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The effects of community policing on fear of crime and perceived safety: findings from a pilot project in Trinidad and Tobago

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ABSTRACT

Using findings from a quasi-experiment, this study examines whether the implementation of community policing in Gonzales, a distressed Caribbean community, reduced fear of crime and increased perceptions of safety. We use a pre-post, comparison group design with two groups. Data are based on three waves of citizen surveys carried out in both groups. Our findings reveal that from wave 1 to wave 2, the treatment area experienced an increase in fear relative to the comparison area; the effect size was small and positive, but was not statistically significant. The change in perceived safety from wave 1 to 2 in the treatment area was trivial and non-significant. From wave 2 to 3, the treatment area experienced a significant positive increase in perceptions of safety relative to the comparison area. The treatment area also experienced a small reduction in fear relative to the comparison area, but the effect was not statistically significant. Overall, we conclude that the early stages of implementing community policing in Gonzales may have increased fear but had no effect on perceived safety. Later and more robust implementation was associated with a significant increase in perceived safety and possibly a small reduction in fear.

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KEYWORDS

Community policing; fear of crime; perceived safety; quasi-experiment; Caribbean

Introduction

Distressed urban communities plagued by poverty, inequality, crime, and a variety of other social ills provide a compelling context for testing the impact of interventions meant to improve community conditions. To date, much of the research that takes place in such communities has been carried out in only a handful of Western democracies, yet there are good reasons to question the extent to which the results from these studies are applicable or 'exportable' to the developing world (Riggs 1964, Dolowitz and Marsh 1996, Bayley 2005).

The present study examines the impact of an award-winning community policing initiative in Trinidad and Tobago, a small, two-island developing nation in the Caribbean. We focus specifically on two related outcomes: fear of crime and perceived safety. To our knowledge, this is the first experimental or quasi-experimental study (in English) to test the effects of community policing on these outcomes in a developing country.¹ As such, it adds to the nascent body of research on the effectiveness of crime prevention and police reform initiatives in developing nations (see Bowles *et al.* 2005 for a review) and to the growing body of literature that explores whether criminological theories and crime reduction strategies emerging from developed nations are applicable in different cultures and contexts (e.g. Bissessar 2000, Davis *et al.* 2003, Miller and Hendricks 2007, Reisig and Lloyd 2009, Maguire and King 2013, Johnson *et al.* 2014).

Background on community policing

Community policing is a general philosophy of policing that encompasses a number of more specific strategies and tactics. Several definitions of community policing exist in the literature. The most well-known definition treats community policing as having three dimensions: community partnerships, problem-solving, and organisational transformation. This conceptualisation is consistent with scholarship on community policing, as well as the definition of community policing used by the U.S. Department of Justice's Office of Community-Oriented Policing Services (Eck and Maguire 2000, Maguire and Wells 2009, Scheider *et al.* 2009).² These same elements are also found in community policing initiatives implemented outside of the United States (Bayley 1994).³

Community partnerships form the core of community policing, reminding police that working collaboratively with the public is essential to be effective and to maintain legitimacy in the eyes of the populace. However, research has consistently shown that community partnerships alone are insufficient to solve community problems such as crime and disorder. For that reason, proactive problem-solving is a vital component of community policing. Taken together, community partnerships and problem-solving form the core external elements of community policing. Yet, these elements may not survive absent internal organisational changes that support them. Thus, the third element of community policing is organisational transformation, and it serves as a catchall category for a variety of internal changes in personnel, training, supervision and management, policies and procedures, and technology that are intended to facilitate community partnerships and problem-solving (Scheider *et al.* 2009).

The effects of community policing are difficult to evaluate because it has been defined and implemented in so many different ways. The term 'heterogeneous' appears frequently in reflections on the meaning of community policing. For instance, Eck and Maguire (2000, p. 218) note that 'community policing involves a wide array of fairly heterogeneous changes in policing'. Gill *et al.* (2014a, p. 6) express a similar sentiment based on their recent systematic review of the evidence, noting that the 'extensive heterogeneity in the definition of community policing may present significant challenges in evaluating its effects'.

The common thread linking most community policing efforts involves the police consulting with or mobilising communities in an effort to work together in addressing substantive community problems (Bayley 1994). Police–community partnerships are hypothesised by reformers to improve relationships between police and communities and to reduce crime, victimisation, disorder, and fear (e.g. Trojanowicz and Bucqueroux 1990, Bureau of Justice Assistance 1994). However, as Gill *et al.* (2014b) note, there is a pronounced shortage of theoretical models or logic models that clearly delineate the expected causal linkages between community policing and these desirable outcomes.

The effects of community policing on fear of crime and perceived safety

Scholars and practitioners have debated a range of mechanisms through which community policing may reduce fear of crime and improve perceptions of safety among residents. For example, some posit that community policing may reduce fear or improve perceptions of safety simply by increasing police presence in communities. Others argue that community policing may reduce fear of crime by increasing familiarity and trust among and between citizens and the police as they interact in neighbourhood watch programmes, participate in neighbourhood maintenance and disorder reduction campaigns, and collaborate on problem-oriented policing projects (Zhao *et al.* 1995, Scheider *et al.* 2003, Lord *et al.* 2009). Indeed, studies have found that simply increasing citizen awareness of community-oriented policing has been associated with reduced fear of crime and stronger feelings of community attachment relative to traditional policing strategies (Davis and Miller 2002).

Foot patrol is one of the hallmarks of community policing. Two classic studies found that foot patrol reduced fear of crime in Newark, NJ (Kelling 1981) and Flint, MI (Trojanowicz 1986). However, a more recent study in Philadelphia found that foot patrol did not have a significant

effect on residents' perceptions of safety (Ratcliffe *et al.* 2015). Many other studies have found that community policing, more broadly defined and operationalised, reduces fear of crime (Pate *et al.* 1986, Williams and Pate 1987, Dalglish and Myhill 2004, Roh and Oliver 2005), particularly in smaller to mid-sized cities (Adams *et al.* 2005, Lord *et al.* 2009). Moreover, a lengthy review of more than 50 studies on fear of crime suggests that increased police presence has had a strong impact on reducing fear (Zhao *et al.* 2002).

In contrast, other studies find that community policing has little impact on fear (Skogan and Frydl 2004) and that community policing does not impact fear of crime in large cities (Scheider *et al.* 2003). Moreover, some scholars even report that community policing can potentially *increase* fear of crime. For instance, researchers in the UK found that fear increased when community policing was implemented within a housing association. The authors caution that 'offering policing and security solutions' in some communities may "exacerbate residents' fears" (Crawford *et al.* 2003, p. 45). Similarly, participation in Neighbourhood Watch programmes, another mainstay of community policing, may lead to increased levels of fear by routinely providing residents with current and detailed information about the actual risks of crime within their communities (Mayhew *et al.* 1989, Ferguson and Mindel 2007).⁴

Several explanations may help account for these disparate findings. One possibility is that measures of community policing and fear of crime vary across studies and settings. To be sure, the definitions, operationalisation, and implementation of community policing differ from city-to-city, across neighbourhoods within cities, and cross-nationally. As a result, it is difficult to measure and operationalise partnerships, problem-solving, and organisational transformation consistently. Perhaps for this reason, many studies that examine 'community policing' often focus on just one aspect of this approach, such as foot patrol (see above), neighbourhood watch programmes (Bennett *et al.* 2006, 2008), or problem-solving/problem-oriented policing strategies (Mazerolle *et al.* 2007, Weisburd *et al.* 2008). Relatedly, scholars have expressed concerns about how fear of crime is defined, measured, and analysed (Garofalo 1981, Farrall *et al.* 1997, Jackson 2005). For example, scholars have noted that the term 'fear of crime' is used loosely and inconsistently in the literature (LaGrange *et al.* 1992, Hale 1996). Moreover, researchers have often confused fear of crime with perceived risk of victimisation (Warr 2000, Cordner 2012). This occurs despite evidence that the two phenomena are conceptually and empirically distinguishable (Ferraro 1995, Rountree and Land 1996) and that one (perceived risk) may influence the other (fear).

As this brief review demonstrates, there is evidence from the existing evaluation research to support three competing conclusions: community policing reduces fear, has no influence on fear, and increases fear. Although the bulk of the evidence suggests that community policing programmes can reduce fear of crime, meaningful differences across studies in the quality of the research and the measurement of community policing and fear suggest that narrative or unsystematic reviews of the literature are unlikely to be very helpful in sorting through the evidence. Fortunately, a recent systematic review of the evidence accounted for these issues in summarising the effects of community policing (Gill *et al.* 2014b). The review of 18 fear-related outcomes concluded that citizens' feelings of safety improved, 'especially after dark, in about half of the comparisons that measured these outcomes' (p. 412). The study's authors had insufficient information to calculate effect sizes for several of these outcomes, and were therefore only able to include 10 fear-related outcomes (from four separate studies) in their meta-analysis of quantitative findings (Pate *et al.* 1986, Wycoff and Skogan 1993, Segrave and Collins 2005, Tuffin *et al.* 2006). The mean effect size across 10 outcomes was positive (favouring the treatment) but not statistically significantly different from zero. Two individual outcomes were statistically significant and favoured the treatment condition, one was statistically significant and favoured the control condition, and 7 were not statistically significant. For supporters of community policing, the most optimistic conclusion that can be reached on the basis of this evidence is that the effects of community policing on fear and perceived safety are mixed. Notably, all of the estimates came from developed nations, including six from the UK, three from the United States, and one from Australia. Although there is a significant body of work containing descriptive and prescriptive analyses of community policing and other crime prevention and police reform efforts in the

developing world, there is a distinct shortage of high-quality impact evaluations on the effectiveness of these initiatives (e.g. Maguire and Bennett 2008, Beato and Silveira 2014).

Present study

This study examines the Gonzales Community Policing Project, a community policing initiative implemented in a distressed urban community located in East Port of Spain, the capital of Trinidad and Tobago. The present study evaluates the impact of the Gonzales Community Policing Project on fear of crime and perceived safety. In light of previous research and theory, this study tests two primary hypotheses:

- (1) the implementation of community policing in Gonzales was associated with decreased levels of fear, and
- (2) the implementation of community policing in Gonzales was associated with increased perceptions of safety.

To our knowledge, a rigorous evaluation of the impact of community policing on fear or perceived safety in a developing nation has not yet been published. As a result, this study provides a useful contribution to the literature by expanding our understanding about the impact of community policing on residents' fear of crime and perceptions of safety.

Research setting and background

Trinidad and Tobago is the southernmost nation in the chain of Caribbean islands. Trinidad is located just seven miles northeast of the coast of Venezuela and Tobago is located 21 miles northeast of Trinidad. Although it is one of the wealthiest countries in the area due to its natural resources, Trinidad and Tobago is considered a developing nation.⁵ In the year 2000, Trinidad began to experience a serious increase in violent crime. The number of homicides more than quadrupled in less than a decade, from 120 in 2000 to 540 in 2008. Most of the increase was due to gang violence concentrated in the disadvantaged hillside communities of Port of Spain, the nation's capital (Maguire *et al.* 2008). This increase in violence took place against a backdrop of negative police–community relations and concerns about the efficacy of the criminal justice system, particularly in the affected communities (Adams 2012).

Like many post-colonial Caribbean societies, relationships between the police and the public in Trinidad and Tobago are often conflictual (Harriott 2000, Mars 2007, Wallace 2011). Citizens and international organisations have long expressed concerns about police ineptitude, corruption, and excessive use of force (Ottley 1972, Trotman 1986, Deosaran 2002, MORI International 2002–2008, Amnesty International 2006, King 2009, Kuhns *et al.* 2011). In response to the upsurge in violence and public concerns about the legitimacy of the police service, the government of Trinidad and Tobago engaged in a broad range of policing reform efforts (Mastrofski and Lum 2008). In 2004, our team was one of several invited by the Ministry of National Security to work with the Trinidad and Tobago Police Service (TTPS). The Gonzales Community Policing Project was one of more than a dozen initiatives that our team undertook in order to diagnose and treat the causes of Trinidad's rise in violent crime and to improve police–community relations.

The Gonzales community

Located in the eastern foothills of Port of Spain, Gonzales covers about 300 acres and is home to approximately 5600 residents.⁶ A plateau in the middle of the community is used by most residents to distinguish between upper and lower Gonzales. This division primarily reflects the local topography, but the two areas are also distinct in their level of development. Roads in lower Gonzales are

paved, homes have electricity and indoor plumbing, and most homeowners have legal possession of their land. In upper Gonzales, some of the roads are unpaved, residents walk on dirt pathways and steep staircases carved into the hillsides, some homes are built from makeshift materials, and many have no electricity or running water. Some of the residents in this area do not own the land they live on and are considered squatters (Johnson *et al.* 2016).

As a whole, Gonzales embodies many of the characteristics of distressed urban communities found throughout the developing world. In addition to the utility and infrastructure problems noted above, residents experience high levels of unemployment and underemployment, and crime and violence represent significant concerns for the community. Homicides increased dramatically in Gonzales between 2000 and 2005, largely as a result of gang activity. In community forums, residents emphasised that crime, fear of crime, disorder, and poor (and deteriorating) relationships between the police and the public were some of the most salient issues of concern to them. For example, 44% of respondents in a 2004 survey of Gonzales residents reported that crime and security were the most important problems in their community (Pride in Gonzales Committee 2005). Similarly, during a community meeting in March 2005, residents listed seven primary issues facing the neighbourhood, ranking crime as the number one concern. As a result of these and other community concerns, religious leaders and community activists launched the *Pride in Gonzales* initiative to address the community's security, infrastructure, and social development needs (Johnson *et al.* 2016; Maguire and Gordon 2015). Establishing a community policing unit in Gonzales was one component of this larger grass-roots effort.

The Gonzales community policing project

The Gonzales Community Policing Project was launched in February 2006, after a year of planning between our research team, community organisers, religious leaders, government officials, and the Trinidad and Tobago Police Service.⁷ The Gonzales Project sought to achieve four objectives: (1) to reduce crime and victimisation; (2) to reduce disorder; (3) to reduce fear of crime; and (4) to improve police–citizen relationships.⁸ It was the first community policing programme in the nation to emerge as the result of a grass-roots community effort and which actively sought to blend community partnerships and problem-solving strategies. The project's leaders were aware of the challenges associated with cultivating such an initiative within the developmental, institutional, and operational context of the TTPS (Deosaran 2002) and were committed to ensuring community involvement in the policing process (Wallace 2011, 2012). The key elements associated with the initiative included: officer training in community policing and problem-oriented policing; additional vehicle and foot patrols by community policing officers (above and beyond the 'business as usual' police patrol in the community); the presence of a mobile police post in the community; community engagement; problem-oriented policing projects; and the procurement of equipment (protective gear, flashlights, computers, weapons, etc.) for the community policing officers assigned to the unit. A female police inspector⁹ with training in community policing, problem-oriented policing, and strategic crime control was selected to command the unit, and initially, 10 officers were assigned to staff it.

As detailed in the brief history below, the Gonzales Project faced significant challenges associated with project implementation. The unit experienced poor and unstable staffing, limited access to vehicles and necessary equipment, and inconsistent support from police leaders. While these challenges hampered the project's implementation, officers were able to form community partnerships, were supported by U.S. field advisors, received extensive training, and ultimately completed several significant problem-solving projects in the community.

The Gonzales Project unfolded unevenly over time and experienced significant challenges associated with project implementation. From approximately February 2006 to June 2006, the Gonzales officers were trained in community policing, problem-oriented policing, and strategic crime control, and received technical assistance during monthly visits from members of our team.¹⁰ The

officers spent a significant amount of time in the community staffing a mobile police post,¹¹ carried out limited patrols and community outreach activities, and began to design problem-oriented policing (POP) projects. For example, following a series of door-to-door visits to at least 30 neighbourhood homes, and at the request of several elderly residents in the area, the officers conducted a small-scale POP project on a recurring problem, thefts of pension checks. In May of 2006, the Gonzales Project won first prize in a Caribbean community policing competition sponsored by the Motorola Corporation (Catholic News 2006).

Unfortunately, soon after receiving the award, the community policing unit encountered a series of setbacks and obstacles that all but closed down the project. This challenging period ran from approximately July 2006 to January 2007. During this time, the unit's commander was promoted and assigned to new duties, several officers were transferred, one of the two vehicles was taken away, equipment promised to the unit was not delivered, and the mobile police post was regularly broken down or deployed elsewhere. Foot patrols in Gonzales declined dramatically, leadership was weak and sporadic due to competing responsibilities, and the officers became more and more demoralised. The project continued, but at a minimal level of programmatic dosage. Implementation challenges that had featured so prominently in the U.S. community policing literature had also become a reality in Trinidad and Tobago (Sadd and Grinc 1996, Giacomazzi *et al.* 2004, Maguire *et al.* 2015).

Attempts to re-invigorate the initiative began in earnest in February of 2007. We hired a retired U.S. police official with extensive experience in community and problem-oriented policing to live in Trinidad and provide guidance on POP projects and oversight to the unit's officers. Under his tutelage, the community policing officers planned a series of POP projects based on the community's self-reported needs, and patrol activity by the officers increased in the neighbourhood. Despite the technical advisor's presence, the Gonzales Project continued to suffer from a lack of equipment and resources, and most importantly, a lack of support from police administrators. These impacts were reflected in the low morale of the officers and the diminishing level of patrol by community policing officers (from approximately July 2007 to January 2008). In late 2007, just as we were preparing to write off the Gonzales Project as a case of implementation failure, it won the support of two high-level police officials who used their influence and authority to get a retired police inspector hired to command the unit. The inspector, a lifelong resident of Gonzales with deep roots in the community, joined the unit in January 2008. His presence breathed new life into the initiative.

Beginning in February 2008, the Gonzales Community Policing Project was infused with a renewed sense of vigour. The new inspector received a customised course in community policing, problem-oriented policing, and strategic crime control at two universities and a police department in the United States, and set about rebuilding the unit. In the months following his placement, requests for equipment and supplies began to be fulfilled, new personnel were appointed to replace those who had been transferred, and the unit's officers began to show a renewed sense of excitement and commitment to the project. Working with members of our team and the onsite technical advisor, the officers partnered with government and non-governmental organisations and local residents to address problems identified by the community. The officers engaged in several POP projects which focused on: (1) the removal of two dozen abandoned/derelict vehicles which were often used by gang members to hide drugs or weapons; (2) the removal of excessive and bulk trash and rubbish in the neighbourhood; and (3) youth truancy. Several of these POP project initiatives received publicity in the local media (Bethel 2008). In addition, the officers increased their interactions with the community, helping to organise a health-care fair and youth summer camps. Furthermore, the inspector ensured that vehicle and foot patrols by community policing officers occurred in Gonzales almost daily. Aided by the return of the mobile police post in the spring of 2008, which was set up in the centre of the community, the officers re-established a regular presence in the community and began going door to door in order to (re)introduce themselves to residents and gather additional data about problems in the neighbourhood.

The Gonzales community policing officers maintained a handwritten log of their patrol activities from the project's start in February 2006 through the end of our evaluation period in July 2008 and

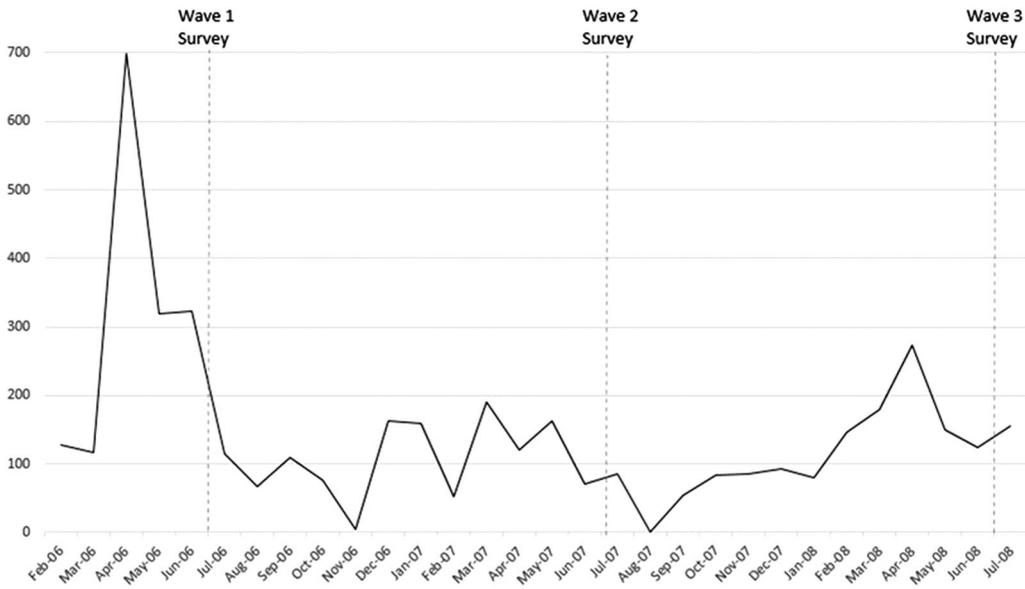


Figure 1. Hours per month spent in Gonzales by community policing officers.

Note: The dashed vertical lines represent the approximate midpoints of the three survey administration periods.

beyond.¹² These data provide a partial overview of implementation and dosage over time. As shown in Figure 1, patrol activity by the officers varied widely during this period. These temporal fluctuations correspond to our own assessments about the strength of implementation, and reflect the strong launch of the programme from February to June of 2006 and the support of senior leadership and a reinvigorated and active unit starting in February 2008. While Figure 1 provides a useful illustration of the inconsistencies in patrol presence, it represents an incomplete measure of implementation. Consistent with the literature on police effectiveness, the real story had much more to do with what the officers did when they were in the community than with merely how often they were present. By February 2008, the community policing unit had stronger leadership, its officers had been fully trained in community policing and POP, a full-time technical advisor from the United States had been implanted in the unit, and the officers were engaged in a variety of meaningful community outreach and POP projects.

Methods

To examine the impact of the Gonzales Community Policing Project (hereafter referred to as the intervention) on fear of crime and perceived safety, we relied on a quasi-experimental pre-post, comparison group design. Our design involves two groups: a treatment community (Gonzales) where the intervention was implemented and a comparison community (Belmont) that did not receive the intervention.¹³ Our impact evaluation is based primarily on data from citizen surveys carried out in these two areas. We also rely on qualitative data from interviews and focus groups with police officers, residents, and other key stakeholders.

Data

We fielded three waves of surveys in Gonzales and Belmont during the project period using the IMPACT ('I Matter: Public Attitudes on Communities in Trinidad') survey instrument. A local research firm conducted face-to-face interviews with a total of 1805 randomly selected residents (approximately 600 for each wave, split evenly from Gonzales and Belmont).¹⁴ Interviews were completed

from 18 June to 12 August 2006 for wave 1, from July 6 to 28 August 2007 for wave 2, and between 3 June and 11 July 2008 for wave 3. The response rate was 79% for wave 1 (81% in Belmont, 76% in Gonzales), 84% for wave 2 (86% in Belmont, 81% in Gonzales), and 83% for wave 3 (83% in Belmont and 81% in Gonzales).¹⁵

The IMPACT survey covered numerous topics, including community cohesion, fear of crime and victimisation, perceived crime and neighbourhood problems, and attitudes towards the police. The instrument was carefully constructed based on a review of the relevant literature and focus groups in the target community. Many of the survey items were drawn from previous research and the questionnaire was reviewed by local professionals to ensure that its terminology was appropriate for Trinidadian language and culture, especially for use in communities with low literacy.¹⁶ The instrument was further refined after pre-testing with a small sample.

The IMPACT surveys constitute the primary data source for our impact evaluation, but two additional data sources provide useful context. First, as illustrated in [Figure 1](#), we built a database to capture measures of the Gonzales officers' patrol activities throughout the evaluation period. This data source is particularly useful for drawing inferences about the 'dosage' of the patrol portion of the intervention, particularly since we observed uneven levels of implementation throughout the project. Second, we conducted dozens of interviews (and some systematic focus groups) with police officers and key community figures about life in Gonzales, the Gonzales community policing unit, gangs, crime, and other related topics during the course of our research. The qualitative data resulting from these interviews and focus groups provide useful context for thinking about the implementation of the community policing intervention and the results of our impact evaluation.

Evaluation design

The intervention was launched in February 2006, several months before the wave 1 survey was administered. For that reason, we are unable to draw inferences about the effects of the initial phase of the intervention on fear and perceived safety. A comparison of the wave 1 and 3 survey results provides insights about the effects of the intervention from approximately July 2006 to July 2007. Similarly, a comparison of the wave 2 and three survey results provides insights about the effects of the intervention from approximately July 2007 to July 2008.

As noted earlier, the intervention was implemented unevenly over time. While the inconsistent implementation of community policing in Gonzales is not ideal for drawing inferences about the impact of the intervention, our approach represents a sort of natural experiment allowing us to test the hypothesis that higher levels of implementation (including completed POP projects, various forms of community engagement, and increased neighbourhood police presence and foot patrols) between waves 2 and 3 are associated with greater reductions in fear and increases in perceptions of safety relative to the lower levels of implementation that occurred between waves 1 and 2.

We have three waves of survey data resulting from three independently sampled cross sections. During each wave, we randomly sampled approximately 300 residents from the treatment area (Gonzales) and 300 residents from the comparison area (Belmont). Note that this approach is different from a true panel design in which the same individuals are tracked over time. The separate cross sections are sometimes referred to in the literature as 'pseudo-panels' and the data sets as 'pooled cross sections' or 'repeated cross sections.' Analysing repeated cross-sectional data present certain methodological challenges (Verbeek and Nijman 1992). The biggest challenge of this approach is that it does not allow for the measurement of individual-level change. However, repeated cross-sectional data are useful for measuring aggregate-level change. The most common design for estimating the effect of interventions with repeated cross-sectional data and two (or more) groups is the 'difference-in-differences' (DD) design. The DD approach in this study compares changes in fear and perceived safety over time between residents of the treatment area and the comparison area.¹⁷

Outcomes

Our impact evaluation of community policing in Gonzales includes two outcomes: fear of crime and perceived safety. In line with previous research, we conceptualise *fear of crime* as an individual's 'emotional response of dread or anxiety' to crime or symbols associated with crime (Ferraro 1995, p. 23; also see Rountree and Land 1996, Warr 2000). We conceptualise *perceived safety* as an individual's cognitive assessment of the risk of being criminally victimised (Rountree and Land 1996). Note that while these concepts are closely related, we conceptualise the latter as a cognitive perception and the former as an emotion. Though we are not concerned with disentangling the causal order between these concepts for purposes of this study, research suggests that fear may be an emotional response to perceptions of risk. Each outcome is measured using three items from the IMPACT surveys. Descriptive statistics for each item are shown in Table 1.

Covariates

The DD design calls for the inclusion of three dummy variables in each model to be estimated: one that contrasts the treatment area and the comparison area, one that contrasts wave_t and wave_{t-1}, and one that contrasts the post-test treatment observations with all others. In addition, we included four individual-level covariates thought to be associated with fear of crime: age, sex, race, and education.¹⁸ Descriptive statistics for each item are shown in Table 2. Although the treatment and

Table 1. Mean values for fear and perceived safety items.

Items	Wave 1		Wave 2		Wave 3	
	Gonzales	Belmont	Gonzales	Belmont	Gonzales	Belmont
Fear Items:						
'How often do you fear ...'						
someone breaking into your house to steal things?	2.66	2.73	2.13	1.98	1.83	1.99
being robbed by someone who has a gun or a knife?	2.78	2.87	2.04	1.94	2.00	2.05
being the victim of a gang-related crime?	2.56	2.77	1.81	1.79	1.90	1.78
Perceived Safety Items:						
'Overall how safe do you feel ...'						
walking alone in or around your neighborhood during the day?	2.60	2.85	3.51	3.64	3.50	3.40
walking alone in or around your neighborhood after dark?	1.87	2.00	2.80	3.03	2.83	2.73
when you are at home alone after dark?	2.40	2.33	3.34	3.44	3.39	3.33

Note: Response options for the fear items were: 1 = never, 2 = not too often, 3 = somewhat often, and 4 = very often. Response options for the perceived safety items were: 1 = very unsafe, 2 = a bit unsafe, 3 = somewhat safe, and 4 = very safe.

Table 2. Descriptive statistics for samples (Wave 1).

Variable	Gonzales	Belmont
Age		
Less than 30	30.4%	27.2%
30–64	51.5%	58.4%
65 +	18.1%	14.4%
Sex		
Male	45.7%	45.5%
Female	54.3%	54.5%
Race/ethnicity		
African	71.1%	65.0%
East Indian	5.0%	6.4%
Mixed	22.6%	28.6%
Other	1.3%	0.0%
Education		
Junior secondary or less	35.3%	32.8%
Secondary	53.5%	55.7%
Technical/vocational	5.6%	5.7%
Tertiary/university	5.6%	5.7%

comparison areas are very similar in demographic composition, we included these four covariates to ensure that they do not influence our treatment effect estimates.

Model estimation

We use structural equation modelling methods to estimate all model parameters simultaneously. The model contains two parts: a structural model as outlined earlier, and a measurement model that treats each outcome variable (fear and perceived safety) as a continuous latent variable with three indicators. Given that the indicators of the latent variable are ordinal, we rely on a robust weighted least-squares estimator available in the *Mplus* software.

Results

As a preliminary step in our impact assessment, we provide a visual summary of changes in the two outcomes for the treatment and comparison groups over the three waves. [Figure 2](#) illustrates the mean unweighted sum of the three items used to measure fear of crime during each wave. It shows that both the treatment and comparison areas experienced significant decreases in fear of crime between waves 1 and 2. The decrease is approximately parallel across both groups and therefore does not appear to be due to the intervention. From wave 2 to wave 3, [Figure 2](#) shows a slight increase in fear of crime in the treatment area and a slight decrease in fear in the comparison area. Shortly we will present more formal statistical tests of the effects of the intervention on fear of crime.

[Figure 3](#) illustrates the mean unweighted sum of the three items used to measure perceptions of safety during each wave. It shows that both the treatment and comparison areas experienced a significant increase in perceived safety from wave 1 to wave 2, a pattern that is consistent with the decrease in fear depicted in [Figure 2](#). The increase in perceived safety is approximately parallel across both groups and therefore does not appear to be due to the influence of the intervention. From wave 2 to wave 3, [Figure 3](#) shows a decrease in perceived safety in the comparison area and a slight increase in perceived safety in the treatment area. Shortly we will present more formal statistical tests of the effects of the intervention on perceptions of safety.

The descriptive findings shown in [Figures 2](#) and [3](#) provide a useful summary for observing patterns in the data. For a more rigorous impact assessment, we estimated two linear regression models using the DD approach described earlier. The first regression model contrasts waves 1 and 2, and therefore estimates the impact of the intervention from approximately July 2006 to July 2007. The model fit the

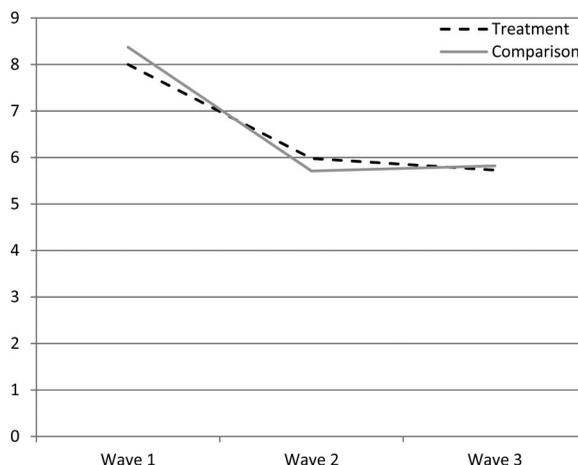


Figure 2. Fear of crime, wave 1 to wave 3.

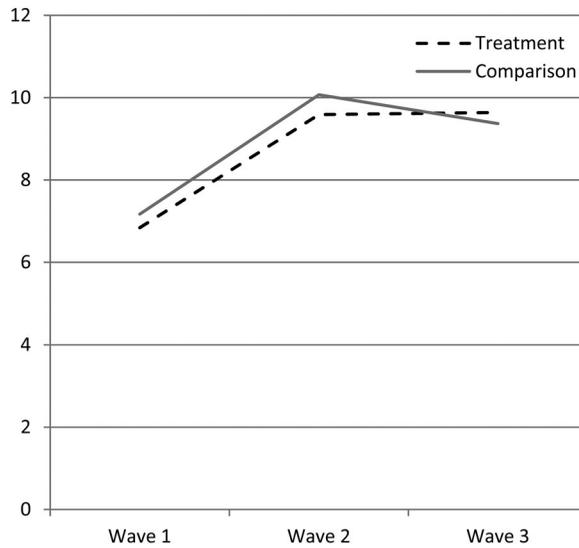


Figure 3. Perceived safety, wave 1 to wave 3.

data well (CFI = .994; TLI = .990; RMSEA = .040; WRMR = .767). The factor loadings for the two latent outcome variables (fear and perceived safety) were all strong and positive, with loadings ranging from .84 to .95. **Table 3** shows standardised and unstandardised regression coefficients, t-statistics, and *p*-values.

Table 3 shows that controlling for the effects of four covariates (age, sex, race, and education), the intervention (represented by the 'DD treatment effect' variable) did not have a statistically significant effect on fear or perceived safety between waves 1 and 2. Note the significant effect of the wave 2 dummy variable in the models for fear and perceived safety. This effect acknowledges that fear and perceived safety changed considerably from wave 1 to wave 2. However, the change was experienced in both the treatment and comparison areas. Our results demonstrate that although the treatment and comparison areas experienced a significant decrease in fear and a significant increase in perceived safety, these changes cannot be attributed to the effects of the intervention. We attribute these changes to a 'history' effect that influenced the treatment and control communities, though we can only speculate about the nature of that effect (Campbell and Stanley 1963).¹⁹

The second regression model contrasts waves 2 and 3. The model fit the data well (CFI = .992; TLI = .987; RMSEA = .037; WRMR = .780). The factor loadings for the two latent outcome variables (fear and perceived safety) were all strong and positive, with loadings ranging from .77 to .92. **Table 4** shows that, controlling for age, sex, race, and education levels, the intervention did not have a statistically significant effect on fear between waves 2 and 3. However, the treatment is associated with a

Table 3. Regression results for fear and perceived safety (Wave 1 vs. Wave 2).

Independent variables	Fear of crime				Perceived safety			
	<i>B</i>	β	<i>t</i>	<i>p</i>	<i>B</i>	β	<i>t</i>	<i>p</i>
Group dummy (treatment = 1)	-0.122	-0.068	-1.62	.106	-0.132	-0.067	-1.75	.080
Wave 2 dummy (wave 2 = 1)	-0.823	-0.461	-10.43	.000	1.067	0.537	12.86	.000
DD treatment effect	0.187	0.091	1.77	.076	-0.050	-0.022	-0.45	.655
Sex dummy (male = 1)	-0.097	-0.054	-1.83	.067	0.173	0.087	3.09	.002
Race dummy (black = 1)	-0.010	-0.005	-0.17	.866	0.158	0.074	2.69	.007
Education dummy (college/tertiary = 1)	-0.017	-0.006	-0.19	.853	-0.052	-0.015	-0.54	.588
Age dummy (65+ = 1)	-0.088	-0.061	-2.25	.024	0.004	0.002	0.08	.939

Note: Significance levels shown in bold denote $p < .05$.

Table 4. Regression results for fear and perceived safety (Wave 2 vs. Wave 3).

Independent variables	Fear of crime				Perceived safety			
	<i>B</i>	β	<i>t</i>	<i>p</i>	<i>B</i>	<i>B</i>	<i>t</i>	<i>p</i>
Group dummy (treatment = 1)	0.064	0.041	0.86	.388	-0.196	-0.112	-2.39	.017
Wave 3 dummy (wave 3 = 1)	0.025	0.016	0.35	.726	-0.309	-0.176	-3.77	.000
DD treatment effect	-0.107	-0.059	-1.05	.296	0.311	0.153	2.72	.006
Sex dummy (male = 1)	-0.207	-0.131	-4.03	.000	0.344	0.196	5.98	.000
Race dummy (black = 1)	-0.031	-0.017	-0.52	.603	0.120	0.061	1.87	.061
Education dummy (college/tertiary = 1)	0.161	0.068	2.03	.043	-0.124	-0.046	-1.48	.140
Age dummy (65 + = 1)	-0.369	-0.126	-3.51	.000	0.324	0.100	2.91	.004

Note: Significance levels shown in bold denote $p < .05$.

Table 5. Standardised mean difference effect sizes (*d*) adjusted for covariates.

Temporal Contrast	Outcome	<i>d</i>	95% C.I. (Lower)	95% C.I. (Upper)
Wave 1 vs. Wave 2	Fear	0.21	-0.03	0.45
Wave 1 vs. Wave 2	Perceived Safety	-0.05	-0.27	0.17
Wave 2 vs. Wave 3	Fear	-0.14	-0.39	0.12
Wave 2 vs. Wave 3	Perceived Safety	0.35	0.10	0.61

statistically significant increase in perceived safety during this period. Controlling for age, sex, race, and education, the intervention appears to have improved perceptions of safety among residents in the treatment group between waves 2 and 3.

Thus far, our interpretation of the treatment effect estimates has been based primarily on statistical significance levels. Statistical significance is a useful criterion for some purposes, but it cannot be used to draw inferences about the magnitude of an effect. For that, we need a measure of effect size. Table 5 presents standardised mean-difference effect sizes that summarise the effects of the intervention on fear and perceived safety. These effect sizes are based on multivariate regression models that included covariates to control for the influence of age, sex, race, and education. According to Cohen's (1988), well-known rules of thumb, an effect size of .20 is a small effect, .50 is medium, and .80 is large. According to Lipsey (1990), an effect size of .15 is small, .45 is medium, and .90 is large. These are subjective criteria that must be interpreted in the context of particular research domains and research questions.

We interpret the effect sizes in Table 5 as suggesting the following inferences. First, between waves 1 and 2, the treatment area experienced a small increase in fear ($d = 0.21$) relative to the comparison area, although the effect was not statistically significant at the conventional level ($p = .076$). Based on the magnitude of the effect size and the borderline p -value, some observers may interpret this set of results as indicating an iatrogenic effect in which the intervention increased fear in the treatment area relative to the comparison area. Second, during that same period, the treatment area experienced a trivial decrease in perceptions of safety ($d = -0.05$) relative to the comparison area. The effect was not statistically significant ($p = .655$). Third, between waves 2 and 3, the treatment area experienced a decrease in fear ($d = -0.14$) that approaches Lipsey's criterion ($d = 0.15$) for small effects, though the estimate is not statistically significant ($p = .296$). Fourth, during that same period, the treatment area experienced a small-to-moderate increase in perceptions of safety ($d = .35$) relative to the comparison area. The effect was statistically significant ($p = .006$).

Discussion

This study examined the impact of a community policing initiative on fear of crime and perceived safety in a distressed urban community located in a small-island developing nation. We explored the impact of the intervention using three waves of community survey data. We relied on covariate-adjusted difference-in-difference estimates of the effect of the intervention over two successive time contrasts (waves 1 and 2, and waves 2 and 3). Our impact evaluation relied on tests of statistical

significance as well as standardised mean-difference effect sizes to draw inferences about the effects of the intervention. We found that the impact of community policing varied across the two time contrasts and the two outcomes.

Our results suggest that the portion of the community policing intervention implemented in Gonzales between waves 1 and 2 was unsuccessful in reducing fear of crime or improving perceptions of safety. The treatment area experienced a small, positive increase in fear of crime relative to the comparison area. Although the effect was not statistically significant, we interpret it as substantively meaningful given its effect size ($d = 0.21$) and borderline p -value ($p = .076$). Thus, we conclude that fear of crime increased in Gonzales during the period between waves 1 and 2, a small but non-trivial iatrogenic effect which is counter to our expectations. Our results also clearly show that the intervention period between waves 2 and 3 was associated with an increase in perceptions of safety. This result is in line with our hypotheses. There is some ambiguity about whether this period of the intervention may also be associated with a small decrease in fear. Although the direction of the effect favours the treatment, given the effect size ($d = -0.14$) and statistical significance level ($p = .296$), we conclude that any effect of this portion of the intervention on fear of crime was quite small.

This mixed pattern of results is likely associated with the uneven implementation of the intervention over time, as well as the evolving nature of the activities and strategies employed by the community policing unit as the project progressed. Why might fear of crime have increased between waves 1 and 2 of our survey? We can only speculate, but one possible explanation may be the pronounced drop in commitment for the community policing project in Gonzales among TTPS executives after the project won the Motorola Community Policing Award in May 2006. The launch of the intervention in February 2006 had been heavily publicised and came with great fanfare. The initial burst of community policing activity may have inspired hope among residents that things were changing – that the government and the police were finally taking their security concerns seriously and responding to their desperate pleas for help. Winning a regional community policing award was a great mark of pride for this small community, especially for those community leaders who had invested tirelessly in improving the quality of life in Gonzales (Maguire and Gordon 2015). We can only speculate that this initial burst of activity prior to the wave 1 survey may have decreased fear and increased public perceptions of safety to some extent. The precipitous drop in community policing activity and support from police executives over the following year may have reversed this effect. While we view this explanation as plausible, we emphasise that it is merely speculation since, unfortunately, we do not have data on fear of crime prior to the launch of the intervention in February 2006.

The implementation problems that plagued the Gonzales Community Policing Project are a common theme in the literature on police reform. Precursors to the community policing movement in the United States, including ‘team policing,’ experienced significant implementation problems (Walker 1993). Similarly, many scholars have pointed out the implementation issues associated with community policing and problem-oriented policing (e.g. Sadd and Grinc 1996, Giacomazzi *et al.* 2004, Maguire and Wells 2009). For instance, Maguire, Uchida and Hassell’s (2015) analysis of the implementation of problem-oriented policing concludes that much of what passes as police reform is really just ‘symbolic reform at the edges.’ This may have been true in Gonzales. In July 2006, the Minister of National Security and the Commissioner of the TTPS visited Gonzales as part of a celebration of the Motorola community policing award. The Commissioner said that the focus of the TTPS in supporting such initiatives would be ‘to cultivate sustainable and trusting relations with communities’ (Deoraj 2006). Yet that same month, the mobile police post was removed from Gonzales for 20 months (until March 2008), despite the fact that it had been one of the community’s primary requests as part of the community policing initiative. As a result, many community residents, and the Gonzales officers themselves, questioned the organisational commitment of the TTPS to the community policing model. Figure 1 provided a compelling visual summary of this unstable commitment to the project, with patrol activity (and, correspondingly, community police officer presence) ebbing and flowing throughout the project period, sometimes dramatically so.

A key aspect of understanding the effects of the Gonzales Community Policing Project on fear of crime and perceived safety, and particularly the positive outcomes between waves 2 and 3, is to consider its implementation trajectory and the officers' activities at different stages of the project. Implementation during the first few months of the project was largely symbolic, although full of the energy and fanfare that often accompanies widely publicised new programmes. The most publicly visible community policing activities during this phase involved the presence of the mobile police post in the community, and an increase in foot patrol. Open-ended responses in the wave 1 IMPACT survey suggest that community residents had conflicted views about the utility of the mobile police post. When respondents were asked their views about the mobile police post, many indicated that it might help reduce fear of crime in the community, as shown in the following responses:

- 'Yes when the mobile is around crime will slow down.'
- 'I feel that when the bandits see a mobile parked in the area they will not rob people.'
- 'It's a good idea so that crime will be kept down.'
- 'Very good, it might take away some fear from people who are scared to walk the road.'

However, others believed that the mobile post was parked in the wrong location and they expressed frustration that it was only present for a few hours at a time, as indicated by the following comments:

- 'It should be there every day and night. Then I could say something good.'
- 'It's just a window dressing; just there for a few hours once a month doing nothing.'
- 'Yes, it's good, but it is in the wrong place. It should be up here where everything is going on and people fear for their life.'

In sum, residents expressed mixed views about whether the mobile post, as it was usually deployed in the early stages of the project, would have a strong impact on crime.

Between waves 1 and 2, the unit struggled through inadequate supervision, a lack of resources, little organisational support, and a subsequent drop in morale. While training was ongoing and the on-site technical advisor was helping the officers develop plans for POP projects, little of this was visible to the community and was therefore unlikely to have much of an effect on fear of crime or perceived safety. It was not until February 2008 that the intervention began to adopt substantively meaningful reforms. These included both community engagement and problem-solving components that were highly visible and likely to influence fear and perceived safety.

For example, one of the POP projects undertaken by the community policing officers culminated in the removal of abandoned cars from the neighbourhood in March 2008. Since residents complained that gang members used derelict vehicles to hide drugs and guns, removing them from the community might conceivably improve feelings of security among residents. The removal of two dozen cars throughout the community was a significant event; residents came out of their houses to watch large cranes load the derelict cars onto flatbed trucks, they chatted with the community policing officers about the project and other issues, and they watched as members of the media interviewed the unit's inspector and a local priest about the influence of community policing on police–community cohesion and neighbourhood security. In addition, a second POP project launched in April 2008 as a result of resident complaints focused on the removal of trash and other bulk items dumped in several locations throughout the neighbourhood. The officers learned from conversations with sanitation department supervisors that trash collectors were robbed multiple times when working in Gonzales and often did not complete their route. To address this, the Gonzales officers proactively talked with local youth (many of whom were gang members) about the effects of the robberies on the community environment, and then provided safe escort for the trash collection process. This project culminated in the removal of six large dump trucks worth of

excessive garbage and bulk trash in a single day. Given the links between neighbourhood disorder, fear of crime and perceived safety (Wilson and Kelling 1982, Skogan 1990, Hinkle 2005), it is possible that the removal of trash from the community as part of this POP project contributed to the increase in perceived safety between waves 2 and 3.

Our results also raise interesting questions about the nature of fear of crime and perceived safety. Although fear and perceptions of safety seem to overlap conceptually, there are important differences between them. Fear is rooted in emotional and affective psychological processes, whereas perceptions of safety are based in cognitive processes. The clearest effect that emerged from our evaluation of the Gonzales community policing initiative was the improvement in perceptions of safety from wave 2 to wave 3. This result suggests that residents of Gonzales experienced improvements in cognitive assessments of safety relative to residents elsewhere in Belmont. The results for fear of crime were more ambiguous during this period, with a small effect size favouring the treatment, but one that was not statistically significant. Whether one interprets this decrease in fear as trivial or non-trivial, one pattern worth noting is that the absolute value of the effect size for fear is less than half the absolute value of the effect size for perceived safety. Put differently, the community policing intervention appears to have been more successful in improving *cognitive* assessments of risk (perceived safety) than *emotional* assessments (fear of crime), at least in the short term. It is possible that a sustained and properly supported community policing campaign may reduce fear of crime as well, though documenting this would require tracking the intervention over a longer time frame than we were able to achieve in the present study.

The literature on fear of crime is conceptually rich and draws clear distinctions between these cognitive and emotional processes (Rountree and Land 1996). However, the programme and policy evaluation literature, which tests the effects of interventions on fear and perceived safety, has not typically paid much attention to these conceptual distinctions. Measures of perceived safety (or perceived risk) are regularly described in the literature as measures of fear of crime. Our findings illustrate the importance of separating the two concepts. Citizens' assessments of crime are likely to involve a mix of reason and emotion. The psychological processes underlying these assessments therefore have both cognitive and affective components. As scholars continue learning more about these processes, this knowledge can be used to modify interventions intended to reduce fear, perceived risk, and other similar phenomena.

Conclusion

Studies have examined the impact of community policing on many outcomes, including fear of crime, disorder, crime, and police–community relations. This is the first study (to our knowledge) to evaluate the effects of community policing in a developing nation on fear and perceived safety using an experimental or quasi-experimental design. The results are instructive for thinking about ways to improve conditions in disadvantaged communities across cultures (particularly related to fear of crime and perceived safety). Our results highlight the need for scholars and practitioners to measure and carefully consider implementation when evaluating the effects of police interventions.

At the outset of this study, we articulated a multidimensional conceptualisation of community policing that emphasised three dimensions: community partnerships, problem-solving, and organisational transformation. The partnership and problem-solving components of community policing have significant implications for police service delivery in communities. The organisational transformation component is less focused on external service delivery and more focused on ensuring that police organisations have in place proper structures, management and supervisory styles, human resource practices, and other internal features to support partnerships and problem-solving. After a shaky start, the Gonzales community policing officers were eventually successful at engaging the community and launching problem-solving efforts. Yet, at every stage of implementation, the project was hamstrung by shortcomings in the larger police organisation. The TTPS did not

provide the Gonzales community policing unit with the kind of sustained support it needed to accomplish its goals and objectives.

In light of the uneven trajectory of the Gonzales Community Policing project, it is not altogether surprising that the early stages of the intervention did not generate improvements in fear and perceived safety. Yet, the results leave room for optimism. When implemented with commitment, community policing may be able to reduce fear and improve perceptions of safety in distressed communities, including those located in developing nations.

Notes

1. Gill *et al.* (2014b) conducted an exhaustive systematic review of experimental and quasi-experimental impact evaluations of community policing. They were only able to identify eligible studies from three nations: the United States, the United Kingdom, and Australia. After the data collection for their study was completed, a randomised experiment testing the effects of community policing in Colombia became available, however, its outcomes included only measures of crime, not measures of fear or perceived safety (García *et al.* 2013).
2. 'Community Policing Defined,' <http://www.cops.usdoj.gov/pdf/vets-to-cops/e030917193-CP-Defined.pdf>
3. For instance, based on his study of police agencies in five nations, Bayley (1994) concludes that community policing consists of four dimensions, which he abbreviates using the acronym CAMPS: consultation, adaptation, mobilization, and problem-solving. Although Bayley uses some different terminology than we use here, consultation and mobilisation both refer to different aspects of community partnerships and adaptation is equivalent to organisational transformation.
4. Broader evidence suggests that neighbourhood watch programmes do reduce crime (Bennett *et al.* 2006), which may subsequently reduce fear.
5. Trinidad and Tobago occupies different positions in the various international development rating systems. The United Nations classifies it as a 'small island developing state' together with 37 other U.N. member states. As of 2015, the final year in which the World Bank classified nations according to development status, Trinidad and Tobago was listed as a developing nation with a 'high-income' economy. The United Nations Development Program lists Trinidad and Tobago in the second tier ('High Human Development') of its four human development classifications (Very High, High, Medium, and Low). The International Monetary Fund classifies nations according to one of two categories based on their level of development: Advanced Economies, and Emerging Market and Developing Economies. Trinidad and Tobago is listed in the latter category.
6. Obtaining accurate population information for Gonzales is difficult because the community is spread across several different jurisdictions, the boundaries are debated, and the squatter community is underrepresented in official statistics. Moreover, the community-identified boundaries of Gonzales (which were used for this project) differ from the administrative boundaries set by various governmental agencies. For details, see Pride in Gonzales Committee (2005), *Gonzales Community Profile, East Port of Spain, Trinidad*
7. The authors of this article played a leadership role in the implementation, maintenance, and evaluation of the Gonzales Community Policing Project.
8. Several different types of data were collected to ensure a rigorous evaluation, including calls-for-service, crime data, community surveys, systematic observation of community characteristics, field notes from participant observation, interviews and focus groups, and data on police patrol, training, and other activities.
9. The community was clear in its collective opinion that a woman would have a 'softer touch' and would ensure that policing in Gonzales became more civil and more just for residents and their children. The rank of Inspector in the Trinidad and Tobago Police Service is equivalent to the same rank in Australia, Canada, and the UK. It is equivalent to the rank of Lieutenant in U.S. police agencies.
10. The training was adapted from the Model Problem-Oriented Policing (POP) Curriculum (Kuhns and Leach 2011) and specifically tailored to crime and disorder problems in the Gonzales neighbourhood. The original POP curriculum included 14 learning modules that focus on the evolution of policing, community and problem-oriented policing, the SARA (Scanning, Analysis, Response, and Assessment) process, crime theories and situational crime prevention, strategies for responding to offenders, places, and victims (the crime triangle), and assessing and dealing with some challenges inherent in the problem-oriented policing process. Given technology and time limitations, the Gonzales training did not include Modules 7–9. However, by September 2007, a total of four supervisors and six constables had successfully completed the rest of the training, which involved in-class training sessions, group exercises, field homework assignments in the Gonzales community, and four multiple choice exams.
11. The mobile police post, like many mobile police command posts, was a small RV that included a sitting area, a bathroom and a small office space.
12. Unfortunately, funding to carry out the evaluation of the initiative was discontinued by the Ministry of National Security in August 2008, just as the project had begun to achieve significant momentum. Although our evaluation

period ended in July 2008, the Gonzales Community Policing initiative continued on without our presence or significant involvement after that date.

13. Gonzales is a neighbourhood within Belmont. For the purposes of the evaluation, Gonzales was considered the treatment area, and the rest of Belmont (not including Gonzales) was the comparison area. Belmont serves as an ideal comparison site in this study because Belmont and Gonzales are similar in many ways (including socioeconomic status, demographics, and crime), but Belmont had no community policing intervention underway at the time of our study. Later, we describe the analytical steps, we took to address potential differences between the treatment and comparison areas other than the intervention. Unfortunately, we have no systematic method available for gauging any potential 'diffusion of benefits' from Gonzales to Belmont as a result of the intervention. Although Gonzales is located within Belmont, it is a distinct community with clear geographic boundaries. The majority of the work carried out by the community policing officers in Gonzales did not occur near the border with the comparison area.
14. In Belmont, sampling was proportional to the size of the population, using community boundaries based on census files from the Trinidad and Tobago Central Statistical Office. The sampling boundaries for Gonzales were based on those identified by community residents because the boundaries of Gonzales are debated. The official boundaries from the Port of Spain Corporation and Central Statistical Office used for statistical purposes are smaller than the boundaries identified by community residents (see Pride in Gonzales Committee, (2005) *Gonzales Community Profile, East Port of Spain, Trinidad*, '4.1.1 Population Size & Growth'). Gonzales was then split into eight zones (chosen to reflect smaller neighbourhoods within the community), and the sample was drawn proportional to the population within each zone. In order to select respondents, GIS maps for each area were generated showing roads and housing. A start house was located and a sampling interval calculated so that interviewers canvassed every 'nth' house from the start location. Once the household was identified, adult respondents within each household were selected using the 'last birthday' method to ensure that the probability of selecting an individual within the household was the same for all eligible respondents. If selected participants were not at home at the time of the visit, interviewers made three call backs before the case was coded as a non-response using AAPOR final distribution code 2.25 for non-contact (American Association for Public Opinion Research 2015).
15. These response rates were calculated using AAPOR Response Rate 1 (RR1), or the minimum response rate, which is 'the number of complete interviews divided by the number of interviews (complete plus partial) plus the number of non-interviews (refusal and break-off plus non-contacts plus others) plus all cases of unknown eligibility (unknown if housing unit, plus unknown, other)' (American Association for Public Opinion Research 2015, p. 52).
16. English is the official language in Trinidad, so no language translation of survey items was necessary. However, colloquial terms differ across cultures, and we wanted to capture these in the survey. For example, when asking respondents about 'truancy', interviewers may have also used the phrase 'breaking biche', which is a common term for skipping school in Trinidad.
17. With repeated cross-sectional data, the basic linear equation for the DD model can be expressed as: $Y_{it} = \alpha + \beta D_{it} + \delta t + \gamma D_{it} + \epsilon_{it}$. In this equation, i denotes the individual respondent and t denotes the time period (coded 0 for pre-test and 1 for post-test observations). Y_{it} denotes the outcome score for individual i at time t . As we will explain shortly, the outcome scores in this study are not observed variables. Instead, they are latent variables which we estimate within a structural equation modelling framework. D_{it} is a dummy variable that is coded 0 for the comparison area and 1 for the treatment area. D_{it} represents the interaction between the treatment area dummy (D_{it}) and the time period dummy (t); it is coded 1 for observations in the treatment area during the post-test and 0 otherwise (Buckley and Shang 2003). The parameters to be estimated are α , which is an intercept term; β , which represents the effect of being located in the treatment area; δ , which represents the effect of time; γ , which is the difference-in-difference estimate of the impact of the intervention (and is thus the main quantity of interest); and ϵ , which is the disturbance term (Buckley and Shang 2003). Covariates can be added to this basic model to account for differences between the treatment and comparison areas on factors thought to influence fear and perceived safety.
18. As an additional diagnostic step to assess the comparability of the treatment and comparison groups, we estimated a logit model that included age, sex, race, and education as predictors of group membership. None of the predictors was statistically significant.
19. We attribute these changes to external factors that were not unique to the treatment or comparison areas and exerted similar effects on both areas. We can only speculate on what these factors were. The most likely possibility is a peace treaty that occurred in September 2006 involving gangs located throughout the Port of Spain metropolitan area (including Belmont and Gonzales). This peace treaty was highly publicized and involved several government ministries as well as the nation's Prime Minister. We emphasize that this is mere speculation on our part since we lack the data to test the effects of the peace treaty on fear of crime or perceived safety. However, our interviews with local officials did not reveal any competing interventions or other potential explanations for these changes.

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References

- Adams, E. B., 2012. We are like prey: how people negotiate a violent community in Trinidad and Tobago. *Race and justice*, 2, 274–303.
- Adams, R.E., Rohe, W.M., and Arcury, T.A. 2005. Awareness of community-oriented policing and neighborhood perceptions in five small to midsize cities. *Journal of criminal justice*, 33, 43–54.
- Amnesty International. 2006. Frequent police killings in Trinidad & Tobago go unpunished.
- Bayley, D.H., 1994. *Police for the future*. New York: Oxford University Press.
- Bayley, D.H., 2005. Police reform as foreign policy. *The Australian and New Zealand journal of criminology*, 38, 206–215.
- Beato, C. and Silveira, A.M., 2014. Effectiveness and evaluation of crime prevention programs in minas gerais. *Stability: international journal of security & development*, 3 (1), Article 20, doi:10.5334/sta.dr
- Bennett, T., Holloway, K., and Farrington, D.P. 2006. Does neighborhood watch reduce crime? A systematic review and meta-analysis. *Journal of experimental criminology*, 2, 437–458.
- Bennett, T., Holloway, K., and Farrington, D. 2008. The effectiveness of neighborhood watch. *Campbell systematic reviews*, 18, doi:10.4073/csr.2008.18
- Bethel, C., 2008. Old vehicles removed in Gonzales clean up. *Trinidad express*, March 1, 33.
- Bissessar, A.M., 2000. Policy transfer and implementation failure: a review of the policy of domestic violence in Trinidad and Tobago. *Caribbean journal of criminology and social psychology*, 5 (1), 57–80.
- Bowles, R., Akpokodje, J., and Tigere, E. 2005. Evidence-based approaches to crime prevention in developing countries. *European journal on criminal policy and research*, 11, 347–377.
- Buckley, J., and Shang, Y., 2003. Estimating policy and program effects with observational data: the “differences-in-differences” estimator. *Practical assessment, research & evaluation*, 8 (24): 1–8.
- Bureau of Justice Assistance. 1994. *Understanding community policing: a framework for action*. Washington, DC: Bureau of Justice Assistance.
- Campbell, D.T., and Stanley, J.C. 1963. *Experimental and quasi-experimental design for research*. Hopewell, NJ: Houghton Mifflin Company.
- Catholic News. 2006. *Gonzales project nabs community policing award* [online]. May 28. Available from: <http://www.catholicnews-tt.net/v2005/archives/0506/sun28/parishes.htm>.
- Cohen, J., 1988. *Statistical power analysis for the behavioral sciences*. 2nd ed. Hillsdale, NJ: Lawrence Erlbaum.
- Cordner, G.W., 2012. *Reducing fear of crime: strategies for police*. Washington, DC: Office of Community Oriented Policing Services.
- Crawford, A., Lister, S.C., and Wall, D.S. 2003. *Great expectations: contracted community policing in New Earswick*. York: York Publishing Services.
- Dalgleish, D. and Myhill, A., 2004. *Reassuring the public: a review of international policing interventions* [online]. Home Office Research Study 284. London, Home Office Research, Development and Statistics Directorate. Available from: <http://rds.homeoffice.gov.uk/rds/>.
- Davis, R.C., Henderson, N., and Merrick, C. 2003. Community policing: variations on the western model in the developing world. *Police practice and research*, 4, 285–300.
- Davis, R.C. and Miller, J., 2002. Immigration and integration: perceptions of community policing among members of six ethnic communities in central queens, New York city. *International review of victimology*, 9 (2): 93–111.
- Deoraj, T., 2006. Cop praises community policing drive. *The Trinidad guardian* (July 19).
- Deosaran, R., 2002. Community policing in the Caribbean: context, community and police capability. *Policing: an international journal of police strategies and management*, 25, 125–146.
- Dolowitz, D. and Marsh, D., 1996. Who learns what from whom: a review of the policy transfer literature. *Political studies*, 44, 343–357.

- Eck, J.E. and Maguire, E.R., 2000. Have changes in policing reduced violent crime? An assessment of the evidence. In: A. Blumstein and J. Wallman, eds. *The crime drop in America*. New York: Cambridge University Press, 207–265.
- Farrall, S., et al., 1997. Questioning the measurement of the 'fear of crime'. *British journal of criminology*, 37 (4), 658–679.
- Ferguson, K.M. and Mindel, C.H., 2007. Modeling fear of crime in Dallas neighborhoods: a test of social capital theory. *Crime & delinquency*, 53 (2), 322–349.
- Ferraro, K.F., 1995. *Fear of crime: interpreting victimization risk*. Albany, NY: State University of New York Press.
- García, J.F., Mejía, D., and Ortega, D. 2013. Police reform, training, and crime: experimental evidence from Colombia's Plan Cuadrantes. *CAF Working Paper#2013/01*.
- Garofalo, J., 1981. The fear of crime: causes and consequences. *The journal of criminal law and criminology*, 72 (2), 839–857.
- Giacomazzi, A., Riley, S., and Merz, R. 2004. Internal and external challenges to implementing community policing: examining comprehensive assessment reports from multiple sites. *Criminal justice studies*, 17, 223–238.
- Gill, C., et al., 2014a. *Community-oriented policing to reduce crime, disorder and fear and increase satisfaction and legitimacy among citizens: a systematic review*. Paper presented at the Campbell Collaboration Colloquium, Belfast, Northern Ireland.
- Gill, C., et al., 2014b. Community-oriented policing to reduce crime, disorder and fear and increase satisfaction and legitimacy among citizens: a systematic review. *Journal of experimental criminology*, 10 (4): 399–428.
- Hale, C., 1996. Fear of crime: a review of the literature. *International review of victimology*, 4, 79–150.
- Harriott, A., 2000. *Police and crime control in Jamaica: problems of reforming ex-colonial constabularies*. Barbados: University of the West Indies Press.
- Hinkle, J.C., 2005. *The impact of disorder on fear of crime: a test of the first link of broken windows*. Master's thesis. Department of Criminology and Criminal Justice, University of Maryland, College Park, MD.
- Jackson, J., 2005. Validating new measures of the fear of crime. *International journal of social research methodology*, 8 (4): 297–315.
- Johnson, D., 2016. Systematic observation of disorder and other neighborhood conditions in a distressed Caribbean community. *Journal of community psychology*, 44 (6), 729–746.
- Johnson, D., Maguire, E. R., and Kuhns, J. B., 2014. Public perceptions of the legitimacy of the law and legal authorities: evidence from the Caribbean. *Law & society review*, 48, 947–978.
- Kelling, George L., 1981. *The Newark foot patrol experiment*. Washington, DC: Police Foundation.
- King, K., 2009. *Policing your brother as the other: an analysis of policing in Trinidad and Tobago* [online]. Paper presented at SALISES 10th Annual Conference 25–27 March 2009. Available from: <http://www.cavehill.uwi.edu/salises/conferences/2009/documents/KingKeron-PolicingyourBrotherastheOther.pdf>.
- Kuhns, J.B., Johnson, D.R., and King, W. 2011. Resident perceptions of police mistreatment and use of force in a troubled Trinidadian neighborhood. *Journal of crime and justice*, 34 (3), 234–249.
- Kuhns, J.B. and Leach, N., 2011. *Model POP curriculum* [online]. Available from: http://www.popcenter.org/learning/model_curriculum/ [Accessed October 17, 2016].
- LaGrange, R.L., Ferraro, K.F., and Supancic, M. 1992. Perceived risk and fear of crime: role of social and physical incivilities. *Journal of research in crime and delinquency*, 29, 311–334.
- Lipsey, M.W., 1990. *Design sensitivity: statistical power for experimental research*. Newbury Park, CA: Sage Publications.
- Lord, V.B., Kuhns, J.B., and Friday, P.C. 2009. Impact of community policing on small city citizens. *Policing: an international journal of police strategies and management*, 32 (4): 574–594.
- Maguire, E.R., et al., 2008. Spatial concentrations of violence in Trinidad and Tobago. *Caribbean journal of criminology and public safety*, 13 (1/2), 44–83.
- Maguire, E.R. and Bennett, R.R., 2008. Introduction – special issue on criminal justice research in Trinidad and Tobago. *Caribbean journal of criminology and public safety*, 13 (1/2): xii–xxxiv.
- Maguire, E. R., and Gordon, J., 2015. Faith-based interventions for reducing gang violence in the Caribbean: reflections from a professor and a priest. In: A. Harriott, and C. M. Katz, ed. *Gangs in the Caribbean: responses of state and society*. Kingston: University of the West Indies Press, 301–336 .
- Maguire, E.R. and King, W.R., 2013. Transferring criminal investigation methods from developed to developing nations. *Policing & society*, 23 (3): 346–361.
- Maguire, E.R., Uchida, C.D., and Hassell, K. 2015. Problem-oriented policing in Colorado springs: a content analysis of 753 cases. *Crime and delinquency*, 61 (1): 71–95.
- Maguire, E.R. and Wells, W.H., 2009. *Implementing community policing: lessons from 12 agencies*. Washington, DC: Office of Community Oriented Policing Services.
- Mars, J., 2007. Rough justice: political policing and colonial self-rule in Guyana. In: Deosaran R., ed. *Crime, delinquency and justice: a Caribbean reader*. Kingston: Ian Randle Publishers, 265–283.
- Mastrofski, S.D. and Lum, C., 2008. Meeting the challenges of police governance in Trinidad and Tobago. *Policing: a journal of policy and practice*, 2 (4): 481–496.
- Mayhew, P., Elliott, D., and Dowds, L. 1989. *The 1988 British crime survey*. London: Home Office.
- Mazerolle, L., Soole, D.W., and Rombouts, S. 2007. Street-level drug law enforcement: a meta-analytic review. *Campbell systematic reviews*, 2, doi:10.4073/csr.2007.2

- Miller, J. and Hendricks, N. 2007. Applying the problem-solving model to the developing world context: the case of murder in Trinidad and Tobago. *Crime prevention and community safety*, 9: 275–290.
- MORI International. (2002–2008). *Opinion leaders panel reports*. Government of Trinidad and Tobago. Available from: <http://www.opinionleaders.gov.tt/reports>.
- Ottley, C., 1972. *A historical account of the Trinidad and Tobago police service*. Trinidad and Tobago: Syncreators.
- Pate, A.M., et al., 1986. *Reducing fear of crime in Houston and Newark: a summary report*. Washington, DC: Police Foundation.
- Pride in Gonzales Committee. 2005. Gonzales community profile, East Port of Spain, Trinidad. Unpublished report.
- Ratcliffe, J.H., et al., 2015. Citizens' reactions to hot spots policing: impacts on perceptions of crime, disorder, safety, and police. *Journal of experimental criminology*, 11: 393–417.
- Reisig, M. D., and Lloyd, C., 2009. Procedural justice, police legitimacy, and helping the police fight crime: results from a survey of Jamaican adolescents. *Police quarterly*, 12, 42–62.
- Riggs, F.W., 1964. *Administration in developing countries: the theory of prismatic society*. Boston: Houghton Mifflin Co.
- Roh, S. and Oliver, W.M., 2005. Effects of community policing upon fear of crime: understanding the causal linkage. *Policing: an international journal of police strategies and management*, 28 (4): 670–683.
- Rountree, P. and Land, K., 1996. Perceived risk versus fear of crime: empirical evidence of conceptually distinct reactions in survey data. *Social forces*, 74, 1353–1374.
- Sadd, S. and Grinc, R., 1996. Implementation challenges in community policing. National Institute of Justice, Research in Brief. February.
- Scheider, M.C., Chapman, R., and Schapiro, A. 2009. Towards the unification of policing innovations under community policing. *Policing: an international journal of police strategies & management*, 32 (4): 694–718.
- Scheider, M.C., Rowell, T., and Bezdikian, V. 2003. The impact of citizen perceptions of community policing on fear of crime: findings from twelve cities. *Police quarterly*, 6 (4), 363–386.
- Segrave, M. and Collins, L., 2005. *Evaluation of a suburban crime prevention team* (Report No. 14). Canberra: Australian Institute of Criminology.
- Skogan, W.G., 1990. *Disorder and decline: crime and the spiral of decay in American cities*. New York: Free Press.
- Skogan, W. and Frydl, K., eds. 2004. *Fairness and effectiveness in policing: the evidence*. Committee to Review Research on Police Policy and Practices. Committee on Law and Justice, Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press.
- The American Association for Public Opinion Research, 2015. *Standard definitions: final dispositions of case codes and outcome rates for surveys*. 8th ed. Ann Arbor, MI: AAPOR.
- Trojanowicz, R.C. and Bucqueroux, B., 1990. *Community policing: a contemporary perspective*. Cincinnati, OH: Anderson.
- Trojanowicz, R.C., 1986. Evaluating a neighborhood foot patrol program: the Flint, Michigan, project. In: Dennis P. Rosenbaum, ed. *Community crime prevention: does it work?* Newbury Park, CA, 157–178.
- Trotman, D., 1986. *Crime in Trinidad: conflict and control in a plantation society, 1838–1900*. Knoxville, TN: University of Tennessee Press.
- Tuffin, R., Morris, J., and Poole, A. 2006. *An evaluation of the impact of the National reassurance policing programme* (HORS 296). London: Home Office Research, Development and Statistics Directorate. Available from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/115825/hors296.pdf.
- Verbeek, M.A. and Nijman, T., 1992. Can cohort data be treated as genuine panel data? *Empirical economics*, 17 (1), 9–23.
- Walker, S., 1993. Does anyone remember team policing? lessons of the team policing experience for community policing. *American journal of police*, 12 (1), 33–56.
- Wallace, W., 2011. Findings from a concurrent study on the level of community involvement in the policing process in Trinidad and Tobago. *The police journal*, 85, 61–83.
- Wallace, W., 2012. *Introduction of a community involvement component in policing in Trinidad and Tobago: Reality or rhetoric?* International Police Executive Symposium, Geneva Centre for the Control of Armed Forces and Coginta – For Police Reforms and Community Safety. Working Paper No. 37, August, 2011. pp. 1–45.
- Warr, M., 2000. Fear of crime in the United States: avenues for research and policy. In: *Criminal justice 2000*, Volume 4. Washington, DC: National Institute of Justice, 451–489.
- Weisburd, D., et al., 2008. The effects of problem-oriented policing on crime and disorder. *Campbell systematic reviews*, 14.
- Williams, H. and Pate, A., 1987. Returning to first principles: reducing the fear of crime in Newark. *Crime and delinquency*, 33 (1): 53–70.
- Wilson, J.Q. and Kelling, G.L., 1982. Broken windows: the police and neighborhood safety. *Atlantic monthly*, March, 29–38.
- Wycoff, M.A. and 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.
- Zhao, J.S., Scheider, M., and Thurman, Q. 2002. The effect of police presence on public fear reduction and satisfaction: a review of the literature. *The justice professional*, 15, 273–299.
- Zhao, J.S., Thurman, Q.C., and Lovrich, N.P. 1995. Community oriented policing across the U.S.: facilitators and impediments to implementation. *American journal of police*, 14, 11–28.