increased effort by police to engage with citizens in some way did produce greater levels of satisfaction and trust than 'policing as usual.' Once residents become mobilized and willing to work with the police, the "tactical" element of community-oriented policing—collaborative problem-solving—can begin. Problem solving provides the mechanism that links community involvement and focused policing strategies to potential reductions in crime and disorder, which in turn may enhance citizens' feelings of safety. Ultimately, citizens who feel safe and view the police as their partners are empowered to take responsibility for crime control, creating sustainable self-regulation that can survive turnover in both the police administration and the population at large. This possible 'causal ordering' may be the reason we find positive results for citizen satisfaction, legitimacy, and perceived disorder but weaker effects on fear and crime control, which are longer-term outcomes. Assessing the validity of this proposed logic model is a long-term proposition that extends far beyond the brief 1- to 2-year follow-up periods in the studies reviewed here, and will require the cooperation of police leaders who are willing to take the risk of reorienting their department and who possess the leadership skills to successfully infuse the new culture throughout the ranks (see Mastrofski et al. 2007; Skogan and Hartnett 1997).

Limitations

There are several statistical and conceptual limitations to this review. We faced a number of challenges in conducting the systematic review and meta-analysis because of the substantial heterogeneity in the interventions studied and the range of outcome measures included in the literature. As we have explored elsewhere in the paper, few studies evaluated COP according to its accepted definition, and it was not always possible to identify the precise nature of the intervention and directly assess how it affected outcomes. This may also explain why we observed limited impact of the programs on some outcomes. With the exception of problem solving, there were not enough similar features across interventions to conduct meaningful moderator analyses to identify optimal combinations of strategies or assess effects by crime type.

There was very little consistency in the choice of outcomes measured in each study, so our measures of crime, disorder, fear, satisfaction, and legitimacy combine a number of different measures that may not fully represent these constructs (this is discussed in more detail below). Our ability to calculate effect sizes for all outcomes was also hampered by the 'single-subject' nature of many place-based policing studies, which we discussed in "Methods". This challenge can be overcome through time series analysis, but this method does not easily lend itself to meta-analysis unless additional data are reported or obtained from the authors. When we were able to use additional data, such as pre- and post-intervention crime counts, we lost the additional information about fluctuations in crime over time that is captured in time-series analysis. We also had to exclude outcomes when the measure of effect should have been easy to convert using standard meta-analytic procedures but insufficient data were presented (for example, studies reported means but not standard deviations).

Related to many of these limitations is the problem of descriptive validity (Farrington 2003, 2006; Gill 2011; Perry et al. 2010). Most evaluation research in criminology and criminal justice lacks detail on the precise nature of the intervention, the specific details of the comparison group, and sufficient statistical detail to calculate effect sizes. This presents a challenge for meta-analysis because it requires researchers to be more creative in calculating effect sizes, which reduces the precision of our estimates. Even where we could calculate effect sizes, it was not always clear that we were comparing like-for-like in terms of interventions or, importantly, control conditions.

A clear description of the "community" that was targeted by the intervention was absent from the discussion in most of the studies we reviewed. Community is a multifaceted concept that encompasses not only the people living and/or working in the target area (implicitly the focus of these studies) but also the shared formal or informal boundaries that bring these people together, and the activities, ideals, languages, and norms that can either unify or divide them. It is crucial for both implementing COP and measuring its success that the appropriate target population is identified. Sometimes, opportunities for community participation become dominated by the same few people, who may be well meaning but not representative of the full spectrum of interest groups who have a stake in public safety, or who have different views and experiences of the police than other constituents. Under-represented groups may in turn feel alienated and avoid participating. It may also be a challenge for police and community leaders to reconcile competing priorities in the problem-solving process; for example, balancing residents' concerns about a bar that attracts fights with the rights of the bar owner (who is also a member of the local business community) to make business decisions.

Related to this issue is the choice of the unit of analysis in the primary studies. Most studies examined the crime control effects of COP in larger geographic areas, such as police beats or neighborhoods, and selected citizen samples from the same areas. However, to the extent that COP involves problem solving, which is a highly targeted and focused approach to crime prevention, we might expect to see variation at 'micro-places' such as crime hot spots, where 'micro-communities' of residents, business owners, and other interest groups have had direct contact with the police through either law enforcement or community collaboration activities.

The choice of population in COP studies also affects the construct validity (Cook and Campbell 1979) of citizen-based outcome measures. For example, only a handful of studies in our review specified that their measures of satisfaction with police or

police legitimacy were derived from citizens who actually had contact with the police, and even then it was not clear what the nature of that contact was. Somebody who is stopped or arrested by the police will likely have a different impression of their experience from someone who asks for help or information, even if they are treated fairly. In some cases, survey questions like "Do you think the police treat people fairly?" were asked of a random sample of local residents who may not have had any contact with the police at all. Police legitimacy is enhanced through procedural justice (Mazerolle et al. 2013; Tyler 2004), which comprises four components that derive from the personal interaction between police (or other agent of authority) and citizen: the extent to which the citizen participated in the decision-making process; perceived neutrality in the officer's decision making; was treated with dignity and respect; and perceived that the officer's motives were trustworthy (e.g., Tyler and Huo 2002). While residents may trust the police regardless of their interactions, this is not necessarily a true measure of police legitimacy.

# Conclusion

The results of this systematic review of community-oriented policing (COP) strategies provide robust evidence that community policing increases satisfaction with police, elements of police legitimacy, and citizen perceptions of disorder. This finding is crucial as many police departments continue to struggle with public perceptions even as crime rates fall. We do not find evidence that COP reduces fear of crime or officially recorded crime. However, our analysis suggests that the impact of COP may vary across different types of crime; this preliminary finding deserves further investigation. We were not able to produce good estimates of effect size for the official crime outcomes identified in our review, so our point estimates and confidence intervals for those findings should be viewed as guidelines only (although we suspect that our estimates lean more, rather than less, conservative).

We have also noted that our review is intended only to shed light on the effectiveness of COP as it *has* been done, not as it *should* be done. However, regardless of this limitation the logic model for a direct effect of community-oriented policing on crime is weak, and the confusion around the approach has limited the ability of police departments to identify strategies for taking the philosophy of COP through to implementation. It is unlikely that the police simply engaging more with citizens is in itself sufficient to prevent crime; specific strategies like problem-oriented policing may mediate the relationship between community engagement and crime control.

However, when the police build positive relationships with the community, they can impact proximal outcomes like citizen satisfaction and trust, which may set the scene for effective problem solving to occur. As we have discussed, future research should focus on elaborating this logic model and identifying the effective strategies that arise within a community-oriented police culture. We hope that this work sets the stage for future development and evaluation of approaches that more closely adhere to the 'gold standard' of community-oriented policing. Ultimately, the adoption of a community-oriented philosophy by police departments, combined with highly-focused, place- and problem-specific crime prevention strategies, could be the precursor to creating long-term improvements and healthy communities.

# References

Note that, in the References:
* Denotes a reference to a study included in the systematic review
** Denotes a reference to a study included in both the systematic review and meta-analysis

Andrews, D. A., Bonta, J., & Hoge, R. D. (1990). Classification for effective rehabilitation: rediscovering psychology. *Criminal Justice and Behavior, 17*(1), 19–52.

Bayley, D. H. (1994). *Police for the future*. New York: Oxford University Press.

Borenstein, M., Hedges, L., & Rothstein, H. R. (2005). *Comprehensive meta-analysis, version 2)*. Englewood: Biostat.

Bowers, K. J., Johnson, S. D., Guerette, R. T., Summers, L., & Poynton, S. (2011). Spatial displacement and diffusion of benefits among geographically focused policing initiatives: a meta-analytical review. *Journal of Experimental Criminology, 7*(4), 347–374.

Braga, A. A., & Weisburd, D. 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*(3), 323–358.

**Breen, M. D. (1997). *Community policing in Manchester, Connecticut: A case study*. University of Connecticut, Storrs, CT. Retrieved from http://digitalcommons.uconn.edu/dissertations/AAI9737395/

Bushman, B. J., & Wang, M. C. (2009). Vote-counting procedures in meta-analysis. In H. Cooper, L. V. Hedges, & J. C. Valentine (Eds.), *Handbook of research synthesis and meta-analysis* (2nd ed., pp. 207–220). New York: Russell Sage.

Clarke, R. V. (2002). *Problem oriented policing and the potential contribution of criminology*. Washington, D.C.: U.S. Department of Justice, National Institute of Justice.

**Connell, N. M., Miggans, K., & McGloin, J. M. (2008). Can a community policing initiative reduce serious crime? A local evaluation. *Police Quarterly, 11*(2), 127–150.

Cook, T. D., & Campbell, D. T. (1979). *Quasi-experimentation: Design and analysis issues for field settings*. Boston: Houghton Mifflin.

Cordner, G. W. (1999). Elements of community policing. In L. K. Gaines & G. W. Cordner (Eds.), *Policing perspectives: An anthology* (pp. 137–149). Los Angeles: Roxbury.

Duval, S., & Tweedie, R. (2000). Trim and fill: a simple funnel-plot-based method of testing and adjusting for publication bias in meta-analysis. *Biometrics, 56*(2), 455–463.

Eck, J. E., & Rosenbaum, D. P. (1994). The new police order: Effectiveness, equity, and efficiency in community policing. In D. P. Rosenbaum (Ed.), *The challenge of community policing: Testing the promises*. Newbury Park: Sage Publications.

Farrington, D. P. (2003). Methodological quality standards for evaluation research. *Annals of the American Academy of Political and Social Science, 587*(1), 49–68.

Farrington, D. P. (2006). Methodological quality and the evaluation of anti-crime programs. *Journal of Experimental Criminology, 2*(3), 329–337.

Farrington, D. P., Gill, M., Waples, S. J., & Argomaniz, J. (2007). The effects of closed-circuit television on crime: meta-analysis of an English national quasi-experimental multi-site evaluation. *Journal of Experimental Criminology, 3*(1), 21–38.

Gill, C. (2011). Missing links: how descriptive validity impacts the policy relevance of randomized controlled trials in criminology. *Journal of Experimental Criminology, 7*(3), 201–224.

Gill, C. (2014). Community crime prevention. In D. P. Farrington & D. L. Weisburd (Eds.), *Systematic reviews in criminology: What have we learned?*. New York: Springer (Forthcoming).

Goldstein, H. (1979). Improving policing: a problem-oriented approach. *Crime and Delinquency, 25*(2), 236–258.

Goldstein, H. (1987). Toward community-oriented policing: potential, basic requirements, and threshold questions. *Crime and Delinquency, 33*(1), 6–30.

Goldstein, H. (1990). *Problem-oriented policing*. New York: McGraw-Hill.

Gottfredson, M. R., & Hirschi, T. (1990). *A general theory of crime*. Stanford: Stanford University Press.

Greene, J. R., & Mastrofski, S. D. (Eds.). (1988). *Community policing: Rhetoric or reality*. New York: Praeger.

Hedges, L. V., Tipton, E., & Johnson, M. C. (2010). Robust variance estimation in meta-regression with dependent effect size estimates. *Research Synthesis Methods, 1*(1), 39–65.

Hickman, M. J., & Reaves, B. A. (2001). *Community policing in local police departments, 1997 and 1999* (NCJ 184794). U.S. Dept. of Justice, Office of Justice Programs, Bureau of Justice Statistics. Retrieved from http://www.bjs.gov/content/pub/pdf/cplpd99.pdf

Hinkle, J. C. (2005). *The impact of disorder on fear of crime: A test of the first link of broken windows*. College Park: Dept. of Criminology and Criminal Justice, University of Maryland.

Jackson, J., & Sunshine, J. (2007). Public confidence in policing: a neo-Durkheimian perspective. *British Journal of Criminology, 47*(2), 214–233.

Kelling, G. L., & Moore, M. H. (1988). From political to reform to community: The evolving strategy of police. In J. R. Greene & S. D. Mastrofski (Eds.), *Community policing: Rhetoric or reality*. New York: Praeger.

Kelling, G. L., Pate, A. M., Dieckman, D., & Brown, C. E. (1974). *The Kansas City preventive patrol experiment: A technical report*. Washington, DC: Police Foundation.

*Kessler, D. A., & Duncan, S. (1996). The impact of community policing in four Houston neighborhoods. *Evaluation Review, 20*(6), 627–669.

Klockars, C. B. (1985). Order maintenance, the quality of urban life, and police: A different line of argument. In W. A. Geller (Ed.), *Police leadership in America: Crisis and opportunity* (pp. 309–321). New York: Praeger.

Kochel, T. R. (2012). Can police legitimacy promote collective efficacy? *Justice Quarterly, 29*(3), 384–419.

*Koper, C. S., Hoffmaster, D. A., Luna, A., McFadden, S., & Woods, D. J. (2010). *Developing a St. Louis model for reducing gun violence: A report from the Police Executive Research Forum to the St. Louis Metropolitan Police Department*. Washington, DC: Police Executive Research Forum.

Lipsey, M. W., & Wilson, D. B. (2001). *Practical meta-analysis*. Thousand Oaks: Sage.

Lowenkamp, C. T., Latessa, E. J., & Holsinger, A. M. (2006). The risk principle in action: what have we learned from 13,676 offenders and 97 correctional programs? *Crime and Delinquency, 52*(1), 77–93.

Lum, C., Koper, C. S., & Telep, C. W. (2011). The evidence-based policing matrix. *Journal of Experimental Criminology, 7*(1), 3–26.

Maguire, E. R., & Mastrofski, S. D. (2000). Patterns of community policing in the United States. *Police Quarterly, 3*(1), 4–45.

Martinson, R. (1974). What works? Questions and answers about prison reform. *The Public Interest, 10*, 22–54.

Mastrofski, S. D. (1988). Community policing as reform: A cautionary tale. In J. R. Greene & S. D. Mastrofski (Eds.), *Community policing: Rhetoric or reality* (pp. 47–68). New York: Praeger.

Mastrofski, S. D., Willis, J. J., & Kochel, T. R. (2007). The challenges of implementing community policing in the United States. *Policing, 1*(2), 223–234.

Mastrofski, S. D., Worden, R. E., & Snipes, J. B. (1995). Law enforcement in a time of community policing. *Criminology, 33*(4), 539–563.

Mazerolle, L., Bennett, S., Davis, J., Sargeant, E., & Manning, M. (2013). Procedural justice and police legitimacy: a systematic review of the research evidence. *Journal of Experimental Criminology, 9*(3), 245–274.

Morabito, M. S. (2010). Understanding community-oriented policing as an innovation: patterns of adoption. *Crime and Delinquency, 56*(4), 564–587.

Office of Community Oriented Policing Services. (2012). *Community-oriented policing defined*. Washington, DC: U.S. Department of Justice, Office of Community Oriented Policing Services.

**Pate, A. M., Wycoff, M. A., Skogan, W. G., & Sherman, L. W. (1986). *Reducing fear of crime in Houston and Newark: A summary report*. Washington, DC: Police Foundation.

Perry, A. E., Weisburd, D. L., & Hewitt, C. (2010). Are criminologists describing randomized controlled trials in ways that allow us to assess them? Findings from a sample of crime and justice trials. *Journal of Experimental Criminology, 6*, 245–262.

Petticrew, M., & Roberts, H. (2006). *Systematic reviews in the social sciences: A practical guide*. Oxford: Wiley-Blackwell.

President's Commission on Law Enforcement and Administration of Justice. (1967). *The challenge of crime in a free society*. Washington, DC: United States Government Printing Office. Retrieved from https://www.ncjrs.gov/pdffiles1/nij/42.pdf.

Reaves, B. A. (2010). *Local police departments, 2007 (No NCJ 231174)*. Washington, DC: U.S. Dept. of Justice, Office of Justice Programs, Bureau of Justice Statistics. Retrieved from http://www.bjs.gov/content/pub/pdf/lpd07.pdf.

Reiss, A. J. (1971). *The police and the public*. New Haven: Yale University Press.

Rothstein, H. R. (2008). Publication bias as a threat to the validity of meta-analytic results. *Journal of Experimental Criminology, 4*(1), 61–81.

Rothstein, H. R., & Hopewell, S. (2009). Grey literature. In H. Cooper, L. V. Hedges, & J. C. Valentine (Eds.), *Handbook of research synthesis and meta-analysis* (2nd ed., pp. 103–125). New York: Russell Sage.

Sampson, R. J., Raudenbush, S. W., & Earls, F. (1997). Neighborhoods and violent crime: a multilevel study of collective efficacy. *Science, 277*(5328), 918–924.

Scott, M. S. (2000). *Problem-oriented policing: Reflections on the first 20 years*. Washington, D.C.: U.S. Department of Justice, Office of Community Oriented Policing Services.

**Segrave, M., & Collins, L. (2005). *Evaluation of a suburban crime prevention team* (Report No. 14). Canberra, Australia: Australian Institute of Criminology.

Sherman, L. W. (1997a). Communities and crime prevention. In L. W. Sherman, D. Gottfredson, D. Mackenzie, D. L. MacKenzie, J. Eck, P. Reuter, & S. Bushway (Eds.), *Preventing crime: What works, what doesn't, what's promising*. Washington, DC: United States Department of Justice, National Institute of Justice. Retrieved from https://www.ncjrs.gov/works/chapter3.htm.

Sherman, L. W. (1997b). Policing for crime prevention. In L. W. Sherman, D. Gottfredson, D. Mackenzie, D. L. MacKenzie, J. Eck, P. Reuter, & S. Bushway (Eds.), *Preventing crime: What works, what doesn't, what's promising*. Washington, DC: United States Department of Justice, National Institute of Justice. Retrieved from https://www.ncjrs.gov/works/chapter8.htm.

Sherman, L. W., & Eck, J. E. (2002). Policing for crime prevention. In L. W. Sherman, D. P. Farrington, B. C. Welsh, & D. L. MacKenzie (Eds.), *Evidence-based crime prevention* (pp. 295–329). New York: Routledge.

Silver, E., & Miller, L. L. (2004). Sources of informal social control in Chicago neighborhoods. *Criminology, 42*(3), 551–584.

Skogan, W. G. (1990). *Disorder and decline: Crime and the spiral of decay in American cities*. New York: Free Press.

Skogan, W. G. (2004). Community policing: Common impediments to success. In L. A. Fridell & M. A. Wycoff (Eds.), *Community policing: The past, present, and future* (pp. 159–168). Washington, DC: The Annie E. Casey Foundation and the Police Executive Research Forum.

Skogan, W. G. (2006a). The promise of community policing. In D. L. Weisburd & A. A. Braga (Eds.), *Police innovation: Contrasting perspectives*. New York: Cambridge University Press.

Skogan, W. G. (2006b). *Policing and community in Chicago: A tale of three cities*. New York: Oxford University Press.

Skogan, W. G., & Frydl, K. (Eds.). (2004). *Fairness and effectiveness in policing: The evidence*. Washington, DC: National Academies Press.

**Skogan, W. G., & Hartnett, S. M. (1997). *Community policing, Chicago style*. New York, NY: Oxford University Press.

Spelman, W., & Brown, D. K. (1984). *Calling the police: Citizen reporting of serious crime*. Washington, DC: U.S. Department of Justice, National Institute of Justice.

Stone, C., & Travis, J. (2011). *Toward a new professionalism in policing*. Washington, DC: U.S. Dept. of Justice, Office of Justice Programs, National Institute of Justice.

Sunshine, J., & Tyler, T. R. (2003). The role of procedural justice and legitimacy in shaping public support for policing. *Law and Society Review, 37*(3), 513–548.

Telep, C. W., & Weisburd, D. L. (2012). What is known about the effectiveness of police practices in reducing crime and disorder? *Police Quarterly, 15*(4), 331–357.

Telep, C. W., Weisburd, D. L., Gill, C., Vitter, Z., & Teichman, D. (2014). Displacement of crime and diffusion of crime control benefits in large-scale geographic areas: A systematic review. *Journal of Experimental Criminology*. doi:10.1007/s11292-014-9208-5.

Trojanowicz, R. C., Kappeler, V. E., Gaines, L. K., & Bucqueroux, B. (1998). *Community policing: A contemporary perspective*. Cincinnati: Anderson.

**Tuffin, R., Morris, J., & Poole, A. (2006). *An evaluation of the impact of the National Reassurance Policing Programme* (HORS 296). London, UK: Home Office Research, Development and Statistics Directorate. Retrieved from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/115825/hors296.pdf

Tyler, T. R. (1990). *Why people obey the law*. New Haven: Yale University Press.

Tyler, T. R. (2004). Enhancing police legitimacy. *Annals of the American Academy of Political and Social Science, 593*(1), 84–99.

Tyler, T. R., & Huo, Y. J. (2002). *Trust in the law: Encouraging public cooperation with the police and courts.* New York: Russell Sage.

**Uchida, C. D., Forst, B., & Annan, S. O. (1992). *Modern policing and the control of illegal drugs: Testing new strategies in two American cities.* Washington, DC: Police Foundation.

Weisburd, D. L., & Braga, A. A. (2006). Understanding police innovation. In D. L. Weisburd & A. A. Braga (Eds.), *Police innovation: Contrasting perspectives.* New York: Cambridge University Press.

Weisburd, D. L., & Eck, J. E. (2004). What can police do to reduce crime, disorder, and fear? *Annals of the American Academy of Political and Social Science, 593*(1), 42–65.

Weisburd, D. L., & McElroy, J. (1988). Enacting the CPO role: Findings from the New York City Pilot Program in Community Policing. In J. Greene & S. Mastroski (Eds.), *Community based policing: Rhetoric or reality?* New York: Praeger.

Weisburd, D. L., Groff, E. R., & Yang, S.-M. (2012). *The criminology of place: Street segments and our understanding of the crime problem.* New York: Oxford University Press.

Weisburd, D. L., McElroy, J., & Hardyman, P. (1988). Challenges to supervision in community policing: observations on a pilot project. *American Journal of Police, 7*(2), 29–50.

Weisburd, D. L., Lum, C. M., & Yang, S.-M. (2003a). When can we conclude that treatments or programs "don't work"? *Annals of the American Academy of Political and Social Science, 587*(1), 31–48.

**Weisburd, D. L., Morris, N. A., & Ready, J. (2008). Risk-focused policing at places: An experimental evaluation. *Justice Quarterly, 25*(1), 163–200.

Weisburd, D. L., Telep, C. W., Hinkle, J. C., & Eck, J. E. (2010). Is problem-oriented policing effective in reducing crime and disorder? *Criminology and Public Policy, 9*(1), 139–172.

Weisburd, D., Mastrofski, S., McNally, A. M., Greenspan, R., & Willis, J. (2003b). Reforming to preserve: compstat and strategic problem solving in American policing. *Criminology and Public Policy, 2*(3), 421–456.

Wells, W., Schafer, J. A., Varano, S. P., & Bynum, T. S. (2006). Neighborhood residents' production of order: the effects of collective efficacy on responses to neighborhood problems. *Crime and Delinquency, 52*(4), 523–550.

Welsh, B. C., & Hoshi, A. (2006). Communities and crime prevention. In L. W. Sherman, D. P. Farrington, B. C. Welsh, & D. L. Mackenzie (Eds.), *Evidence-based crime prevention.* New York, NY: Routledge. Revised Edition.

*Wilson, J. M., & Cox, A. G. (2008). *Community policing and crime: The process and impact of problem-solving in Oakland.* Santa Monica, CA: RAND Corporation. Retrieved from http://www.rand.org/content/dam/rand/pubs/technical_reports/2008/RAND_TR635.pdf

Wilson, J. Q., & Kelling, G. L. (1982). Broken windows: The police and neighborhood safety. *Atlantic Monthly, March 249*(3), 29–38.

## Additional Eligible Studies

*Bennett, T. (1991). The effectiveness of a police-initiated fear-reducing strategy. *British Journal of Criminology, 31*(1), 1–14.

**Bond, C., & Gow, D. (1995). *Toowoomba beat policing pilot project: Main evaluation report.* Brisbane, Australia: Queensland Criminal Justice Commission.

**Collins, P., Greene, J. R., Kane, R., Stokes, R., & Piquero, A. (1999). *Implementing community policing in public housing: Philadelphia's 11th Street corridor program. Final report* (NCJ 179980). Washington, DC: U.S. Dept. of Justice, Office of Justice Programs, National Institute of Justice.

**Cordner, G., Roberts, C., & Jacoby, K. (1999). *National evaluation of Weed & Seed case study: Manatee and Sarasota Counties, Florida* (NCJ 175698). Washington, DC: U.S. Department of Justice, Office of Justice Programs, National Institute of Justice.

**Esbensen, F.-A. (1987). Foot patrols: Of what value? *American Journal of Police, 6*, 45–65.

**Giacomazzi, A. L. (1995). *Community crime prevention, community policing, and public housing: An evaluation of a multi-level, collaborative drug-crime elimination program in Spokane, Washington.* Department of Political Science, Washington State University, Pullman, WA.

*Greene, J. R., Hickman, M., Henderson, K., Stokes, R., Pelfrey, W., & Piquero, A. (2002). *Measuring what matters: Assessing community police performance in Philadelphia. Final report* (NCJ 194058). Washington, DC: U.S. Dept. of Justice, Office of Justice Programs, National Institute of Justice.

*Jesilow, P., Meyer, J., Parsons, D., & Tegeler, W. (1998). Evaluating problem-oriented policing: A quasi-experiment. *Policing: An International Journal of Police Strategies & Management, 21*(3), 449–464.

*Katz, C. M., Webb, V. J., & Schaefer, D. R. (2001). An assessment of the impact of quality-of-life policing on crime and disorder. *Justice Quarterly, 18*(4), 825–876.

*Lindsay, B., & McGillis, D. (1986). Citywide community crime prevention: An assessment of the Seattle program. In D. P. Rosenbaum (Ed.), *Community crime prevention: Does it work?* (pp. 46–67). Beverly Hills, CA: Sage.

**McElroy, J., Cosgrove, C. A., & Sadd, S. (1990). *CPOP: The research. An evaluative study of the New York City Community Patrol Officer Program.* New York, NY: Vera Institute of Justice.

**Sabath, M., & Carter, H. (2000). *Evaluation of efforts to strengthen police-resident relations in El Centro, California: A final report* (No. NCJ 181051). Washington, DC: U.S. Dept. of Justice, Office of Justice Programs, National Institute of Justice.

*Skogan, W. G., Hartnett, S. M., and the Chicago Community Policing Evaluation Consortium. (1995). *Community policing in Chicago, year two: An interim report.* Chicago, IL: Illinois Criminal Justice Information Authority.

**Wycoff, M. A., & Skogan, W. G. (1993). *Community policing in Madison: Quality from the inside out. An evaluation of implementation and impact* (NCJ 144390). Washington, DC: U.S. Dept. of Justice, Office of Justice Programs, National Institute of Justice.

**Charlotte E. Gill** is an Assistant Professor in the Department of Criminology, Law and Society at George Mason University, where she serves as Deputy Director of the Center for Evidence-Based Crime Policy. Her research interests include community-based crime prevention, place-based criminology, and evidence-based policy.

**David Weisburd** is Distinguished Professor in the Department of Criminology, Law and Society at George Mason University, where he serves as Executive Director of the Center for Evidence-Based Crime Policy, and the Walter E. Meyer Professor of Law and Criminal Justice at the Hebrew University Law School.

**Cody W. Telep** is an Assistant Professor in the School of Criminology and Criminal Justice at Arizona State University.

**Zoe Vitter** is a doctoral student in the Department of Criminology, Law and Society at George Mason University and works as a graduate research assistant in the Center for Evidence-Based Crime Policy.

**Trevor Bennett** is Professor of Criminology at the University of South Wales, where he serves as the Director of the Centre for Criminology.