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Mengyan Dai

Old Dominion University, mdai@odu.edu

Xin Jiang

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A comparative study of satisfaction with the police in the United States and Australia

Mengyan Dai

Old Dominion University, USA

Xin Jiang

Slippery Rock University, USA

Australian & New Zealand

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Abstract

This study comparatively examines three major models of citizens' satisfaction with the police, using two similar community surveys on policing from Cincinnati, Ohio, USA and Queensland, Australia. It tests the wider applicability of the demographic model, the neighborhood condition model, and the prior contacts with police model and analyzes whether the effects of common determinants on citizens' satisfaction remain the same across the two international samples. Results from a series of comparisons show that there is a substantial amount of similarity across statistical models for Cincinnati and Queensland, suggesting a general framework of citizens' satisfaction with the police that could be generalized to other international contexts. Limitations and future directions of comparative research in this area are also discussed.

Keywords

Australia, citizens' satisfaction with police, comparative study, international study, policing, United States

Introduction

Public attitudes toward the police have been an important research topic in the criminal justice literature for decades (Brown & Benedict, 2002). Since the 1960s, a substantial body of research has focused on the key determinants of citizens' attitudes toward the police in the United States, both at the individual level (such as demographic factors, attitudinal factors, and personal experiences with the criminal justice system) and at the aggregate level (e.g. Dai & Johnson, 2009; Reisig & Parks, 2000; Sampson & Jeglum-Bartusch, 1998). Such an examination on public attitudes toward the police has the potential of yielding practical benefits. A positive image of the police enhances its

Corresponding author:

Mengyan Dai, Department of Sociology and Criminal Justice, Old Dominion University, Norfolk, VA 23529, USA.

Email: mdai@odu.edu

legitimacy and trustworthiness, which in turn encourages citizens' constructive participation in the criminal justice process (such as cooperating with the police during encounters, providing crime-related information, and serving as jurors in jury trials). Positive attitudes toward the police also help promote citizens' internal obligation to obey the law, leading to a society of less crime (Tyler, 1990, 2003, 2004).

Much quantitative research on citizens' attitudes toward the police has been conducted in the United States, and the studies that make cross-cultural comparisons are very limited (see Cao, Stack & Sun, 1998). International comparative research in policing is still a marginal enterprise in the professional study of criminal justice. It usually faces the criticism of comparing apples with oranges and is often thought to be difficult and of little value. Further compounding the problem is that international comparative studies in policing usually emphasize differences rather than similarities, with a less focus on theory generalization. Bayley (1999) once observed that in the study of policing, international differences were usually perceived to be so great as to bear no relation to one's own national or local experiences in policing.

Bayley's (1999) observation represents an example of the culturist approach to cross-national comparative research. Culturalism rejects the existence of universal concepts and values, and focuses on the "specificity, distinctiveness, or uniqueness" of the social and cultural contexts (Hantrais, 1999, p. 95). In contrast, there is another approach, the universalist approach, which aims to search for general laws or universal factors capable of explaining social phenomena in various contexts. Thus, universalism is more interested in testing for the wider applicability of a theory (Hantrais, 1999). A more balanced comparative method is to take intermediate positions between the extremes of culturalism and universalism, and identify general factors that can be interpreted with reference to specific societal contexts. In this way, comparative research not only recognizes societal/cultural differences and similarities, but also contributes to theory integration and generalization. To date, unfortunately, little policing research has produced generalizations from the American experiences, and little is known about what policing theories are applicable in an international context. Policing researchers often, either explicitly or implicitly, limit the scope of their theory to certain jurisdictions, agencies, and programs. They frequently suggest exercising caution when making generalization of findings, even within the same national boundary.

Studies on public attitudes toward the police, as an important component of policing research, are also subject to the above limitations. Public attitudes toward the police are embedded in cultural and geopolitical contexts (Jang, Joo, & Zhao, 2010), and one can expect that the diverse backgrounds and contexts in various societies generate different explanations of attitudes toward the police. Since the 1930s when American scholars started to assess public evaluations of the police (Brown & Benedict, 2002), comparative research has extended the territory of study from the United States to many foreign areas in the world (e.g. Cao, 2001; Cao & Dai, 2006; Cao & Hou, 2001; Cao et al., 1998; Cao & Zhao, 2005; Ivkovic, 2008; Stack & Cao, 1998). However, most studies usually compare the levels of citizens' evaluations of the police without using common theoretical models developed in the United States.

To fill the research void, this study aims to examine the three major models of citizens' satisfaction with the police that have been extensively studied in the United States, using

two very similar datasets from the United States and Australia. In particular, we utilize two citizen surveys that were conducted with very similar questionnaires in Cincinnati, Ohio, USA and Queensland, Australia. These two citizen surveys were designed to collect extensive information about citizens' perceptions about the police, their neighborhoods, and prior experiences with the police. The datasets therefore provide sufficient information to test the common models (including the demographic model, neighborhood condition model, and prior contacts with the police model) in the literature in a comparative context.

In addition to the common comparative method of identifying significant predictors of citizens' satisfaction with the police in different samples, this study uses the analytical strategy discussed by Paternoster, Brame, Mazerolle, and Piquero (1998) to test for the difference between regression coefficients across the two independent samples. This analysis enables us to determine whether the effect of a given explanatory factor of public attitudes is invariant across the two samples from the United States and Australia. Consistent findings from this comparative analysis will contribute to the generalization of common theoretical models of citizens' satisfaction with the police in international contexts.

Prior research

There is a long tradition of studying public opinion in democratic societies (Brown & Benedict, 2002; Gaubatz, 1995; Roberts, 1992), and many often-cited quantitative studies on this topic were conducted with data from the United States. This body of research not only describes how the public perceives the police, but also explores the correlates of public opinions and provides policy suggestions for improving public relations. It is obvious that the value of studying public perceptions is not limited to Western democracies. For example, in their comparative study of The Philippines, Korea, and Taiwan, Cao and Dai (2006) argue that public opinions also play a critical role in a society experiencing democratic transition by driving political parties toward moderation on sensitive and divisive issues.

In policing literature, many studies specifically examined the correlates of citizens' satisfaction with the police in the United States, and three general models have prevailed in the empirical research (e.g. Brown & Benedict, 2002; Dai & Johnson, 2009; Reisig & Parks, 2000; Weizer, 2000; Zhao et al., 2014). The first model focuses on the influence of demographic factors on citizens' satisfaction with the police. For example, research often found that juveniles, lower social class, and racial or ethnical minority groups were more likely to be dissatisfied with the police in the United States. The second model concerns prior contacts with the police and focuses on the influences of prior experiences with the police on citizens' general attitudes. The third model is neighborhood conditions model which holds the police accountable for the quality of life issues in the neighborhood. In a summary of more than 100 studies on perceptions of and attitudes toward the police, Brown and Benedict (2002) found that in spite of the large body of literature, consistent findings were limited to some factors in these three models. Thus, the following literature review focuses on these models of citizens' satisfaction with the police.

The demographic model

It has been well documented by previous research that public satisfaction with the police varies by several demographic characteristics, including gender, age, race, and educational level of the public (Dai & Johnson, 2009; Wu et al., 2009). Of critical importance in determining public opinion is race. Race is one of the most investigated demographic characteristics found to be associated with the attitudes toward the police (Schafer, Huebner, & Bynum, 2003; Weitzer & Tuch, 2004). Early research in this field can be traced back to the urban race riot in 1960s, which generated numerous research studies of public satisfactions with the police that predominately focused on Whites and African-Americans (Hindelang, 1974; Jacob, 1971). A common finding emerged from the early research is that the majority of citizens in general hold favorable attitudes toward the police; yet, such favorable attitudes are significantly less pronounced among African-Americans compared with Whites (Bayley & Mendelsohn, 1969; Furstenberg & Wellford, 1973; Hahn, 1971; Scaglione & Condon, 1980). Such early findings have enjoyed a considerable degree of longevity (Taylor, Turner, Esbensen, & Winfree, 2001), continuously receiving empirical support from more recent research (Cao, Frank, & Cullen, 1996; Reisig & Parks, 2000; Taylor et al., 2001; Webb & Marshall, 1995). However, some recent research also found that the race effect disappears or weakens substantially when social class and various neighborhood characteristics are taken into consideration (Dai & Johnson, 2009; Sampson & Jéglum-Bartusch, 1998; Weizer & Tuch, 2005). When explaining racial differences in attitudes toward the police, these studies attribute the differences to context rather than race per se. These findings suggest that race interacts with social context in which individuals are situated to produce different opinions.

In addition to the studies focusing on Whites and African-Americans, recent studies also extended attention to other racial/ethnic groups, and the findings about Hispanic Americans' attitude is more mixed (Brown & Benedict, 2002; Buckler & Unnever, 2008; Garcia & Cao, 2005; Lai & Zhao, 2010; Schuck & Rosenbaum, 2005; Schuck, Rosenbaum, & Hawkins, 2008; Weitzer, 2002; Weitzer & Tuch, 2006). For example, Weitzer and Tuch (2002) in their study of attitudes among whites, blacks, and Hispanics suggested a white–Hispanics–black racial hierarchy with regard to attitudes toward the police. In particular, Hispanics are much less likely to perceive bias from the police than blacks do. However, blacks and Hispanics are more likely than whites to believe that racially biased policing exist, that the police provide worse service to black and Hispanic neighborhood, and that police prejudice is a serious problem.

As in the United States, studies in Australia have found that ethnic minority groups, especially immigrants from different cultural backgrounds and legal traditions often have less positive relationship with the police (Chan, 1997; Cherney & Chui, 2008; Dixon & Maher, 2002; Pickering, McCulloch, & Wright-Neville, 2008). However, compared with the United States, Australia has a different diverse society culturally and ethnically, due to the large number of immigrants from non-English-speaking groups and other parts of the worlds (Murphy & Cherney, 2011). It is noted that it is much more difficult to determine ethnicity in Australia, given its heterogeneous nature (Murphy & Cherney, 2011).

Another demographical factor that affects attitudes toward the police is age. In general, a positive relationship has been found between an individual's age and attitudes

toward the police. Younger citizens have less favorable attitudes toward the police than older citizens (Reisig & Parks, 2000; Sampson & Jeglum-Bartusch, 1998; Webb & Marshall, 1995; Weitzer & Tuch, 2002). The role of age in shaping public attitudes toward the police may lie in another phenomenon about age differences: the differences in official rates of offending across difference age group, where younger people far outnumber older ones. Given the aging-out process and the stronger attachments to conventional society, older people are less likely to be present in the crime rates, and thus they are more likely to be supportive of the police compared with younger ones (Ivkovic, 2008). On the other hand, it is more common for younger people to have negative contact with the police, be stopped and arrested by the police, and become victims of violence crime (Murphy, 2009). As a result, they are more likely to develop negative attitudes toward the police. Yet, not all studies found negative attitudes toward the police. For example, Taylor et al. (2001) in their study of 5477 eighth grade students in 11 U.S. cities reported that juveniles are relatively indifferent in their perceptions of the police.

Gender has been found to be another determinant of public satisfaction with the police. Research has found that females tend to have more favorable attitudes toward the police. The underlying rationales for women and men to express different support for the police include different gender roles and socialization processes for males and females, prejudicial social control and parental supervision methods, and differential treatment by the police (Ivkovic, 2008; Mays & Winfree, 2000; Taylor et al., 2001). However, the findings on female support for the police are not always consistent. Empirical studies of public opinions about the police have shown no gender effects (Reisig & Parks, 2000; Sampson & Jeglum-Bartusch, 1998; Smith & Hawkins, 1973; Weitzer & Tuch, 2006), modest effects (Hurst & Frank, 2000; Percy, 1980), and strong effects (Correia, Reisig, & Lovrich, 1996; Skogan, 2005; Weitzer & Tuch, 2002). In addition, the impact of gender on public opinions interacts with race and age. For example, gender gap in public opinions is not quite pronounced for certain historically disadvantaged minorities. Some studies showed that African-American females were less positive in their assessment of the police (Hurst & Frank, 2000). Gender effect varies by age as well. Some studies focusing on juveniles found no differences existed between males and females (Griffiths & Winfree, 1982).

The prior contacts with the police model

Not only do individual demographic characteristics predict satisfaction with the police, police–citizen contact has also been found to be a significant determinant of one’s attitudes toward the police (Cheurprakobkit, 2000; Smith & Hawkins, 1973; Zevitz & Rettammel, 1990). Public evaluations on the police are to large extent predicted by how the police carry out their duties and treat citizens during contact. For example, research on police–citizen contact generally distinguishes between citizen-initiated contact and police-initiated contact, suggesting that these two types of contacts generate opposite opinions about police work (Rosenbaum, Schuck, Costello, Hawkins, & Ring, 2005). Citizens who initiate contact with the police (such as requesting for assistance) typically rate police work in a more positive way than citizens who involuntarily become the target of a police contact (such as receiving a random breath test or being arrested)

(Schafer et al., 2003; Skogan, 2005; Weitzer & Tuch, 2005). It stands to the reason that citizen-initiated contact reinforces the legitimacy of police intervention, whereas people involuntarily contacted by the police are more likely to be those who are suspicious and potentially have adversarial nature, and they consequently are less satisfied with the police (Skogan, 2005, 2006).

Studies also suggest satisfaction with the police is further complicated by the quality of treatment by the police. Skogan (2006) in his study pointed out that the impact of having a bad experience during a police–citizen contact is 4–14 times as great as that of having a positive experience. Similarly, some studies have found that indicators of procedure justice, such as being prompt and responsible, explaining the action that was taken, paying attention to what the citizen had to say, and explaining their right, all affect citizens' satisfaction with encounters (Quinton, Bland, & Miller, 2000; Reisig & Chandek, 2001; Skogan, 2005; Sunshine & Tyler, 2003; Tyler & Huo, 2002; Wells, 2007). For example, Wells (2007) estimate the effects of citizens' perceptions of procedural justice on overall ratings of officer performance across the encounters of crime victims, drivers in accidents, and citizens who receive citations. Results show that procedurally fair treatment is the most important predictor of citizens' evaluations across all three types of police–citizen encounters. In addition, some have found that procedural justice matters more when the police initiate a contact (Murphy, 2009; Skogan, 2005; Tyler & Folger, 1980). Finally, it has been reported that people's attitude toward the police is largely predetermined by indirect experience with the police as well as direct experience. Specifically, negative stories about the police from other sources, such as excessive use of police force and corruption scandal, erode people's confidence in the police and lead to dissatisfaction with the police (Schafer et al., 2003; Weitzer, 2002).

The neighborhood conditions model

It has been observed that the same police force serving different neighborhoods receive varied evaluations, and public attitudes toward the police also depends on characteristics of neighborhood (Dai & Johnson, 2009; Reisig & Parks, 2000; Wu et al., 2009). In other words, individuals' perceptions of police work are associated with their perceptions of local neighborhood and how neighborhood is treated by the police. For example, Sampson and Jégnum-Bartusch (1998) linked the unfavorable attitudes toward the police among African-Americans to inner-city neighborhood disadvantages experienced by minority groups, suggesting that the inner-city contexts of racial segregation and economic disadvantage bred cynicism and perceptions of legal injustice. Schafer et al. (2003) suggested that, in addition to the real of perceived disorder and problems within neighborhoods, individuals could be predisposed to view the police in a particular fashion based on neighborhood culture, that is the collective experiences of norms within the local neighborhood.

Empirical research about the effects of neighborhood on citizens' perceptions about the police is relatively limited, but growing. In a neighborhood, racial composition, level of violent crime, level of poverty and unemployment, perceived safety, and quality of life within neighborhood are all the factors that may shape individual attitudes toward the police and legal institutions at the individual and aggregate levels (Dai & Johnson, 2009; Reisig & Parks, 2000; Sampson & Jégnum-Bartusch, 1998). Individuals living in neighborhoods characterized by higher crime rates, higher racial segregation, and higher rate

of poverty and unemployment are more likely to express lower levels of satisfaction with the police.

Limitations of prior research

Despite the broad body of existing literature that describes and explains citizens' perceptions about the police, some limitations do exist. After reviewing more than 100 studies on this topic, Brown and Benedict (2002) concluded that only four variables (including age, contact with the police, neighborhood, and race) in the above three models usually had significant effects on citizens' perceptions about the police. They also pointed out that the interactive effects between these and other variables were not well explored, and theoretical generalizations could hardly be made.

A notable weakness is that most of the earlier research only conducted individual-level analyses with a focus on individual demographic characteristics. As such, more research is needed to further examine how these demographical factors are associated with citizens' perceptions in different contexts. For example, research that compared minorities in lower class and middle class communities has found the two groups hold different views toward the police (Weitzer, 2000). Some recent studies have made contributions by exploring the correlates of citizens' perceptions with hierarchical linear modeling techniques, simultaneously comparing the impact of neighborhood characteristics and individual factors (Dai & Johnson, 2009; Reisig & Parks, 2000; Sampson & Jeglum-Bartusch, 1998). The findings show that the causes of public perceptions tend to be multivariate and multilevel in nature, and demographic factors do not have consistent impacts across different social contexts.

Similar to the neighborhood/community level studies, comparative research at the levels of cities and countries is also greatly needed for theoretical generalization (Cao & Dai, 2006; Cao et al., 1998). According to Cao and Dai (2006), this type of comparative/international research is important for three reasons. First, comparative public opinions can reflect the universality or differentiation of public needs. Second, studies in different societies can reveal certain persistent cultural variations. Third, the comprehension of international public opinions helps people to think critically of the legal cultures and practices in different societies.

Methodologically, in addition, using theoretical models developed in one society to analyze data from another society will contribute to the generalizability of theories. Theoretical findings that are based on the special social conditions of a country may help theory integration. By doing international research scholars may gain a more thorough understanding of the causation of social phenomena. So far, international comparative studies on citizens' perceptions about the police often use secondary data that are collected from multiple countries, such as World Values Survey (WVS) (e.g. Cao, 2001; Cao & Dai, 2006; Cao & Zhao, 2005; Ivkovic, 2008; Stack & Cao, 1998) and International Crime Victims Survey (ICVS) (e.g. Ivkovic, 2008; van Dijk, Mayhew, & Killias, 1990; Zvekic, 1996). Though these international datasets contain items related to confidence in the police, not all relevant factors about the three common models of public attitudes toward the police are available, because these large international surveys are not designed as a community survey focusing on policing. As such, these studies often use "society-wide factors" as correlates of citizens' perceptions (Ivkovic, 2008,

p. 414). The lack of information about traditional models in the US-based research makes theory generalization a daunting task.

Finally, Paternoster et al. (1998) observed that a frequent task in criminological research, for both theoretical and applied purposes, is to determine whether an empirical relationship or causal effect is equivalent across independent samples. Unfortunately, this task has not been done in the research on citizens' perceptions about the police. Given the large amount of research accumulated in the past several decades, it is necessary to further examine if the effect of a given explanatory factor of citizens' perceptions is invariant over time or societies. This type of research will contribute to a more general theory that can be extended to various social contexts or cultures.

The present study aims to overcome the above limitation with an international comparative analysis of the three common models of citizens' satisfaction with the police. Using data from community surveys in Cincinnati, Ohio and Queensland, Australia, this study examines the effects of citizens' characteristics, neighborhood conditions, and contacts with the police on citizens' satisfaction with the police. This two-nation approach can investigate a greater number of theoretically relevant factors based on the extensive prior literature than is feasible in multinational studies with secondary data without a policing focus. In addition to assessing the significance of various factors, this study also tests for the difference in their effects across the two independent samples from the United States and Australia. Although the chosen samples do not represent their respective nations, consistent findings across these international samples will help build a general framework of citizens' satisfaction with the police for future comparative studies.

Data and measures

Two sets of survey data for this study were drawn from two larger projects designed to evaluate policing strategies in Cincinnati, Ohio, USA in 1997 and Queensland, Australia in 2002. The city of Cincinnati is located in the southwest portion of Ohio and is bordered on the south by the Ohio River. The population of the city was approximately 364,000 and was the center of a greater metropolitan area with a population that exceeded 1,000,000 (U.S. Department of Commerce, 1994). The Cincinnati Police Division (CPD) was the largest police agency in the area, with 996 sworn officers in 1997. The CPD adopted community-oriented policing in 1991. The strategy was first on a limited scale and then expanded due to the increased political pressure in 1994. In 1997, the CPD, assigned 47 neighborhood officers, in addition to the traditional patrol officers, to the city's 52 neighborhoods. Community policing in Cincinnati emphasized problem solving, partnerships with citizens, network with local service agencies, information sharing, community meetings, and working with the youth.¹

In comparison, Queensland is the second largest state in Australia. It is situated in the northeast of the country, with a population of about 3,840,000 in 2003 (Office of Economic and Statistical Research, 2004). In 2002, the Queensland Police Service (QPS) had 8367 sworn staff members at 321 Police Stations, 40 Police Beat shopfronts, and 21 neighborhood police beats, throughout the state. Beat policing in Queensland was a type of community policing strategy designed to make individual police officers responsible for the community's needs in a defined geographical area called "the beat."

Following a recommendation of the Fitzgerald Inquiry (Fitzgerald, 1989), the QPS embraced beat policing in 1993 with a pilot project in Toowoomba, Queensland. By 2002, there were 28 neighborhood beats and 43 police shopfronts operating throughout Queensland, and this strategy was in a stage of expansion. Beat policing emphasized individual responsibility, problem solving, personal interaction, community involvement, and proactive enforcement (Mazerolle, Adams, Budz, Cockerill, & Vance, 2003).

Although beat policing in Queensland was different from the community policing strategy employed in Cincinnati, the two strategies shared many features of community-oriented policing such as problem solving and community partnerships, suggesting that both societies held similar expectations about the police, especially a broader role of the police in crime prevention and service delivery. Therefore, it is likely that the public in both locations would evaluate the police with some similar criteria. On the other hand, data from two nations with different historical, cultural, and political contexts would inevitably yield discrepancies in public evaluations of the police (Cao & Dai, 2006; Ivkovic, 2008). It is in this context that we selected the two datasets to compare and contrast, and by doing so, we can explore the generalizability of the common predictors used in the US research.

In Cincinnati, the data were collected through telephone interviews that were conducted between November 1997 and January 1998. A random sample of 1500 households (and telephone numbers) was obtained from the local telephone company. The sample was drawn from the 33 neighborhoods participating in the community policing project, and the number of households selected for inclusion was weighted to reflect the population differences of the study communities. The trained telephone interviewers, after explaining the purpose of the interview, were asked to speak with someone who was 18 years or older who lived at the address for at least 6 months. If someone meeting these characteristics was not at home (or there was no answer), the household was scheduled for a follow-up call. This procedure resulted in a response rate of 53%, with a total of 613 usable surveys.

The telephone interviews in Queensland, Australia were conducted in 2002 as part of evaluation of beat policing, a new policing strategy implemented in selected areas of Queensland. In each area where beat policing was implemented and comparison area, 200 households (and telephone numbers) were randomly selected from electronic White Pages. For each household, interviewer first asked for a list of people aged 18 years old or over in that household and randomly chose one person on the list for survey. If the selected person was not present, arrangements were made to speak to the selected person. The sample size was 1650 in total, and the response rate for each area ranged from 40 to 61%, with an average response rate across all areas of 52%.

Both of the community surveys examined citizens' attitudes toward the police in the neighborhoods, perceptions of the quality of life within the respondent's neighborhood, and personal experiences with the police with similar or identical questions, and thus the two surveys are comparable. On the other hand, the two sets of data were collected at different times from different social contexts where policing strategies were different, suggesting it is worth examining whether the effects of common determinants of citizens' satisfaction with the police would remain consistent across the samples. If a general model of citizens' satisfaction does not exist, the comparative analysis would yield inconsistent findings. On the other hand, consistent findings across the two samples will help

Table 1. Descriptive statistics.

	Range	Cincinnati		Queensland	
		Mean	S.D.	Mean	S.D.
Dependent variables					
Satisfaction with problem solving	0–1	.793	.405	.715	.452
Satisfaction with crime preventing	0–1	.826	.380	.678	.467
Total satisfaction	0–2	1.62	.720	1.406	.789
Independent variables					
Age in groups	1–6	3.258	1.693	3.813	1.520
Homeowner	0–1	.444	.497	.754	.431
College graduate	0–1	.383	.486	.142	.350
White	0–1	.634	.482		
Female	0–1	.620	.486	.576	.494
Experience dissatisfaction	0–1	.119	.324	.023	.151
Experience satisfaction	0–1	.287	.453	.130	.336
Better place	0–1	.155	.362	.192	.394
Worse place	0–1	.132	.339	.133	.339
Local problems	0–5	1.857	1.538	.973	1.179
Perceived safety	0–1	.743	.437	.662	.473

build a general model of citizens' satisfaction with the police. Table 1 presents the descriptive statistics of the variables to be used in the analyses, and the measurement of these variables is described in the following.

Dependent variables

Three dependent variables were used to measure attitudes toward the police: two focusing on citizens' specific satisfaction with police performance in problem solving and crime prevention in the neighborhoods, and one on overall satisfaction with the police in the neighborhoods. In the Cincinnati survey, *satisfaction with problem solving* and *satisfaction with crime prevention* were operationalized, respectively, from two survey items: "How satisfied are you with the job the police are doing working together with the residents of your neighborhood to solve local problems?" and "How satisfied are you with the job the police are doing in your neighborhood to prevent crime?" The responses for each item were recoded into two categories with 1 = satisfied (including "very satisfied" and "somewhat satisfied") and 0 = dissatisfied (including "somewhat dissatisfied" and "very dissatisfied").² Similarly, two items in the Queensland survey were used to operationalize specific satisfaction with the police in problem solving and crime prevention. In Queensland, respondents were asked, "How good a job are the police doing in working together with residents of this neighborhood to solve local problems?" and "How good a job are they doing to prevent crime?" (1 = very good, 2 = good, 3 = fair, 4 = poor, 5 = very poor). Both items were recoded into dummy variables with 1 = good

job (e.g. very good or good) and 0 = not a good job (e.g. fair, poor, or very poor). Appendix 1 shows the detailed information about these items. Reliability analyses of these items yielded an α of .73 for Cincinnati and an α of .56 for Queensland. Following prior research with the same or similar data (Dai & Johnson, 2009; Reisig & Parks, 2000), *total satisfaction with the police* was constructed to capture the overall evaluation of police performance in problem solving and crime prevention and measured with an additive scale of the two measures of specific satisfaction. Though these variables were constructed with limited items, previous studies have shown that these measures of general attitudes are fairly reliable and highly correlated with other measures related to the same concept (Frank, Brandl, Cullen, & Stichman, 1996; Garcia & Cao, 2005).

Having three relevant dependent variables will help identify and generalize possible patterns in the findings during a series of comparisons, especially when we are interested in consistent patterns across all dependent variables, regardless of how they are measured. It is noted that the two specific measures of satisfaction with the police may not be distinct from each other, and it would be more parsimonious to use only one measure of satisfaction with the police. However, examining three dependent variables in one study could enhance the reliability of the comparative findings and help make generalization. This approach further examines whether the common popular statistical techniques (i.e. the logistic regression model and the ordinary least squares regression model) would yield the same results.

Independent variables

Satisfaction with personal contact with the police has been found to be correlated with citizens' general attitude toward the police (e.g. Brandl et al., 1994; Reisig & Parks, 2000). Two variables that capture citizens' evaluation with their personal contacts with the police were included in each analysis. In the Cincinnati study, *satisfaction with a police-citizen contact* and *dissatisfaction with a police-citizen contact* represent personal experiences with which respondents were satisfied (either somewhat satisfied or very satisfied) or dissatisfied (either somewhat dissatisfied or very dissatisfied) in any police-citizen contact in the last 6 months before the survey. The reasons for the contact were in a wide range from asking for road directions and other information, talking on the phone to report suspicious behavior, to attending community/block watch meetings. Similarly, in Queensland, Australia, two dummy variables capture citizens' satisfaction with their personal experience with the police (for either law enforcement activities or community services) in the last 12 months before the survey. Those without prior contacts with the police served as the reference category in the analysis.

Prior studies have also found that citizens' perceptions of their quality of life such as their perceptions of neighborhood problems and fear of crime are correlated with their general attitudes toward the police (e.g. Cao et al., 1996; Reisig & Parks, 2000). To capture citizens' perceptions of their quality of life, four variables were created in each study. Two dummy variables, *better place* and *worse place*, were used to measure general perceptions of changes in neighborhood conditions, that is whether the neighborhood had become a better or worse place in the past year before the survey. Perception of the same neighborhood condition served as the reference category. *Local problems* is a five-item additive scale of local problems perceived by the citizens, including vandalism, litter, neglected

houses, loud parties, and drug dealing. Because the two surveys had different response categories for each perceived local problem, each item was recoded into a dummy variable. In the Cincinnati study, each item was recoded as 1 = big or some problem and 0 = not a problem, while in the Queensland study, each item is recoded as 1 = very or fairly common and 0 = not very or not at all common. The five dummy variables were added up to measure the extent of perceived neighborhood problems. *Perceived safety* was measured with a single survey item in each study. Cincinnati respondents were asked “How safe do you feel or would you feel being out alone in your neighborhood at night?” (1 = very safe or somewhat safe; 0 = somewhat unsafe or very unsafe). Similarly, in Queensland, respondents were asked “how safe you feel when you are alone in your home at night?” (1 = very safe or fairly safe; 0 = not very safe or not at all safe).

Individual-level social and demographic variables were also included to assess differences in satisfaction with the police between different social groups. Based on the data, the variables are age (respondent’s age in groups; 1 = 18–24, 2 = 25–34, 3 = 35–44, 4 = 45–54, 5 = 55–64, 6 = 65 or more), homeowner (1 = home owner, 0 = home renter), college graduate (1 = college graduate, 0 = not a college graduate), female (1 = female, 0 = male). Racial difference in satisfaction with the police is also of interest in the Cincinnati study. Thus, *white* (1 = white, 0 = nonwhite) was created to address this concern. In contrast, there is no race information in Queensland, Australia. The survey conducted in Queensland only collected information on whether the respondent was Aboriginal or Torres Strait Islander (ATSI) descent. Because only 27 out of 1650 respondents were ATSI, these cases were excluded from analyses, which reduced the sample size from 1650 to 1623 for the Queensland study.

Analyses and results

First, we assessed the differences in satisfaction with the police between two samples. Consistent with prior studies using national samples from the United States and Australia (see Ivkovic, 2008; Roberts & Indermaur, 2009), satisfaction with the police was generally high in both places, but there were also a significant portion of citizens who were dissatisfied, and the percentages of dissatisfaction ranged from about 20 to 30% in Cincinnati and Queensland, respectively. Appendix 1 presents the detailed information about citizens’ responses, and Table 2 presents the test statistics for comparing

Table 2. Test of proportions and means.

	Cincinnati	Queensland	Pooled estimator		
	Proportion	Proportion	for proportion	Test statistics	P value
Problem solving	.793	.715	.737	3.375	.0004
Crime prevention	.826	.678	.721	6.550	.0001
	Mean (S.D.)	Mean (S.D.)	Pooled variance		
Total satisfaction	1.62 (.720)	1.406 (.789)	0.591	5.195	.0000

the dependent variables in both datasets. Descriptive statistics of the dependent variables revealed significant differences between Cincinnati and Queensland in public satisfaction with problem solving and crime prevention. In particular, one-tailed tests of pooled proportions showed that the proportions of citizens in Cincinnati who were satisfied with problem solving and crime prevention of the police in both functions were significantly greater than those in Queensland, Australia. A pooled t-test that compared the means of total satisfaction between the two samples also suggested that the mean of total satisfaction in Cincinnati was significantly greater than that in Queensland. This finding provides a good context for further comparative analysis, because it shows that the study phenomenon was significantly different in both jurisdictions. In this context, we would like to explore what factors could explain different levels of citizens' satisfaction and if the factors have the same explanatory power in both jurisdictions.

One of primary research objectives is to compare the effects of independent variables on different dependent variables between the two samples. Because race variables did not exist for the Queensland study, we first examined racial differences in satisfaction with the police in Cincinnati. Appendix 2 presents three models for each dependent variable in Cincinnati. Two models are logistic regression for satisfaction with problem solving and satisfaction with crime prevention, and the third model represents OLS regression for total satisfaction with the police. The results showed that in none of these analyses, race was a significant predictor. In other words, there were no significant racial differences in satisfaction with the police in the Cincinnati data. Therefore, we removed the variable of race from our analyses of the Cincinnati data and used the reduced models to compare with the models for Queensland.

Table 3 presents three pairs of models for satisfaction with problem solving, satisfaction with crime prevention, and total satisfaction in Cincinnati and Queensland. Comparing the full models and reduced models for the Cincinnati data, we found slight changes in the reduced models, that is college graduate became a significant predictor of satisfaction with crime prevention and total satisfaction, with college graduates more likely to express positive views toward the police. All the significant independent variables in the full models remained significant in the reduced models, and the reduced models had similar explanatory power in explaining the total variation as the full models. Specifically, contact dissatisfaction and perception of local problems were inversely correlated with citizens' satisfaction with police performance in both functions and total satisfaction. In contrast, perception of safety increased the likelihood of being satisfied with problem solving and crime prevention as well as the level of total satisfaction. In addition, older citizens and citizens who believed neighborhood had become better in the past were more likely to be satisfied with police problem solving, but there were no such relationships with regard to satisfaction with crime prevention. Age also had a positive impact on the level of total satisfaction. In general, these findings are consistent with prior research on American citizens' satisfaction with the police, that is quality of life model and experience with the police model are major factors influencing citizens' satisfaction with the police (Dai & Johnson, 2009; Reisig & Parks, 2000).

We then compared the reduced models for Cincinnati with the models for Queensland, as each pair of models was identical between the two independent samples. Table 3 presents the results of comparisons. In general, there was a substantial amount of similarity in the effects of independent variables. First, age was the only demographic

Table 3. Comparison between models of satisfaction with problem solving, satisfaction with crime prevention, and total satisfaction in Cincinnati and Queensland.

Independent variables	Satisfaction with problem solving				Satisfaction with crime prevention				Total satisfaction			
	Cincinnati		Queensland		Cincinnati		Queensland		Cincinnati		Queensland	
	B	Odds ratio	B	Odds ratio	B	Odds ratio	B	Odds ratio	B	Odds ratio	B	Odds ratio
Constant	.227 (.512)	1.255	-.059 (.305)	.943	1.474** (.524)	4.366	.128	1.136	1.391*** (.117)	.1077*** (.101)		
Age in groups	.405*** (.102)	1.499	.243*** (.049)	1.275	.147 (.096)	1.158	.118** (.045)	1.125	.063*** (.019)	.065*** (.016)		
Homeowner	-.052 (.313)	.949	.055 (.158)	1.057	.225 (.312)	1.252	-.017 (.148)	.983	.014 (.063)	.017 (.052)		
College graduate	.561 (.296)	1.752	-.178 (.201)	.837	.616* (.301)	1.851	-.229 (.185)	.796	.122* (.062)	-.104 (.067)		
Female	.169 (.281)	1.185	.361* (.145)	1.435	.266 (.284)	1.305	.463*** (.132)	1.589	.045 (.061)	.166*** (.046)		
Dissatisfied with a contact	-1.351*** (.329)	.259	-1.748*** (.448)	.174	-1.491*** (.327)	.225	-2.353*** (.546)	.095	-.550*** (.087)	-.802*** (.136)		
Satisfied with a contact	.157 (.294)	1.170	.538** (.210)	1.713	-.324 (.290)	.723	.090 (.185)	1.095	-.017 (.065)	.101 (.063)		
Better place	1.357* (.563)	3.884	.730*** (.197)	2.074	.534 (.450)	1.706	.477** (.173)	1.612	.140 (.078)	.217*** (.056)		
Worse place	-.277 (.351)	.758	-.549** (.192)	.577	-.053 (.357)	.949	-.388* (.184)	.678	-.088 (.088)	-.159* (.067)		
Local problems	-.329*** (.097)	.720	-.359*** (.059)	.699	-.453*** (.097)	.636	-.287*** (.055)	.751	-.089*** (.020)	-.130*** (.020)		

(continued)

Table 3. Continued.

Independent variables	Satisfaction with problem solving			Satisfaction with crime prevention			Total satisfaction			
	Cincinnati		Queensland	Cincinnati		Queensland	Cincinnati		Queensland	
	B	Odds ratio	B	Odds ratio	B	Odds ratio	B	Odds ratio	B	
Perceived safety	.833 ^{***} (.297)	2.301	.313 [*] (.160)	1.368	.955 ^{***} (.294)	2.599	.429 ^{**} (.146)	1.535	.260 ^{***} (.070)	.156 ^{**} (.052)
	Cox & Snell R Square = .213 Nagelkerke R Square = .335		Cox & Snell R Square = .133 Nagelkerke R Square = .189		Cox & Snell R Square = .184 Nagelkerke R Square = .307		Cox & Snell R Square = .100 Nagelkerke R Square = .140		Adjusted R Square = .254	Adjusted R Square = .152

Note: Standard errors are provided in parentheses.
^{*}p < .05; ^{**}p < .01; ^{***}p < .001 (two-tailed tests).

variable that has a significant effect on citizens' satisfaction with the police in both samples. In both jurisdictions, older citizens were more likely to be satisfied with the police especially with their performance in problem solving. Moreover, negatively evaluated personal experiences with the police, concerns of quality of life such as neighborhood safety and local problems were the most powerful predictors in both Queensland and Cincinnati. This finding suggests that there were the same concerns about neighborhood conditions among citizens in both jurisdictions, which exerted similar influences on the attitudes of citizens toward the police.

As expected, there were also some differences in the findings for each jurisdiction. In Queensland, female respondents were more likely to be satisfied with the police, and this finding was consistent among all three dependent variables. In contrast, there was no gender difference in satisfaction with the police among Cincinnati respondents. Moreover, college education was a significant predictor for two models in Cincinnati, while it had no impact in Queensland. It was also found that Queensland citizens were more concerned with changes in their neighborhood conditions. In contrast to Cincinnati models, perceptions of positive or negative changes in living conditions were significant predictors in every model for Queensland. Finally, we found that the three models provided a better fit for the Cincinnati data. Every model with the Cincinnati data explained more variation in the dependent variable than the corresponding model with the Queensland data. This finding indicates that in addition to concerns about experience with the police and quality of life, Queensland citizens may have a wider set of concerns that exert impacts on their attitudes toward the police.

The final analysis was to test for the difference between coefficients across the two independent samples from Cincinnati and Queensland. Paternoster et al. (1998) compared two statistical methods that have been used in criminological research for this purpose and provided the formula for the correct statistical test. We used the same formula identified by Paternoster et al. to determine the significance of the difference in the effects of the same independent variable on the dependent variables across models. For example, we were interested in whether the effect of age on citizens' satisfaction with the police problem solving in Cincinnati was different from that in Queensland. The advantage of this analysis is that it is beyond a simple comparison of whether one factor is a significant dependent variable or not in different samples. We conducted this test for all independent variables on all dependent variables for Cincinnati and Queensland. The results showed that among all comparisons, only the effects of college education on satisfaction with crime prevention and total satisfaction were significantly different between Cincinnati and Queensland. Specifically, citizens with college education in Cincinnati were more like than their counterparts in Queensland to express positive views about the police, especially in terms of crime prevention. However, this finding should be interpreted with caution, because the pronounced effect of education in Cincinnati may be due to the omission of race variable. Furthermore, results showed that all other independent variables, regardless of their significance levels in respective models, had similar effects on dependent variables, suggesting that demographic factors, neighborhood factors, and prior contacts with the police are more likely to have universal effects on citizens' satisfaction with the police, at least in Cincinnati and Queensland.

Conclusions

The empirical research in the United States on citizens' perceptions about the police has accumulated a number of theoretical perspectives and empirical models to explain citizens' satisfaction with the police. Although this body of research has shown that some models are important in explaining citizens' satisfaction, few studies have extended this line of inquiry by examining whether these models have the same extent of effects in other social and cultural contexts. This international comparative study addresses this issue by examining citizens' satisfaction with the police with two similar community surveys on policing from Cincinnati, Ohio and Queensland, Australia. The findings yield support for an intermediate approach to comparative research that combines approaches in both universalism and culturalism.

The very spirit of comparative research involves the quest for universals (Dogan & Pelassy, 1990), and the results clearly show that there is a substantial amount of similarity in the findings in Cincinnati and Queensland. For example, negatively evaluated experiences with the police and citizens' perceptions of community safety and quality of life were the most powerful predictors in both Queensland and Cincinnati. Also for both jurisdictions, the only demographic factor that exerted consistent effect was age. Using similar measures and statistical methods, the analyses indicate that the way in which citizens in both jurisdictions assess how officers interact with citizens and perform their job may not be very different. In addition, the statistical test shows that all empirical relationships between the predictors and citizens' satisfaction with the police in two samples were equivalent, except for education. This suggests that a wide set of concerns exert similar influences on the attitudes of citizens toward the police, regardless of location, culture, and other social contexts. It is possible that globalization and modernization have created similar contexts in these two Western, English-speaking nations where public attitudes toward the police vary in a similar way. In fact, with the development of community-oriented policing in the Western societies, both the CPD and QPS adopted the central tenets of community policing in their policing strategies (Frank, Novak, & Smith, 2001; Mazerolle et al., 2003). Accordingly, citizens in both jurisdictions might have the same or similar expectations about the police performance. In both jurisdictions, therefore, the police would equally benefit from policies that address neighborhood conditions and the quality of police-citizen encounters. It appears that these findings about policy implications could also be extended to some other interactional contexts where policing strategies are similar to community policing in the United States or beat policing in Australia.

Not all theoretical models travel well across national boundaries. Despite the large amount of similarities, results also indicate divergence. For example, gender played a different role in the two jurisdictions, with a significant gender effect among Queensland residents in their perceptions of the police. In addition, Queensland respondents are more concerned with neighborhood conditions in their evaluations of the police. Finally, the three major models explain less variance in citizens' satisfaction with the police in Queensland than they do in Cincinnati, suggesting the existence of other important explanations for Queensland residents. It is clear that not all findings in the United States are amenable to generalization. The specific contexts in Queensland must be considered, because social reality cannot be completely understood outside of the

context in which it occurs. Unfortunately, our data do not contain enough information to provide solid explanations for the different findings in Queensland, and therefore, it is in great need for future research to link the unique aspects of Australian contexts to citizens' satisfaction with the police. Some research on China, for example, has combined society-specific factors with common theoretical models to explain crime-related perceptions (Zhang, Messner, Liu, & Zhuo, 2009).

Some limitations in this study are noteworthy. First, because the Queensland data do not contain information about the respondents' race/ethnicity, racial/ethnic difference is not examined in the comparative analysis. Research in Australia has shown that ethnic minority groups including immigrants living in Australia often have problematic and poor relationship with the police (Murphy & Cherney, 2011; Pickering et al., 2008; Sivasubramaniam & Goodman-Delahunty, 2008). Second, recent studies on citizens' satisfaction with the police often used advance statistical techniques which are suitable when simultaneously examining individual level factors and aggregate level factors (Dai & Johnson, 2009; Reisig & Parks, 2000). Given the limited data from Queensland, the present study is unable to take this approach. Third, in the comparative analysis, it would be useful to examine other social/cultural factors that vary across different societies, but this study can only examine the common models of citizens' satisfaction with the police without society-specific or "society-wide" factors (Ivkovic, 2008, p. 414).

Within the data limitations, the current study contributes to the understanding of citizens' satisfaction with the police in an important way. It is the first study that uses similar community surveys designed with a specific focus on policing from two countries. The comparative analysis uses a general theoretical framework that covers all three major models of citizens' satisfaction with the police as identified by American research (Dai & Johnson, 2009; Reisig & Parks, 2000). In addition, this study further examines the equality of regression coefficients across international samples, demonstrating theory building through generalization. Taken together, the findings suggest that there are very similar concerns among the respondents in Cincinnati, USA and Queensland, Australia. Whether these findings are universal or variant in other parts of the world remains an empirical question for future research.

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Notes

1. It is noted that Cincinnati experienced a series of civil disorders from April 9 to 12, 2001. The riots were triggered by an incident in which an African-American male was shot and killed by a police officer. Although this social problem illustrated the long-term racial problem in the U.S, there was no evidence showing the racial tension was particularly high at the time of data collection between 1997 and 1998. In our statistical analysis, we found race was not a significant factor affecting the dependent variables. Another study using data from Cincinnati also found that race was not significant after controlling for other theoretically relevant factors (Dai & Johnson, 2009).
2. We have to collapse these response categories to create a dummy variable for each dataset, because the two dataset used different response categories for the same or similar items. Our comparative analyses (especially the statistical comparison of coefficients) require the

same measure across the datasets in the same statistical models. Although it is common to recode ordinal variables into dummy variable in the data analysis, this approach suffers a limitation, that is it reduces variation to be explained. Our logistical models can only explain satisfaction as opposed to dissatisfaction. With the third dependent variable, our linear regression model can further explain total satisfaction along a scale.

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Appendix I: Survey items about satisfaction with the police

Queensland	Very good	Good	Fair	Poor	Very poor
How good a job are the police doing in working together with residents of this neighborhood to solve local problems?	26.2%	45.2%	19.6%	6.5%	2.5%
How good a job are they doing to prevent crime?	19.2%	48.4%	23.1%	6.4%	2.9%
Cincinnati	Very satisfied	Somewhat satisfied	Somewhat dissatisfied	Very dissatisfied	
How satisfied are you with the job the police are doing working together with the residents of your neighborhood to solve local problems?	30.4%	48.8%	13.5%	7.1%	
How satisfied are you with the job the police are doing in your neighborhood to prevent crime?	28.8%	53.9%	12.0%	5.4%	

Appendix 2: Full models of satisfaction with problem solving, satisfaction with crime prevention, and total satisfaction in Cincinnati

	Satisfaction with problem solving			Satisfaction with crime prevention			Total satisfaction				
	Coefficient	S.E.	Wald	Odds ratio	Coefficient	S.E.	Wald	Odds ratio	Coefficient	S.E.	t
Constant	.031	.538	.003	1.031	1.280	.554	5.334*	3.596	1.331	.123	10.817***
Age in groups	.409	.102	16.048***	1.505	.152	.098	2.393	1.164	.064	.020	3.284**
Homeowner	-.112	.323	.119	.894	.443	.330	1.802	1.557	.020	.065	.299
College graduate	.502	.306	2.688	1.652	.546	.313	3.041	1.726	.106	.064	1.668
White	.408	.286	2.036	1.504	-.001	.293	.000	.999	.073	.064	1.139
Female	.180	.284	.401	1.197	.407	.290	1.966	1.502	.059	.061	.965
Dissatisfied with a contact	-1.350	.335	16.198***	.259	-1.447	.333	18.884***	.235	-.540	.088	-6.108***
Satisfied with a contact	.129	.294	.189	1.138	-.409	.294	1.932	.664	-.035	.065	-.529
Better place	1.405	.567	6.138*	4.074	.478	.452	1.115	1.612	.141	.079	1.793
Worse place	-.262	.357	.537	.770	-.024	.369	.004	.977	-.082	.089	-.929
Local problems	-.308	.099	9.649***	.735	-.423	.101	17.713***	.655	-.080	.021	-3.817***
Perceived safety	.727	.303	5.774*	2.069	1.028	.305	11.356***	2.796	.253	.071	3.584***
	Cox & Snell R Square = .214			Cox & Snell R Square = .181			Adjusted R Square = .249				
	Nagelkerke R Square = .338			Nagelkerke R Square = .307							

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed tests).