

EMERALD GEMS

New Perspectives in Policing: Stress, Public Perception and Leadership



United Kingdom • North America • Japan
India • Malaysia • China

Emerald Group Publishing Limited
Howard House, Wagon Lane, Bingley BD16 1WA, UK

First edition 2015

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British Library Cataloguing in Publication Data

A catalogue record for this book is available from the British Library

ISBN:978-1-78560-885-8



ISOQAR certified
Management System,
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Environmental
standard
ISO 14001:2004.

Certificate Number 1985
ISO 14001



INVESTOR IN PEOPLE

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Preface

New Perspectives in Policing: Stress, Public Perception and Leadership is a new collection of articles that represent the very highest level of scholarship focussing on the management and practice of Policing.

Drawn together from one of the leading journals in the field, *Policing: An International Journal of Police Strategies & Management*, these articles examine the evolving nature of Policing policy, practice and management in an era of ever increasing demands for efficiency, transparency and accountability. The collection assesses the impact of public perception, stress, and leadership, presenting detailed analyses and new conceptual frameworks.

Providing international perspectives, the articles include case studies on:

- US public perceptions towards police forces;
- the impact of stress and gender on Swedish officers;
- Chinese college student's perception of police, and
- an analysis of complaints of police misconduct.

This book provides policy makers, academics and senior police officers with an essential and convenient analyses and examination of some of the most important factors impacting policing and law enforcement today.

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A Longitudinal Analysis of Citizens' Attitudes about Police ☆

Jacinta M. Gau

Abstract

Purpose – Prior research has established the importance of citizens' perceptions of procedural justice in determining their assessments of and satisfaction with police. The present study seeks to contribute to this literature in three ways. First, it aims to test for a link between perceived procedural justice and performance-based assessments of police officers' ability to control serious crime. Second, it aims to test this link using longitudinal data and controls for existing attitudes to ensure directional validity of the results. Finally, it aims to advance the literature by extending the study of personal experiences and process-based judgments to non-urban areas.

Design/methodology/approach – The data were gathered using a panel design consisting of two surveys administered three years apart. The data are analyzed using ordinary least squares regression.

Findings – The results support the hypothesis that citizens' perceived procedural justice during their personal contact with officers significantly predicts their evaluations of the ability of police to keep their communities safe from serious violence. The fact that the data are longitudinal and that existing attitudes about effectiveness were controlled for offers support for the contention that the quality of citizens' personal contact with officers can influence their judgments about police effectiveness.

Practical implications – The findings have implications for procedural justice in policing and for community-based policing strategies. It would appear that officers' respectfulness toward citizens during personal contacts can enhance their outcome-based efficacy in citizens' eyes. Police officers' interpersonal interactions with citizens can foster trust and make citizens feel that the police can keep them safe.

☆The data for this project were gathered using funds provided by the Project Safe Neighborhoods federal grant number 5710-0040. The author wishes to thank the anonymous reviewers for their helpful comments on an earlier draft of this manuscript.

Originality/value – The study is one of few that employ longitudinal data to test the experience-attitude relationship. The results indicate that the relationship often found in cross-sectional data also holds over time. In addition, the data come from a relatively rural area of the country, and the findings show that the link between personal contact with and attitudes about police – a link previously demonstrated primarily among urban samples of respondents – applies to non-urban areas as well.

Keywords: Police; Community policing; Justice

Introduction

The body of scholarly literature on policing is progressively amassing a stock of studies concerning the determinants of citizens' attitudes toward police. One factor that has emerged as a consistent predictor is personal experience. People's direct (and, in some studies, vicarious; see Brunson, 2007) experiences with police have proven to affect people's attitudes, even net of demographic controls (Scaglione and Condon, 1980; Skogan, 2005). The theory of procedural justice holds that people's perceptions about the quality and fairness of police actions can markedly impact the way they feel about police (Reisig *et al.*, 2007; Tyler, 2006; Tyler and Huo, 2002). Beliefs that police act fairly, impartially, and with concern for individual citizens' needs and rights can translate into more positive feelings about the legitimacy of police as a law enforcement institution (Tyler, 2006) and can foster compliance with police commands (Tyler and Wakslak, 2004) and with the criminal law (e.g. Paternoster *et al.*, 1997). Procedural justice stands in contrast to the more deterrence-oriented police strategies whereby police attempt to induce compliance by threatening punishment for anyone who violates the law. Compliance with the criminal law may be greater among those persons who internalize a moral obligation to obey it than among those who merely fear punishment (Murphy *et al.*, 2009; Tyler, 2006; Tyler and Huo, 2002; see also Unnever *et al.*, 2004).

Despite the depth and breadth of the extant literature on personal experience within a procedural justice framework, there remain some issues to be teased out. One problem is that the research is primarily cross-sectional in nature (for important exceptions, see Brandl *et al.*, 1994; Rosenbaum *et al.*, 2005). Survey respondents are typically asked about their experiences and attitudes simultaneously, which limits the conclusions that can be drawn concerning the direction of this relationship (Brandl *et al.*, 1994; Gallagher *et al.*, 2001; Rosenbaum *et al.*, 2005). Another issue concerns the variables under examination. It appears from the existing body of literature (summarized below) that there could be a link between procedural justice and performance-based assessments of police quality. This possibility is worth pursuing because trust in police efficacy is an important concept. Citizens' trust in the police to effectively prevent and control crime matters from a

community policing standpoint – citizens who trust the police are thought to be more likely to actively engage in co-production strategies and to be receptive to police efforts to reach out to the local community (Hawdon *et al.*, 2003; Reisig and Giacomazzi, 1998). While prior studies raise the inference that procedural justice may be linked to performance-based assessments, it is necessary to empirically assess this theoretical proposition to either support or disconfirm its accuracy (see Hay, 2001).

The present study builds upon the existing research in three ways. First, it uses longitudinal data, where most extant analyses have employed cross-sectional measures. Second, it uses a performance-based outcome variable, where only one prior longitudinal study used such an item as part of a larger satisfaction scale. The third contribution is a test of the procedural justice-trust relationship in a rural/semi-urban area, where previous studies of a similar sort have relied on data from large urban centers (e.g. Rosenbaum *et al.*, 2005; for exceptions, see Kusow *et al.*, 1997; Reisig and Chandek, 2001; Reisig and Giacomazzi, 1998). It is important to re-test empirical findings across different years and locations to make sure the original results hold up across time and space (Lowenkamp *et al.*, 2003). Residential location can have a strong impact on citizens' perceptions of police (Kusow *et al.*, 1997), so broadening the types of contexts represented in the literature is beneficial.

The Relationship Between Citizens' Personal Contacts with and their Attitudes about Police

An extensive body of existing literature demonstrates that citizens value not just *what* the police do, but *how* they do it. Citizens' judgments about police fairness and effectiveness are forged in part by personal experiences, the experiences of friends and family, and the media (Brunson, 2007; Gallagher *et al.*, 2001; Gau and Brunson, 2010; Rosenbaum *et al.*, 2005; Weitzer, 2002). "Objective" measures of effectiveness, such as clearance rates, are relatively modest predictors. The police need their citizenry to trust them and believe in them; otherwise, the police have a very hard job to do indeed. A number of researchers have shown connections between authority figures' legitimacy and citizens' willingness to obey the law in contexts including taxpaying (Murphy, 2004, 2005; Murphy *et al.*, 2009), occupational health and safety standards (Scholz, 1991), nursing home regulations (Braithwaite and Makkai, 1994), and environmental regulations (Winter and May, 2001).

The relationship between legitimacy and compliance has also been shown to exist in policing: people who believe that the police are unbiased, neutral decision-makers who show concern for citizens – including suspects – and do their best to make fair judgments are more likely to support the police as an institution, to obey officer commands, and even to follow the criminal law in general (Bouffard and Piquero, 2010; Brunson and Miller, 2006a, b; Gau and Brunson, 2010; Lind and Tyler, 1988; McCluskey *et al.*, 1999; Murphy, 2004; Murphy *et al.*, 2009; Paternoster *et al.*, 1997;

Reisig *et al.*, 2007; Sherman, 1993; Skogan and Frydl, 2004; Sunshine and Tyler, 2003; Tyler, 2005, 2006; Tyler and Huo, 2002; Tyler and Wakslak, 2004; see also Murphy, 2005). Compliance, moreover, springs not from fear of official reprisal but from an internal, moral obligation to abide by society's rules (Murphy, 2004, 2005; Murphy *et al.*, 2009; Tyler, 2006; see also Tyler, 1997; Unnever *et al.*, 2004).

Procedural justice helps police get the proverbial “more bang for their buck” (i.e. greater public safety at less cost) in two ways. First, a citizenry that voluntarily regulates itself on the basis of internalized moral obligations to the law produces a natural enhancement in public safety and crime control without the need for officers to be everywhere at once to keep everyone's behavior in check (see Tyler, 1997). Coercive control has actually been linked to increases in antisocial and unlawful behavior (Unnever *et al.*, 2004), so the more the police can get the public to self-regulate, the better (see also Bursik and Grasmick, 1993; Gau, 2008; Hunter, 1985; Renauer, 2007). Second, private citizens are vital sources of information about criminal incidents, and people with positive attitudes toward police are more willing to share information they have about local crimes (Reisig, 2007; Reisig *et al.*, 2007). All else being equal, police departments that connect well with their communities and employ a more “service” or community style have higher clearance rates than departments that operate under the more detached “legalistic” style (Ferdinand, 1976). The police, in short, can make their own job easier by adhering to principles of procedural justice.

Positive perceptions of the police also form a basis for police-community relationships and co-production partnerships. The way that an authority figure treats a member of the public conveys to that individual a message about her or his personal worth as a member of the group. Good treatment by authorities makes citizens feel valued and important, which enhances their satisfaction with those authority figures (Tyler, 1997). This is relevant to the police agencies nationwide that are adopting “customer service” orientations and trying to enhance “consumer” satisfaction with police services (Reisig and Chandek, 2001; Skogan and Hartnett, 1997). People who think highly of local police-community relationships not only think better of the police, but of the overall quality of life in their neighborhoods (Reisig and Parks, 2004). Co-production (crime prevention led jointly by police and citizens) requires that the police mobilize the mechanisms of informal social control within the community (Greene and Decker, 1989), which they cannot do when friction between officers and the public causes the groups to approach one another with suspicion and prevents them from engaging in progressive dialogues (Skogan, 2006; Skogan and Hartnett, 1997). The success of co-production and partnership-building efforts is in no small part contingent upon citizens' trust in the police (Greene and Decker, 1989; Hawdon *et al.*, 2003; Reisig, 2007; Reisig and Giacomazzi, 1998; Skogan, 2006; Skogan and Hartnett, 1997).

While the public's perceptions of procedural justice and police legitimacy have several sources, one important wellspring is personal experience. Citizens who report that they were treated respectfully and courteously during a face-to-face encounter express more positive attitudes toward police compared to those who feel they did not receive good treatment (Cheurprakobkit, 2000; Scaglion and Condon,

1980; Skogan, 2005; Wells, 2007; Weitzer and Tuch, 2005a; see also Weitzer and Tuch, 2005b, but see Sims *et al.*, 2002). Those who feel denigrated, embarrassed, or abused by police infer from their experiences that officers are biased or have malicious motives (Brunson, 2007; Gau and Brunson, 2010) and those who feel they have been targeted or singled out report more negative attitudes about police (Weitzer and Tuch, 2002).

The positive effects of procedural justice offer a unique opportunity for police officers and departments to earn citizens' trust and support because the quality of face-to-face contacts between officers and citizens is at least partially under officers' personal control. Citizens do approach officers with preconceived notions and stereotypes that can impact their interpretation of the fairness and quality of officers' actions (Brandl *et al.*, 1994; Piquero *et al.*, 2004), so officers' ability to determine citizens' satisfactions with encounters is not absolute. Personal encounters, though, are still important components of the public's trust in and beliefs about police because personal contacts influence global attitudes (Brandl *et al.*, 1994) and because people often tell their friends and families about the experience, which dramatically broadens the scope of contact to include not only personal but vicarious experiences as well (Brunson, 2007; Rosenbaum *et al.*, 2005; see also Weitzer, 2002).

Current Focus

The current study addresses three areas of concern present in the existing body of literature. One problem is the use of cross-sectional data (for exceptions, see Brandl *et al.*, 1994; Rosenbaum *et al.*, 2005), which has left open the question of temporal ordering and causal directionality. People's pre-existing attitudes about police can alter their interpretation of personal and vicarious encounters with officers, leading those with more negative opinions to interpret their experiences in a worse light (see also Gallagher *et al.*, 2001). It is not necessarily the case that experience precedes attitude. More research is needed to better understand temporal sequencing and causal effects. The present study employs a panel design wherein the same survey respondents were measured at two points in time. The longitudinal nature of the data permits controls for preexisting attitudes in order to better isolate directional effects.

Another area in the literature that warrants more attention is the different outcomes possible within the procedural justice/police legitimacy framework. The primary outcomes that have been studied involve people's satisfaction with police in general, their willingness to comply with police commands, their trust in the ability of police officers to make good decisions, and their perceived obligations to obey police and to obey the criminal law in general (e.g. Brandl *et al.*, 1994; Reisig *et al.*, 2007; Sherman, 1993; Sunshine and Tyler, 2003; Tyler, 2006; Tyler and Wakslak, 2004). Relatively few studies have assessed the effects of perceived procedural justice on people's beliefs about police officers' effectiveness as agents of crime control. The ones that have (Hawdon *et al.*, 2003; Tyler and Wakslak, 2004; see also Reisig

and Parks, 2004) employed cross-sectional data, which raises again the question of temporal ordering.

The present study is distinct from the two notable prior studies that used longitudinal data (Brandl *et al.*, 1994; Rosenbaum *et al.*, 2005) by its use of a performance-based outcome measure that tapped survey respondents' perceptions of local law enforcement's ability to keep their community safe from serious violence. Brandl *et al.* (1994) used a single-item, global measure of general satisfaction with police. Rosenbaum *et al.* (2005) used a satisfaction scale that included an item concerning respondents' perceptions of officers' ability to prevent crime. They found a relationship between contact and this satisfaction scale. It has become clear that the procedural justice/police legitimacy literature is full of bidirectional, nonrecursive effects, so it is worth considering whether procedural justice and outcome-based measures of crime-control effectiveness also operate in this fashion.

Finally, this study uses data gathered from a non-urban area of the country, which helps extend prior findings regarding procedural justice to smaller towns and cities. Police, and citizens' perceptions of police, differ in important respects across urban and non-urban municipalities (Kusow *et al.*, 1997; Pelfrey, 2007; Weisheit *et al.*, 1994). Most studies of procedural justice have focused on large urban centers, resulting in the general neglect of non-urban areas. The present study offers a look at procedural justice in small towns and mid-sized cities.

Methodology

Data

The data for this study came from a panel survey conducted in the Eastern District of a Pacific Northwest state. Four mid-sized cities dot this district and the remainder of the area is rural. The population is primarily white. The first survey was conducted in 2003. The survey methodology adhered to Dillman's (2000) total design method for mail surveys. The study was funded by a federal grant and was conducted as part of a joint project between local law enforcement agencies, the US district attorney's office, and the major university in the area. Surveys containing postage-paid reply envelopes were mailed to a random sample of addresses gleaned from the 21 county seats in the district. All residents of these municipalities were included in the sampling frames and the samples were selected using simple random sampling of each area. The county seats included several small towns and three mid-sized cities, and the original number of addresses selected in each town/city was proportionate to the size of the jurisdiction. A second wave of the survey was sent to nonresponders from all municipalities and targeted third and fourth waves were sent to areas that maintained response rates below 20 percent even after the second wave. The original sample consisted of 2,879 returned, usable surveys, for a 32.5 percent response rate. This response rate is not ideal, but it is fairly typical of the current response rates researchers are achieving in mail and telephone surveys

(Curtin *et al.*, 2005; Gau and Pratt, 2008; Holtfreter *et al.*, 2008; McCarty *et al.*, 2006). A prior study using the original data set probed for nonresponse bias and found no evidence of a problem (Gau and Pratt, 2008).

A question on the first survey asked respondents if they would be willing to participate in another survey of the same sort, and those who marked “yes” became the sampling frame for the second survey in 2006. The response rate for the follow-up survey was 76.6 percent. The data set for the second survey was merged with the first according to identification numbers tied to mailing addresses. Some cases had to be deleted because the demographics made it clear that the two surveys had been filled out by different people. The final sample of usable panel cases was 1,029. The respondents were split almost directly in half between small towns and semi-urban jurisdictions.

Dependent Variable

The dependent variable in these analyses was taken from the second survey in order to control for time sequencing. The second survey contained one police item: “How much do you trust local and state police to make your community safer from gun crimes and gun violence?” (1 = do not trust at all; 10 = trust completely). This is an outcome-based measure of police effectiveness that taps respondents’ beliefs about the crime-control efficacy of local and state police. The item’s specific mention of gun crimes and gun violence is a bit restrictive; however, gun violence is a serious form of victimization, so citizens’ trust the police to protect them from this extreme form of violence can be interpreted as a sign of strong trust. If the process-based independent variables (described below) are significant predictors of this dependent variable, then the conclusion could be reached that there is a positive relationship between procedural justice and citizens’ assessments of officers’ crime-fighting capability.

Independent Variables

The independent variables tapping procedural justice and personal demographics were taken from the first survey, and those controlling for city-level characteristics came from crime and census reports for the year 2003. There were three procedural justice-based predictors of interest. These variables were selected on the basis of prior research that used people’s perceptions of personal experiences (Brandl *et al.*, 1994; Rosenbaum *et al.*, 2005) and their beliefs about racial profiling (Tyler and Wakslak, 2004) as predictors of satisfaction with police. The first was *quality of contact*. Respondents were asked whether or not they had had personal contact with local law enforcement agencies within the past year. Those respondents who had had such contact ($n = 586$) were given a four-point scale (1 = poor; 2 = fair; 3 = good; 4 = excellent) upon which to rate the quality of this most recent contact. The survey did not specifically direct respondents to consider only those contacts with law enforcement personnel in their jurisdiction of residency – it merely said “local” law

enforcement – but respondents' median tenure of residence in their current home was 12 years, which raised an inference that the contact was with local police in their current areas of residence.

The second independent variable was *illegitimate stop*, where respondents who had been stopped by local police in the past two years ($n=427$) recorded whether they believed that stop was legitimate (0 = yes; 1 = no). Stop legitimacy is an important aspect of procedural justice because it taps people's beliefs about the quality of officers' decision-making (e.g. Reisig *et al.*, 2007). It may seem counterintuitive to include both the *quality of contact* and *illegitimate stop* variables because they could be seen as merely the opposite of one another: one measures the extent to which people believe they were treated well by police and the other measures the extent to which they feel they were treated poorly. It is, however, advisable to include measures of both positive and negative attitudes about police because there may be asymmetry in their effects; that is, negative experiences might damage citizens' global evaluations of police more than positive experiences elevate those impressions (Brandl *et al.*, 1994). These two variables, then, are each important in their own right and were therefore both included in the analyses. The third process-based independent variable was *racial profiling*. Citizens were asked whether or not they thought police ever profiled people by race (0 = no; 1 = yes). Racial profiling is an important consideration in the study of procedural justice – the belief that police target some people on the basis of their race can damage citizens' overall assessments of police fairness and legitimacy (see, for example, Tyler and Wakslak, 2004).

The final key independent variable was the *trust in police* measure from the first survey. This item was the 2003 analogue of the 2006 dependent variable and was included to control for attitudinal stability over time. One of the primary goals of this analysis was to assess the link between procedural justice and perceived police effectiveness while controlling for the potential stability of the latter. People's attitudes toward police tend to remain relatively constant (Brandl *et al.*, 1994; Chermak *et al.*, 2001; Rosenbaum *et al.*, 2005) and failing to control for that constancy could cause model misspecification. To the extent that a portion of the variance in the 2006 reports of police effectiveness was a function of people's attitudes about the same thing in 2003, any analysis that omitted the 2003 measure would risk artificially inflating the impact of the procedural justice variables. Controls for prior attitudes when predicting later ones served as an acknowledgement of the nonrecursive nature of the experience-attitudes relationship. Controlling for 2003 performance-based trust removed all the variance from the 2006 trust measure that was attributable to attitudinal stability, thus leaving only the variance attributable to other causes to be partitioned among the independent variables.

Respondents' age (in years), sex (0 = male; 1 = female), and race (0 = white; 1 = nonwhite) were also included to control for potential individual variation in people's assessments of police. To control for contextual effects, low socioeconomic status and city concentrated disadvantage were entered into the models. The social and economic variables were gleaned from the 2003 US census, and crime rates were obtained from the state's repository of uniform crime reports. The socioeconomic status indicator was a standardized, additive scale consisting of the percentage

below poverty and the percentage unemployed in each city. Concentrated disadvantage was a standardized scale comprising each town/city's crime rate, the percentage of the adult population that did not possess a high school diploma, and the percentage of the housing units in the jurisdiction that were vacant. These area-level contextual controls were included because prior research suggests that macro-level disadvantage can influence people's perceptions of the police (Reisig and Parks, 2000). A complete list of the variables and accompanying descriptive statistics is located in Table I and a correlation matrix is available in Table II.

Analytic Strategy

Two models were run to test the hypothesis that quality of contact predicts citizens' attitudes about police effectiveness over time. The first model contained all of the independent variables except the control for pre-existing trust in the police. This model was estimated to assess the effects of procedural justice on perceived outcome effectiveness without controlling for attitudinal stability. The 2003 trust measure was added in the second model, thereby introducing a stability control. The first model, then, functioned as a baseline against which the second model – the model

Table I: Descriptive statistics

Item	Minimum-maximum	Mean	SD
<i>Dependent variable</i>			
Trust in the police	1 (no trust)-10 (complete trust)	7.46	2.24
<i>Independent variables</i>			
Trust in the police	1 (no trust)-10 (complete trust)	7.11	2.58
Quality of contact	1 (poor)-4 (excellent)	3.12	0.93
Illegitimate stop	0 (legitimate)-1 (not legitimate)	0.16	N/A
Racial profiling	0 (officers do not)-1 (officers do)	0.24	N/A
Age	19-96	57.84	14.11
Female	0 (male)-1 (female)	0.32	N/A
Non-white	0 (white)-1 (non-white)	0.057	N/A
Low SES (standardized)	-2.08-3.68	0	1.57
Disadvantage (standardized)	-4.01-6.17	-0.05	2.14

Table II: Correlations among all variables in the analyses

	1	2	3	4	5	6	7	8	9	10	11
1. Trust in police (DV)	1.000										
2. Trust in police (IV)	0.392**	1.000									
3. Quality of contact	0.372**	0.317**	1.000								
4. Illegitimate stop	-0.260**	-0.167**	-0.274**	1.000							
5. Racial profiling	-0.204**	-0.174**	-0.141**	0.171**	1.000						
6. Income	0.050	0.090**	0.072	-0.131*	-0.062	1.000					
7. Age	0.073*	0.028	0.130**	-0.092	-0.111**	-0.270**	1.000				
8. Nonwhite	0.004	-0.033	-0.026	0.071	0.110**	-0.100**	-0.092**	1.000			
9. Female	0.025	0.037	0.004	-0.063	0.082*	-0.159**	-0.068*	0.021	1.000		
10. Low SES	0.054	-0.029	0.078	-0.030	-0.094*	-0.043	0.022	0.028	0.019	1.000	
11. Disadvantage	-0.134**	-0.057	-0.085*	0.038	0.078*	-0.138**	0.010	0.005	-0.066*	-0.026	1.000

hypothesized here to be a more accurate portrayal of the relationship under question – could be compared to determine if and how the fit and coefficients changed with the addition of the extra attitudinal control variable. Missing data was treated using list-wise deletion because only a small percentage of each variable had missing data. When such a small portion of cases are missing, list-wise deletion is a proper method (Byrne and Watkins, 2003).

Results

Respondents' demographic features and the distributions of the variables are located in Table I. Approximately 32 percent of the respondents were female, meaning males were over-represented in the sample. The mean age was just under 58 years (median = 57), meaning respondents were older than average compared to the rest of the population (median age for the state = 36.8).

Just below 6 percent of respondents were nonwhite, which presents a limitation to the overall generalizability of the findings, but it is worth noting that most of the areas from which the sample was drawn had mostly white populations. According to the US census, the municipality-level minority concentration in these towns/cities ranged from 2.80 percent to 47.20 percent, with a mean of 18.15 (SD = 9.45) percent. In 6 percent of the areas, minority citizens comprised less than 10 percent of the total population. In the cities with higher levels of minority concentration, the dominant minority group was Latino. Some research indicates that police treat Latinos differently than they treat either whites or blacks (Gau *et al.*, 2010) and that Latinos' attitudes toward the police are more negative than whites' attitudes are, but more positive than blacks' are (Weitzer and Tuch, 2005a). The most likely reason for the under-representation of Latinos was that the survey was sent out in English only. A Spanish version might have boosted Latino responses, but monetary restrictions and the absence of a qualified translator on the survey staff made the creation of a Spanish survey impossible. It was expected in the current study, though, that the racial lopsidedness in the sample would not materially affect the results because personal experience with police often supersedes the effect of race (e.g. Scaglion and Condon, 1980). Nevertheless, a larger minority representation would have been preferable and does serve as a reminder of some of the potential limitations of this study.

The means for the dependent variable and the key independent variables demonstrate that respondents, overall, held positive views about the local and state police. The means on each of the trust scales (both the dependent and independent variable versions) were approximately seven on a 1-10 scale and their mean quality of contact rating was 3.12 on a 1-4 scale. Twenty-four percent believed that racial profiling does take place, and 16 percent of those who had been stopped in the past two years reported that the officers' stated reason for the stop had not been legitimate.

The dependent variable was slightly skewed (the skewness coefficient was -1.03), but not sufficiently so to cause concern or warrant a different modeling strategy.

The mean and median (7.46 and 8.00, respectively) were well within one standard deviation of each other. Typical transformations such as the natural logarithm failed to improve the distribution of the dependent variable and produced no change in the results of the regression models when they were substituted for the original, untransformed version; therefore, the original units were retained to maintain straightforwardness in interpretation. Diagnostic tests conducted on both regression models showed no sign of collinearity. All variance inflation factors hovered around 1.00, the lowest tolerance value was .80, and the highest condition index was 20.69. (The condition index was borderline, but given the low variance inflation factors and high tolerance scores, the collinearity that was present was considered well below harmful levels.) The Durbin-Watson statistics computed to test for autocorrelation were 1.62 and 1.74 in the first and second models, respectively, indicating that autocorrelation was not a problem despite the clustered nature of the data. Both model F s were statistically significant at $p < 0.001$. All significance levels were two-tailed.

Table III shows the results for Models 1 and 2. Model 1 contained all the predictors except the trust variable from the first survey; in other words, this model was deliberately constructed so as to ignore the potential influence of pre-existing attitudes on later evaluations of performance. This model served as a baseline for estimates of the effect of procedural justice on performance assessments.

Table III: Results of ordinary least squares regression models predicting “trust in the police to keep the community safe from gun crimes and violence”

Independent variable	Model 1		Model 2	
	b (SE)	β	b (SE)	β
Trust in police	—	—	0.329*** (0.058)	0.376
Quality of contact	0.654*** (0.165)	0.274	0.477** (0.163)	0.200
Illegitimate stop	−0.788† (0.430)	−0.127	−0.707† (0.411)	−0.115
Racial profiling	0.190 (0.356)	0.037	−0.139 (0.351)	−0.027
Age	0.024* (0.012)	0.141	0.020 ^a (0.012)	0.115
Non-white	0.317 (0.632)	0.034	0.450 (0.619)	0.048
Female	−0.027 (0.366)	−0.005	−0.084 (0.353)	−0.016
Low SES	−0.073 (0.098)	−0.049	−0.037 (0.095)	−0.025
Disadvantage	−0.024 (0.073)	−0.022	0.003 (0.070)	0.003
Constant	3.585** (1.112)		2.847* (1.090)	

Notes: Model 1: $R^2 = 0.148$, $F = 3.851$. Model 2: $R^2 = 0.265$, $F = 6.729$. † $p < 0.10$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

In Model 1, consistent with expectations, *quality of contact* stood out as a strong and significant predictor of performance assessments; in fact, it was the strongest variable in the model ($\beta = 0.274$). *Stop illegitimacy* achieved marginal statistical significance ($p = 0.069$) and had a standardized coefficient of $\beta = -0.127$. Those people who believed themselves to have been the victims of illegitimate stops by local police were less likely to trust the police to do an effective job of controlling gun violence in the community. This item's significance at only a 0.10 level (rather than the traditional and more conservative 0.05 or 0.01) could have been the result of small sample sizes. Only a portion of respondents reported having been the subject of a stop within the past year, and most of those who had been stopped felt it had been legitimate. Given the small sample size, significance at 0.10 is not unexpected and is interpreted here as statistically meaningful, albeit interpreted with more caution than would be required were the significance more robust. The *racial profiling* variable was, unexpectedly, not a significant predictor of performance assessments. The nonsignificance of the racial profiling measure could be an artifact of the traditionally weak relationship between legitimacy and distributive fairness (see [Reisig et al., 2007](#); [Sunshine and Tyler, 2003](#)) or, more likely, it may be related to the way the question was worded. These points will be discussed in more detail in the next section.

Age was also significant ($\beta = 0.141$); older respondents held more favorable attitudes about the ability of local and state police to protect the community from gun violence than did their younger counterparts. This finding comports with much of the prior literature finding that attitudes about police turn more positive with age (e.g. [Lundman and Kaufman, 2003](#)). None of the other individual-level demographic variables achieved statistical significance. The two community-level variables *low SES* and *disadvantage* were also nonsignificant, indicating that there was no tendency for the overall status of the city or town in which respondents lived to affect the relationship between perceived procedural justice and performance assessments.

Model 2 retained the original predictors and added the control for pre-existing levels of trust in police effectiveness. As expected, the coefficient for perceived effectiveness was strong ($\beta = 0.376$) and statistically significant. People's attitudes about the ability of police to keep their community safe in 2003 were the strongest predictors of their attitudes about the same issue three years later. The multivariate coefficient of determination increased as well: while Model 1 explained 14.5 percent of the variance in the outcome measure, Model 2 explained 26.5 percent. This confirms the intertemporal stability of attitudes about police and supports the prior studies that have considered whether global assessments affect perceptions about personal contact or vice versa ([Brandl et al., 1994](#); [Rosenbaum et al., 2005](#)). There does appear to be a more complex relationship than has traditionally been assumed. The relationship is very likely interactive and bidirectional; importantly, however, introducing the attitudinal stability control did not eliminate the effect of the procedural justice variables despite the former exerting a strong impact on performance assessments. Perceived *quality of contact* remained statistically significant and substantively strong ($\beta = 0.200$). *Illegitimate stop* changed only slightly ($\beta = -0.115$) and was

still statistically significant at $p < 0.10$. It is noteworthy that these two variables retained their statistical significance despite the addition of the control for the stability of the performance-based trust. The persistence of their effects indicates that even though attitudes about police may be pre-existing and fairly stable to an extent, there is room for alteration based on personal experience. Positive personal encounters enhance assessments of the effectiveness of police irrespective of preconceived ideas about effectiveness. Similarly, being stopped by police for a reason one believes to have been illegitimate damages one's overall assessments of police even controlling for prior attitudes. Personal contact, then, appears to be an important player in police-citizen relationships and in the public's support for and trust in police.

Discussion

The goal of this study was to contribute to the growing body of literature on citizens' perceptions of police, with a focus on the effects of personal experience and perceived procedural justice as a determinative factor in the development of those perceptions. It was hypothesized that personal experience and process-based judgments about police fairness and quality would significantly predict survey respondents' beliefs in the ability of police to control serious violent crime. Partial support was found for this hypothesis. Survey respondents' perceptions of the quality of their most recent contact with police were strong and significant predictors of their beliefs in the ability of police to protect the community from crime; in fact, quality of contact was the second strongest predictor and was superseded in magnitude only by the control for attitudinal stability. The inclusion of this control did not undercut the relationship between contact quality and performance assessments. This suggests that personal experience does independently affect attitude formation and that people's assessments of the quality of treatment they receive are not entirely contingent upon their existing attitudes about police. The other variable tapping respondents' evaluations of personal contacts with police also evinced support for the hypothesized importance of face-to-face encounters. The item that asked respondents whether or not their most recent stop by police had been legitimate achieved statistical significance, indicating that people who were subjected to what they felt to be an unjustified stop manifested lower levels of trust in officers' ability to keep the community safe from serious violence.

The results for the two personal-contact variables fall in line with and extend the literature on procedural justice and police legitimacy. They demonstrated that experience-based procedural justice can foster a stronger belief in the performance-based efficacy of police; specifically, people who perceive greater procedural justice during encounters also perceive greater crime control and community safety capability. Prior studies have uncovered support for this relationship using cross-sectional data (Hawdon *et al.*, 2003; Tyler and Wakslak, 2004) and the present study offers further confirmation of the validity and strength of this association

longitudinally. It would appear that there is a link between process- and outcome-based assessments.

The racial profiling variable was, unexpectedly, nonsignificant. This is likely the result of either (or a combination) of three things. First, racial profiling could be conceptualized within the theory of procedural justice as a form of distributive fairness (see, for example, [Reisig et al., 2007](#)), which has been found to be one of the weaker elements of procedural justice ([Reisig et al., 2007](#); [Tyler, 2006](#)). If perceived racial profiling taps a distributive justice construct, then the nonsignificance of this measure in the current study was consistent with prior literature. The second potential explanation is that the question asking respondents about racial profiling was a general question that tapped global attitudes about officers in the area – it did not measure respondents' personal experience with profiling or other biased treatment. It is possible that general attitudes are not very good predictors of outcome-based judgments about police (see also [Brandl et al., 1994](#); [Reisig and Chandek, 2001](#)). Given the nature of the sample used here, the third explanation for the variable's nonsignificance is argued to be the most likely. The racial profiling item only asked respondents whether or not police engage in race-based analyses of potential suspects – it did not ask them their opinions about this practice. The sample here was composed primarily of white respondents, so it could be that those who believed in the existence of racial profiling actually supported this practice. Researchers who have studied racial differences in profiling perceptions and attributions have discovered evidence to this effect ([Tyler and Wakslak, 2004](#); [Weitzer, 2000](#); [Weitzer and Tuch, 2002](#)).

The results of the present analysis, in conjunction with the prior literature concerning the beneficial consequences of amiable police-citizen contacts, have important policy implications. In many ways, perception may be as important – possibly even more so – than reality (see, for example, [Weitzer et al., 2008](#)). The impact of police officers' *actual* crime-control effectiveness may be trumped by the inferences that citizens draw based on the quality of interpersonal treatment they receive from officers (see also [Tyler, 2006](#)). Treating citizens respectfully and with dignity can produce multiple benefits for police and citizens alike (see also [Stoutland, 2001](#)). In addition to satisfied citizens being more willing to comply with officers' commands, to accept their decisions, and to obey the criminal law, the present results suggest that quality treatment can make people think more highly of officers' expertise as crime-fighters. The proliferation of community policing programs around the country has brought issues of police-community relationships to the forefront of policy and academic discourse. It is taken as a fundamental truth that the community has to trust its police in order for any community-based approach to succeed (e.g. [Hawdon et al., 2003](#); [Skogan and Hartnett, 1997](#)). Citizens who feel estranged from police or who do not believe officers are willing and/or able to keep the community safe are unlikely to rush enthusiastically into co-production. It is only when trust has been established that such a relationship can flourish (see also [Reisig, 2007](#)).

The present study has some limitations that restrict the scope of the conclusions that can be made based on the results. First, the sample was drawn from a mostly-rural area of a single state. It is not known whether the statistical results generalize

to other states, to other areas of the country, or to large cities. Second, the sample's demographics differed from those of the total population of this state. Females were underrepresented and the average age was higher than that of the general population. There were also very few minority respondents. The target district itself is fairly monochromatic, being rural and largely agricultural. Latinos are the predominant minority group, but their demographic was not well represented in this survey. Caution is warranted, then, when generalizing the present findings beyond whites.

Despite the data limitations in this study, the validity of the findings is bolstered by the fact that they are consistent with prior literature on the subject of procedural justice, personal experience, and attitudes about police. This study can be seen as extending the extant research to rural, mostly white communities, since most prior studies have focused on urban areas with greater demographic variety. People who walk away from an encounter with police feeling comfortable with the way they were treated think the police are better at keeping people safe than do people who leave the encounter feeling poorly treated. Positive police-citizen interactions could help form the basis for the development of long-term relationships that benefit entire communities. Best of all, it is a benefit that takes no money and no additional manpower to accomplish – a simple “please” and “thank you” might just be enough.

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Perceptions of Police: An Empirical Study of Chinese College Students

Yuning Wu and Ivan Y. Sun

Abstract

Purpose – This study aims to examine Chinese college students' perceptions of police.

Design/methodology/approach – Using survey data collected from over 400 college students in two cities, the study empirically analyzes the global and specific perceptions of police among Chinese college students and factors that accounted for the variation in Chinese college students' evaluations of police. The study incorporates a broader range of explanatory variables to explain Chinese college students' attitudes toward the police, including demographic characteristics, crime and criminal justice experience, perceptions of quality of life, and locality. The study reviews research on public perceptions of police published in Chinese academic journals.

Findings – College students' global satisfaction with police as well as their specific evaluations of police fairness, effectiveness, and integrity were significantly related to their crime and criminal justice experience, perceived quality of life, and locality. Students' background characteristics only had a weak effect on attitudes toward police.

Research limitations/implications – More empirical research is warranted to gauge the extent of Chinese satisfaction with police and police performance. Future research should continue incorporating crime and criminal justice factors into analysis.

Practical implications – Findings of the study provide Chinese police administrators with useful references and directions to improve police-community relations.

Originality/value – This study represents one of the few attempts to empirically assess Chinese citizens' perceptions of police. It examines not just Chinese

college students' global satisfaction with the police, but also their more specific views of various areas of police performance including fairness, effectiveness, and integrity.

Keywords: Police; Students; Perception; China

Introduction

We, the people, give police power and legitimacy. It is thus imperative for police practitioners and scholars to learn about the public's perceptions and expectations of the police and police services and use this information as important references to measure police effectiveness and guide police reforms. A substantial amount of research has been conducted in the USA over the past several decades to examine public attitudes toward the police. Very little, however, is known about Chinese perceptions of the police, an area of knowledge valuable for three main reasons. First, in today's highly globalized world, China cannot be ignored in terms of a more complete picture of citizen evaluations of the police since the country owns one-fifth of the world's total population and its influence on the rest of the world grows fast. Second, China has lower degrees of economic development and political democratization compared to the USA, which provides an ideal setting to test whether theoretical explanations of attitudes toward the police developed largely based on conditions in a capitalist, democratic society can be applied to a socialist, less democratic society. Third, China has undergone rapid and fundamental social changes during the past 30 years, which provides a rare opportunity to examine whether citizens who live in a changing society perceive their police differently from their counterparts in more stable societies.

The purpose of this study is to investigate empirically the extent and correlates of Chinese college students' satisfaction with their police. Two specific questions guide this research:

- (1) What are the global and specific perceptions of the police among Chinese college students?
- (2) What are the factors that account for the variation in Chinese college students' perceptions of the police?

To date, only a small number of studies have empirically explored Chinese attitudes toward the police (Cao and Hou, 2001; Wu and Sun, 2009; Xu, 1999; Xu and Chen, 1995; Yu and Gao, 2001; Zhu *et al.*, 1995). As pioneers, these studies shed useful light on the topic, yet suffered two major limitations. First, although the concept of the perception of police has been recognized as a rather complex, multi-dimensional one (Stoutland, 2001), these studies tended to ignore the measurement of the dependent variable by merely using one single item to measure citizen

perception of the police (see Cao and Hou, 2001; Wu and Sun, 2009). This is problematic, since the public might have a quite high overall support for the police as an institution, but not so much when it comes to ratings of individual police organizations, practices, or policies (Cox and Falkenberg, 1987; Hurst and Frank, 2000). Second, previous studies on Chinese perceptions of the police either did not examine factors that may influence such perceptions (see Lin and Xie, 1988; Xu, 1999; Xu and Chen, 1995; Yu and Gao, 2001; Zhu *et al.*, 1995) or only employed a limited number of demographic and attitudinal variables to explain such perceptions (e.g. Cao and Hou, 2001; Wu and Sun, 2009). This study attempts to address these concerns.

Using survey data collected from college students in multiple universities in two Chinese cities, this study represents an improvement over past studies in three areas. First, it examines not just Chinese college students' global satisfaction with the police, but also their more specific views of various areas of police performance including fairness, effectiveness, and integrity. Second, this study incorporates a broader range of explanatory variables to explain Chinese college students' attitudes toward the police, including demographic characteristics, crime and criminal justice experience, perceptions of quality of life, and locality. Finally, this study reviews research on public perceptions of the police published in Chinese academic journals. Thoroughly searching through several nationwide databases maintained in China, this study collected a small number of Chinese empirical studies on the topics of police-community relation in general and public perceptions of the police in particular and included them in the review (see Xu, 1999; Xu and Chen, 1995; Yu and Gao, 2001).

Literature Review

This section first reviews the effects of three groups of factors that have been identified by previous research as predictive of public views of the police in and outside of the USA:

- (1) individual demographic;
- (2) experiential factors; and
- (3) attitudinal factors.

Then this section moves to review findings concerning the extent and correlates of Chinese satisfaction with the police.

Factors that Shape Public Perceptions of Police

Demographic characteristics

Demographic characteristics, such as race, gender, age, and class, are among the most commonly studied factors. While race has been one of the most consistent

predictors of perceptions of the police with racial/ethnic minorities having less positive attitudes toward the police (for a comprehensive review, see Brown and Benedict, 2002; Wu *et al.*, 2009), the review of the effect of race is not included since race is not considered in this study.

Gender has been found by most previous studies as only weakly related to citizen perceptions of the police (e.g. Benedict *et al.*, 2000; Chermak *et al.*, 2001; Huang and Vaughn, 1996; Jesilow *et al.*, 1995; Sampson and Jeglum-Bartusch, 1998). While some studies found gender effects in evaluations of police performance, the results were quite divergent: some reported that females held more favorable attitudes than did males (Apple and O'Brien, 1983; Cao *et al.*, 1996; Huebner *et al.*, 2004; Taylor *et al.*, 2001; Weitzer and Tuch, 2002), but a few others showed opposite patterns (e.g. Correia *et al.*, 1996; Hurst and Frank, 2000). Cao *et al.* (1996) argued that it was reasonable to expect that females thought more positively about the police, as women tended to have less antagonistic contacts with the police than did men.

It has been widely observed that younger citizens tend to have less favorable views of the police than older citizens (e.g. Bridenball and Jesilow, 2008; Dunham and Alpert, 1988; Hurst and Frank, 2000; Murty *et al.*, 1990; Sullivan *et al.*, 1987; Weitzer and Tuch, 2002; Wu *et al.*, 2009). Only a few studies found little support for this relationship (Davis, 1990; Decker, 1981; Parker *et al.*, 1995), or that this relationship was unstable or inconsistent (Correia *et al.*, 1996; Smith and Hawkins, 1973). Some researchers even argued that age was a stronger predictor of attitudes than race, gender, and socialization (Peek *et al.*, 1981; Wilson, 1985). To explain the less positive attitudes toward the police held by youth, two patterns are relevant:

- (1) police have more frequent contacts with young people (Walker, 1992); and
- (2) frequent contacts lead to more conflict and hostile interaction between youth and the police (Bittner, 1990; Walker, 1992).

In addition, Gaines *et al.* (1994) suggested that younger people were more freedom-oriented whereas elderly were more safety-oriented. As such, young people were more likely to engage in risky behaviors while less likely to request services as did elderly citizens and accordingly were more likely to have negative or involuntary police contacts.

A number of empirical studies supported a link between social class and perceptions of the police, with people with lower socioeconomic status (SES) more likely to have less positive views of the police than the more affluent (e.g. Cao *et al.*, 1996; Huang and Vaughn, 1996; Percy, 1980; Sampson and Jeglum-Bartusch, 1998; Smith *et al.*, 1991). It is argued that while people in lower social classes are more likely to be the subjects of police control actions, members of high SES tiers are more inclined to receive service from the police, rely on the police to serve their interests, and even manipulate the police to protect their assumed rights and privileges (Black, 1971; Black and Reiss, 1970; Friedrich, 1980; Reiss, 1971; Sun and Payne, 2004; Sun *et al.*, 2008). A few studies, however, found no such significant effects of class (Alpert and Dunham, 1988; Apple and O'Brien, 1983; Davis, 1990;

Frank *et al.*, 1996; Henderson *et al.*, 1997; Sims *et al.*, 2002). Furthermore, some researchers found that people with higher income and educational attainment actually viewed the police less positively than those with lower income and educational attainment (e.g. Murphy and Worrall, 1999; Peak *et al.*, 1992; Percy, 1986; Weitzer and Tuch, 1999).

While the effect of educational attainment has been considered in previous studies often through the construction of a class or SES factor, it is less known about the effects of the type of education (as opposed to level of education) on perceptions of the police (Brown and Benedict, 2002). Specifically, different college majors may influence the association between education and perceptions of the police. For example, Brown and Benedict (2002) hypothesized that students who majored in the liberal arts and social sciences would view police more critically than those majoring in a business-related or technical area of study, partially due to their varied ideologies (liberalism versus conservatism) resulting from different academic training. This study thus takes the initiative to test empirically the relationship between college major and attitudes toward the police.

Crime and criminal justice experiences

The effects of direct police contact have attracted much scholarly attention. Carter (1985) revealed that citizen satisfaction decreased as the number of police-citizen contacts increased regardless of the nature of the contacts. Beyond mere contacts, however, most studies showed that the effects of police-citizen contacts on attitudes toward the police varied upon two main factors:

- (1) the type of contact; and
- (2) the performance of police on the scene.

It was found by some studies that citizens who underwent involuntary contacts were less likely than those who had voluntary contacts to hold positive attitudes toward the police (Bordua and Tift, 1971; Dean, 1980). Meanwhile, other studies supported a simple correlation that satisfactory police-citizen encounters led to overall satisfaction with police, and vice versa. For instance, one study showed that regardless of whether a contact was voluntary or not, unfair or unsatisfactory treatment decreased the probability of positive assessment of the police (Correia *et al.*, 1996). As such, the actions and performance of officers on the scene are critical. Factors such as police response time (Carter, 1985; Percy, 1980; Priest and Carter, 1999), police taking time to explain their courses of action (Furstenberg and Wellford, 1973), and police protecting procedural fairness during police-citizen encounters (Correia *et al.*, 1996; Cox and White, 1988; Engel, 2005; Frank *et al.*, 2005; Skogan, 2005; Thurman and Reisig, 1996; Tyler, 2005) were all found to be important predictors of citizen satisfaction with the police.

Personal contact with the police is not necessarily a condition on evaluations of the police. The majority of the public does not have any direct experience with the police, but learn about police through indirect, vicarious experience of family members and friends. Unfortunately, empirical investigation on the impact of vicarious

experience on perceptions of the police is limited. An exception is [Rosenbaum et al.'s \(2005\)](#) study, which found that both positive and negative vicarious experience with the police influenced citizens' views of the police, with positive vicarious experience contributing to less negative views of the police and negative vicarious experience leading to more negative views of the police. Positive vicarious experience, unexpectedly, played a more salient role in changing attitudes toward the police than did negative vicarious experience.

Experience with crime and fear of crime are often found predictive of citizen perceptions of the police because police are the primary social agencies responsible for crime control and public safety. By and large, it was found that victimization was inclined to increase unfavorable attitudes toward the police ([Homant et al., 1984](#); [Koenig, 1980](#); [Wu et al., 2009](#)). [Cao et al. \(1996\)](#) found that recent victimization and fear of crime had a greater impact on citizens' confidence in police than any of their demographic variables (but see [Jackson and Sunshine, 2007](#)). The effects of fear of crime, however, were less certain. Some researchers found that fear of crime exerted a significantly negative effect on confidence in the police ([Cao et al., 1996](#)), while others found that fear of crime or threat of criminal victimization did not explain much of the attitudes toward the police ([Skogan, 1978](#); [Smith and Hawkins, 1973](#); [Zevitz and Rettammel, 1990](#)).

Another factor that deserves more attention is media influence, as most people derive their knowledge about criminal justice from media consumption ([Surette, 2007](#)). The exposure to different types of crime shows (e.g. police drama, reality show, and crime solving) and news consumptions (e.g. networks, local TV stations, magazines) were found to have varied effects on viewers' confidence in the police ([Dowler and Zawilski, 2007](#); [Eschholz et al., 2002](#)). Particularly, news coverage of police misconduct was observed to have a consistent, negative effect on attitudes toward the police. News report of police brutality or corruption could increase the public's negative sentiments toward the police, and such influence was especially salient during or right after news coverage of these misconduct incidents ([Kaminski and Jefferis, 1998](#); [Sigleman et al., 1997](#), [Tuch and Weitzer, 1997](#); [Weitzer, 2002](#)). In addition, the frequency of exposure to news report of police misconduct had a particularly strong effect on citizens' views of the police and could significantly increase citizens' beliefs in the frequency of police misconduct ([Weitzer and Tuch, 2004, 2006](#)).

Quality of life

Public perceptions of the police are also found to be closely related to the feelings of quality of life in general ([Cao and Hou, 2001](#); [Cao et al., 1998](#); [Frank et al., 1996](#); [Reisig and Parks, 2000](#); [Wu and Sun, 2009](#)). [Dowler and Sparks \(2008\)](#) found that perceived quality of life was the most important predictor of satisfaction with the police, and the effect of perceived neighborhood conditions was much more substantial than that of race. Similarly, [Reisig and Parks \(2000\)](#) found that residents' perception of neighborhood quality of life, including level of crime, physical decay, and social disorder, exerted the greatest influence on their satisfaction with the police. In addition, empirical evidence showed that personal happiness was a

significant predictor of confidence in the police in Japan, Taiwan, and the USA (Cao and Stack, 2005; Cao *et al.*, 1998; Cao and Dai, 2006).

Chinese Perceptions of the Police

As mentioned earlier, empirical investigation on Chinese perceptions of the police has been sparse. Vastly different data collection methods being used, the existing studies seem to uncover a similar pattern that Chinese citizens, by and large, hold a generally positive view of the police. For example, based on data from the *Asian Barometer* survey conducted in 2003, Wu and Sun (2009) found that about three-quarters of respondents from eight Chinese cities reported that they trusted the police a lot or to a certain degree. Four city-wide studies yielded similar results. First, based on data from UN's *International Victim Survey*, conducted in Beijing in 1994, Zhu *et al.* (1995) reported that a majority of Chinese residents in Beijing (82.9 percent) felt that their police did a good job in controlling crime. Second, based on survey data from 120 residents in Liaoning, Xu and Chen (1995) found that 70 percent of their respondents were very satisfied or satisfied with the police as a whole. Third, Yu and Gao (2001) distributed surveys to 480 residents in Hangzhou and documented that about 70 percent of their respondents were satisfied with police performance in crime solving, 86 percent agreed that police handled cases in a "fair" or "largely fair" way, and 75 percent agreed that police did a good job in comprehensive security management. Fourth, Xu (1999) collected survey data from 194 Hangzhou residents and found that the majority of the respondents (83 percent) were willing to ask the police for help, and about 90 percent of the respondents who asked the police for help reported that they were basically satisfied with the services police provided.

Comparatively speaking, however, Chinese citizens seem to think less positively of the police than their American counterparts. Based on data from the *World Values Survey* in 1991, Cao and Hou (2001) found that Chinese confidence in the police was lower than that of Americans. An early study documented a lower rating of police prestige by residents in Beijing than Americans, Japanese and Taiwanese (Lin and Xie, 1988), which might reflect a less positive view of the police as an occupation held by Chinese.

In terms of factors that are related to Chinese perceptions of the police, some preliminary patterns are identified. Regarding demographic variables, age has been found to be a significant predictor. Younger Chinese citizens had lower levels of trust in the police than older citizens (Wu and Sun, 2009). Traditional indicators of social class, such as educational background, level of income, and employment status, were found to have no significant effect on public trust in the police (Wu and Sun, 2009) or confidence in the police (Cao and Hou, 2001). In terms of experiential factors, one study found that experience of crime reporting was associated with low levels of satisfaction with the police (Zhu *et al.*, 1995). The majority of Chinese citizens in that study who had reported a crime to police (57.5 percent) expressed dissatisfied with the way police handled their reported crime. Attitudinal predictors seem

to have a strong explanatory power in Chinese perceptions of the police. For example, it was found that Chinese citizens who were less likely to accept criminal behavior, were more likely to trust the social system and had higher levels of satisfaction with life, tended to have higher levels of confidence in the police (Cao and Hou, 2001). It was also found that when Chinese citizens were less positive about the competence and integrity of the government, more worried about public safety, crime, and corruption, and less satisfied with their quality of life, they were more likely to have low trust in the police (Wu and Sun, 2009). Clearly, more empirical research is needed to understand the correlates of Chinese perceptions of the police, especially those crime- and criminal justice-related experience factors.

Methods

Data Source and Sample

Survey data were collected from two Chinese cities during the summer and fall of 2008. The first city is a large, cosmopolitan city in Northern China (hereafter the Northern city) and the second is a small, more homogeneous coastal city in Southeast China (hereafter the Southeast city). In the Northern city, data were collected from two universities, both being large, high-ranking institutions with students originally from different areas of the country. In the Southeast city, data were collected from one medium-size, middle-ranking university with the majority of students being local, in-province. The sampling strategies used in both cities were convenience and snowball samplings. Considering the highly restricted nature of public information in China and the limited resources that the researchers had, a random sampling of students in these universities was impossible. Efforts, however, were made to obtain a sample that had enough variance and representation of the diversity on the demographic makeup and discipline of the students in these institutions.

The first avenue for survey distribution was through dormitory rooms. Most Chinese college students lived in on-campus dorms. One of the researchers went to dozens of dorm rooms in the two universities in the Northern city at evenings when students were most likely to be there, introduced herself, explained the project, and asked the students if they were willing to participate in the study. If the students agreed to fill out the survey, the researcher would return to the room in about half an hour to collect the completed survey. Considering that students were assigned to dorm buildings based on their grade, major, and gender, samples were drawn from different dorm buildings.

The second avenue to reach potential respondents was through classes. The researchers obtained support and assistance from their friends who were faculty members in these universities. The survey was distributed to and collected from students through faculty members or researchers themselves at the beginning of the class. Either way, students were encouraged to ask questions if they had any. Students were also assured that their participation would be completely voluntary

and non-participation would not bring any negative consequence to their performance in these classes. Students who declined to participate were thanked for considering to participate and asked to wait quietly while fellow classmates completed the questionnaire.

The last channel to recruit respondents was through personal connections. Based on snowball sampling techniques, one of the researchers asked her friends who were students in these universities to introduce her and this project to their friends and in this way had more students participate. This sampling strategy proved to be helpful in recruiting students from different majors and grades. In addition, being referred to the research project by friends or classmates that the respondents knew and trusted upon gave them more comfort to reveal true opinions.

All participants were informed through written text on the cover page of the questionnaire and verbal directions about the issues of voluntariness, anonymity, and confidentiality. Participants were told that they could withdraw from the study at any time or skip any questions as they wanted. Participants were also reminded not to write their names anywhere on the questionnaires because the researchers did not want to know who they were. All completed surveys were taken back to the USA, kept in locked cabinets in the researchers' offices, and destroyed after one year. The researchers were the only ones who had the access to the completed questionnaires.

A total of 500 surveys were collected. Cases with missing data were dropped from the analysis, resulting in a final sample of 421 students. There were virtually no differences between respondents included in and excluded from the sample, and exclusion did not confound results in any significant way. In the final sample, 296 students were from the Northern city, and the remaining 125 were from the Southeast city. Approximately 59 percent of the students were female and 41 percent were male. The age of the respondents ranged from 17 to 38, with an average of 21.4 years. In terms of year in college, the largest proportion of respondents was freshmen (26.8 percent), followed by sophomore (26.4 percent), postgraduate (21.9 percent), junior (21.1 percent) and senior (3.8 percent). About 41.3 percent of the students were law and medical school majors, 26.1 percent were in natural sciences or engineering, 18.1 percent were in business and economics, 14.0 percent were in social sciences, arts or humanities, and another 0.5 percent identified themselves as in "other" majors. When it came to students' SES, measured by three variables – i.e. father's education, mother's education, and household income – the majority of the students seemed not have an economically advantaged family background. Respectively, 38 percent and 50 percent of the students reported that their father or mother had only middle school education or lower. Over half of the respondents (52 percent) reported that their total household income per month was less than 3,000 RMB (*renminbi* or *yuan*, the Chinese currency; around \$450).

Dependent Variables

This study included four dependent variables. They measured four dimensions of Chinese college students' perceptions of the police, i.e. global satisfaction, and

specific evaluations of police fairness, effectiveness, and integrity. The first dependent variable, global satisfaction with the police, was measured by a single item asking respondents in general how satisfied they were with the police officers who served their areas. The response categories included 1 = very dissatisfied, 2 = dissatisfied, 3 = satisfied and 4 = very satisfied.

The second dependent variable, perception of police fairness, was measured by a scale of two items. The respondents were asked if they agreed that “Police treat wealthy people better than poor people” and that “Police treat local people better than non-local people”. The design of the second question was unique. Different from the USA, China has a household registration system which poses a strict control on domestic population mobility. Whether or not a person is a local resident (versus a floating person) could become a salient feature of living experience of that person. Responses to these questions ranged from 1 = strongly agree to 4 = strongly disagree; thus, a higher score indicated a more positive view of police fairness. The scale had a Cronbach’s α of 0.70, suggesting an acceptable internal consistency.

The third dependent variable, perception of police effectiveness, was an additive scale of five items that asked respondents whether they agreed that local police “respond quickly to calls for help and assistance”, “do a good job in solving crime”, “do a good job in preventing crime”, “do a good job in responding to crime victims”, and “are able to maintain order on the streets in the neighborhood”. Response categories ranged from 1 = strongly disagree to 4 = strongly agree. A higher score on the scale represented a more favorable view of police effectiveness. The scale had a Cronbach’s α of 0.79, suggesting a good reliability.

The last dependent variable, perception of police integrity, was constructed by an additive scale comprised of three items. The respondents were asked whether they agreed that “local police are honest”, “local police are corrupt”, and “local police often abuse their power”. Responses to these questions ranged from 1 = strongly disagree to 4 = strongly agree. The items about police corruption and abuse of power were reverse coded, so for all three items, the higher the score was, the higher rating the respondents gave to police integrity. The Cronbach’s α was 0.69, suggesting an acceptable reliability.

Independent Variables

Three groups of independent variables were examined in this study:

- (1) individual demographic characteristics;
- (2) experience with crime and criminal justice; and
- (3) perception of quality of life.

City effect was controlled. First, demographic variables included gender, age, class, and college major. Gender was a dichotomized variable (0 = male; 1 = female) and age was measured in years. The factor of class was constructed by three items:

- (1) father's highest level of education;
- (2) mother's highest level of education; and
- (3) average household income per month.

Both father's and mother's education were measured in categories ranging from 1=illiteracy to 7=graduate degrees. The household (parents) income per month consisted of ten categories ranging from 1=less than 1,000 RMB to 10=20,000 RMB and above. These three items loaded highly on the factor of class, with factor loadings between 0.75 and 0.90. The factor had an eigenvalue of 2.17 and explained 72 percent of the variance across the items. College major was coded as a dummy variable, with 1 representing disciplines in liberal arts and social sciences and 0 representing disciplines in natural sciences, engineering, and business.

The second group, experience with crime and criminal justice, consisted of five variables. The first variable, personal contact with the police, was tapped by asking the respondents if they had been in contact with the local police for any reason in the past 12 months (0=no; 1=yes). The second variable, vicarious experience with the police, was measured by asking the respondents if they had any of their family members, relatives, or close friends be in contact with the local police for any reason in the past 12 months (0=no; 1=yes). The third variable was experience of victimization, measured by asking the respondents if they had been a crime victim during the past three years (0=no; 1=yes). The fourth variable, fear of crime, was an additive scale summing the responses to one general question asking "How fearful are you about crime in your area?" (answers ranged from 1=not at all fearful to 4=very fearful) and two more specific questions asking how often they worried about becoming victim of violent crimes and property crimes respectively (answers ranged from 1=never to 4=frequently). The Cronbach's α for the scale was 0.70. The last experiential factor was media exposure to police misconduct, measured by asking the respondents how often they heard or read (on the radio, television, internet or in the newspapers) about incidents of police misconduct (such as police use of excessive force, verbal abuse, corruptions, and so on) that occurred somewhere in the nation. The responses ranged from 1=never to 4=often.

The third group of independent variables included one variable, i.e. perceived quality of life, which was measured by asking respondents how satisfied they were with the quality of their lives. The responses included four categories from 1=very dissatisfied to 4=very satisfied. Lastly, the potential city effect was controlled (0=the Southeast city; 1=the Northern city). It should be noted that preliminary data analysis showed that there was no university effect across the two institutions in the Northern city[1]. Thus the university effect was not controlled. Table I displays the descriptive statistics for all variables used in this study.

Analysis

To address the first question about Chinese college students' global and specific perceptions of the police, frequency distributions and descriptive statistics were

Table I: Descriptive statistics for variables

	Mean	SD	Minimum	Maximum
<i>Dependent variables</i>				
Global satisfaction	2.51	0.65	1.00	4.00
Fairness	3.76	1.41	2.00	8.00
Effectiveness	12.03	2.72	5.00	20.00
Integrity	6.83	1.81	3.00	12.00
<i>Independent and control variables</i>				
<i>Demographic characteristics</i>				
Female	0.59	0.49	0.00	1.00
Age	21.35	2.65	17.00	38.00
Class	0.00	1.00	-1.92	2.55
Liberal arts and social sciences	0.55	0.50	0.00	1.00
<i>Crime and criminal justice experience</i>				
Personal police contact	0.16	0.37	0.00	1.00
Family/friends police contact	0.18	0.38	0.00	1.00
Crime victim	0.24	0.43	0.00	1.00
Fear of crime	7.82	1.86	3.00	12.00
Media exposure	3.02	0.65	1.00	4.00
<i>Quality of life</i>				
Perceived quality of life	2.68	0.64	1.00	4.00
<i>Locality</i>				
The northern city	0.70	0.46	0.00	1.00
Note: $n = 421$				

used. To answer the second question concerning correlates of Chinese college students' perceptions of the police, both ordinal logistic regression and ordinary least squares regression were used. Specifically, ordinal logistic regression was employed to examine one of the dependent variables, global satisfaction with police, which was an ordered categorical variable. The assumption of parallel lines across all levels of the dependent variable for ordinal regression was tested, and the result supported the assumption. The intercorrelations among the independent variables were examined and none of the correlation coefficients exceeded 0.55. Meanwhile, ordinary least square regression was employed to examine the other three dependent variables, perceptions of fairness, effectiveness and integrity, all of which were continuous variables. For each of the ordinary least square regression, variance inflation factors (VIF) were checked and the results confirmed that multicollinearity was not a concern. The histograms of standardized residual and the normal probability tests (graphs not shown) indicated that the normality of residual errors were not a problem, and by plotting studentized residuals against each independent variable, heterogeneity and non-linearity were found not problems.

Results

Global and Specific Perceptions of Police

How do Chinese college students view their local police? Table II presents the frequency distributions and descriptive statistics of the items that were used to measure college students' global satisfaction with the police and specific satisfaction with police fairness, effectiveness, and integrity. To start with, over half of the sample students expressed a positive view toward the police in general. Specifically, 1.4 percent of the respondents reported that they were "very satisfied" with local police, and 55.1 percent were "satisfied". The rest of the respondents reported that they were either dissatisfied (36.1 percent) or very dissatisfied (7.4 percent) with their local police.

Regarding assessment of specific areas of police performance, the foremost attitudinal pattern observed was that specific attitudes toward the police among Chinese college students were much less positive than their global attitudes. First, the perception of unequal treatment by the police based on citizens' social class or local residency was widespread. Respectively, 84 percent and 80 percent of the respondents strongly agreed or agreed that "Police treat wealthy people better than poor people" and "Police treat local people better than non-local people". Second, Chinese college students had a mixed view on police effectiveness. One performance area – order maintenance – appeared to be most satisfactory among students. Around 64 percent of the respondents agreed that police were able to

Table II: Percentage distributions of perceptions of police performance

Dimensions and items	(1)	(2)	(3)	(4)	Mean	SD
<i>Global satisfaction</i> ^a						
Satisfied with police in general (percent)	7.4	36.1	55.1	1.4	2.50	0.65
<i>Police fairness</i> ^b						
Wealthy treated better than poor (percent)	40.1	43.9	10.5	5.5	1.81	0.83
Local treated better than non-local (percent)	29.0	50.6	17.1	3.3	1.95	0.77
<i>Police effectiveness</i> ^c						
Respond quickly to calls (percent)	12.4	43.9	36.1	7.6	2.39	0.80
Good job in solving crime (percent)	11.6	43.7	39.4	5.2	2.38	0.76
Good job in preventing crime (percent)	15.9	51.3	29.0	3.8	2.21	0.75
Good job in responding to victims (percent)	7.6	48.7	40.4	3.3	2.39	0.68
Able to maintain order on streets (percent)	5.5	30.9	56.5	7.1	2.65	0.69
<i>Police integrity</i> ^c						
Honest	13.1	44.9	37.3	4.8	2.34	0.76
Not corrupt	15.9	46.1	33.3	4.8	2.27	0.78
Not often abuse power	16.2	49.6	29.9	4.3	2.22	0.76

Notes: ^a(1) Very dissatisfied, (2) Dissatisfied, (3) Satisfied, (4) Very satisfied. ^b(1) Strongly agree, (2) Agree, (3) Disagree, (4) Strongly disagree. ^c(1) Strongly disagree, (2) Disagree, (3) Agree, (4) Strongly agree. *n* = 421

maintain order on streets in the area. Evaluations of other performance areas, however, were less optimistic. Merely 44 percent of the respondents agreed that police did a good job in responding to crime victims. A similar percentage of respondents agreed that police responded quickly to calls for help and assistance. The ratings on police ability to prevent crime were especially low – less than 33 percent of the respondents agreed that police did a good job in preventing crime. Third, Chinese college students consistently expressed low confidence in police integrity. Less than half of the respondents agreed that local police were honest (42 percent). Meanwhile, over 60 percent of the respondents thought that local police were corrupt (62 percent) and often abused their power (66 percent).

Factors that Shape Perceptions of Police

What factors are predictive of Chinese college students’ perceptions of the police? Table III presents the results of the multivariate regression models for students’ global satisfaction with the police and specific views of police fairness, effectiveness, and integrity. In the global satisfaction model (ordinal logistic regression results shown in the first panel of Table III), one demographic characteristic, i.e. gender, exerted a significant effect on students’ attitudes toward the police. Female college students were more likely to be satisfied with the police than

Table III: Multivariate regression summary

Variables	Global satisfaction ^a		Fairness ^b		Effectiveness ^b		Integrity ^b	
	<i>b</i>	SE	<i>B</i>	SE	<i>b</i>	SE	<i>B</i>	SE
<i>Demographic characteristics</i>								
Female	0.47 *	0.23	0.23	0.15	0.19	0.28	0.10	0.18
Age	0.04	0.04	0.00	0.03	0.03	0.05	−0.04	0.03
Class	0.22	0.12	0.13	0.08	0.21	0.15	0.04	0.10
Liberal arts and social sciences	−0.23	0.25	0.19	0.16	−0.82 **	0.30	−0.35	0.20
<i>Experiential factors</i>								
Personal police contact	0.06	0.30	0.40 *	0.20	0.24	0.37	0.10	0.25
Family/friends police contact	0.08	0.28	−0.17	0.18	0.31	0.34	0.28	0.23
Crime victim	−0.57 *	0.25	−0.12	0.17	−1.20 ***	0.32	−0.33	0.21
Fear of crime	−0.06	0.06	−0.13 ***	0.04	−0.11	0.07	−0.16 ***	0.05
Media exposure	−0.93 ***	0.17	−0.47 ***	0.11	−0.89 ***	0.20	−0.66 ***	0.13
<i>Quality of life factor</i>								
Perceived quality of life	0.63 ***	0.17	0.02	0.11	0.58 **	0.21	0.33 *	0.14
<i>Locality</i>								
The northern city	0.90 **	0.29	−0.52 **	0.19	−0.26	0.36	−0.15	0.24
<i>R</i> ²	0.25		0.11		0.16		0.16	
Notes: ^a Ordered logit estimates. ^b OLS estimates. * <i>p</i> ≤ 0.05; ** <i>p</i> ≤ 0.01; *** <i>p</i> ≤ 0.001; <i>n</i> = 421								

males. The log odds of satisfaction with the police increased 0.47 units from men to women. Two of the experiential factors – i.e. victimization and media exposure – also shaped students' overall view of the police. Both the experience of being a crime victim and frequent exposure to media reports of police misconduct lowered the odds of overall satisfaction with the police. The effect of quality of life was also noticeable. For a one-unit increase in students' satisfaction with their life quality, a 0.63-unit increase was expected in the log odds of their global satisfaction with the police. Finally, locality was important. Students in the Northern city, compared to their Southeast counterparts, expected a 0.90-unit increase in the log odds scale pertaining to their satisfaction with the police.

The second panel in [Table III](#) shows the ordinary least squares regression results for the police fairness model. Among the independent variables, three had significant effects on the outcome variable, all of which being experiential variables. Respondents who had recent personal contacts with police tended to agree that the police gave equal treatment to citizens, regardless of citizens' social class and local residency. Meanwhile, fear of crime was found to be negatively related to respondents' view of police fairness. Those who had a higher level of fear of crime had a lower level of satisfaction with police fairness. Finally, media exposure to police misconduct was negatively associated with students' perception of police fairness. Respondents who were exposed to more media depictions of police misconduct tended to rate police fairness significantly lower. Finally, locality made a difference. Students in the Northern city thought less positively of police fairness than did those in the Southeast city. The explanatory power of the independent variables in the fairness model was relatively weak, indicated by an R^2 of 0.11.

Looking at the effectiveness model, students' evaluation was significantly related to four factors:

- (1) college major;
- (2) victimization;
- (3) media exposure; and
- (4) perceived quality of life.

College students who majored in liberal arts and social sciences were found to hold a more critical view of police effectiveness than those who majored in sciences, engineering, and business. Not surprisingly, crime victims rated police effectiveness significantly lower than those who did not have recent victimization. Meanwhile, respondents who experienced more media coverage of police misconduct rated police effectiveness lower than those exposed to less media coverage of police misconduct. Finally, respondents who perceived their quality of life positively tended to perceive police performance in crime control, order maintenance, and service provision positively. About 16 percent of the variation in Chinese college students' perception of police effectiveness was accounted for by the explanatory variables.

The last panel of [Table III](#) displays the results from the integrity model. Three independent variables were significant predictors of students' view of police integrity:

- (1) fear of crime;
- (2) media exposure; and
- (3) perceived quality of life.

The more fearful the respondents were about crime and the more exposed they were to media coverage of police misconduct, the less favorable views they held about the integrity of the local police. On the other hand, the more satisfied the respondents were with their quality of life, the more positive they were about police integrity. The independent and control variables together explained approximately 16 percent of the variation in Chinese college students' perception of police integrity.

Discussion

Several interesting findings emerged from this study. First, the perceptions of the police among Chinese college students cannot simply be described as largely "positive" or "negative", or "satisfied" or "dissatisfied", because their perceptions are heavily conditioned on which areas of police performance that are examined. This study found that while over half of the students expressed a global satisfaction with the police, they held substantially less positive views of police fairness, effectiveness, and integrity. In fact, the vast majority of the respondents did not believe that their local police treated wealthy and poor citizens equally, or local and non-local residents equally. Similarly, a majority of respondents did not consider their local police as honest, upright, or ethical, and over half of the respondents had doubts regarding the police's ability to effectively respond to crime, solve crime, prevent crime, or handle crime victims.

Compared to previous research (e.g. [Wu and Sun, 2009](#); [Xu and Chen, 1995](#); [Yu and Gao, 2001](#)), this study seems to paint a much more gloomy picture of Chinese perceptions of the police. It is possible that college students (the sample of this study) indeed evaluate the police more critically than the general public (samples of previous studies). For one thing, college students tend to be young, and previous research has shown that younger people are more likely than older people to view police negatively. Also, college students tend to be more liberal and might be more accepting of ideas such as regulation of police power and protection of human rights. There are, however, two other possibilities. First, previous studies such as that of [Wu and Sun \(2009\)](#) did not use multiple items to capture the multifaceted nature of public perceptions of the police. It is possible that if they did, they might have reached a similar result – that Chinese citizens viewed specific areas of police performance more negatively than their global view of the police. Second, previous studies conducted by Chinese police officers (e.g. [Xu and Chen, 1995](#); [Yu and](#)

Gao, 2001) might not follow a rigorous research procedure. Particularly, principles of voluntariness, anonymity and confidentiality might not be as well implemented as in this study, and thus respondents may not feel comfortable enough to freely express their opinions or might inflate their positive assessment of the police. Given all these possibilities, it is clear that more empirical research is warranted to gauge the extent of Chinese satisfaction with the police and police performance.

Second, crime and criminal justice experiences appear to be quite predictive of Chinese college students' evaluations of the police. With the exception of family/friend contacts with police, each of the other experiential factors was closely related to at least one attitudinal model, with media exposure significant in all four models and victimization and fear of crime in two models. This finding is in line with results from most studies conducted in the USA, which found that victimization, fear of crime, and media exposure were important predictors of citizen perceptions of the police (e.g. Cao *et al.*, 1996; Homant *et al.*, 1984; Koenig, 1980; Weitzer and Tuch, 2004; Wu *et al.*, 2009). This finding confirms the inadequacy of previous research on Chinese attitudes toward the police, since none of them have considered this line of variables. Future research on this topic clearly should continue incorporating crime and criminal justice factors into analysis.

Finally, regarding perceptions of quality of life and locality matter in explaining Chinese college students' perceptions of the police, it is not surprising to see a positive connection between perceived quality of life and evaluations of police performance. This finding is consistent with results from previous research based on both Chinese and American data (Cao and Hou, 2001; Cao *et al.*, 1998; Dowler and Sparks, 2008; Frank *et al.*, 1996; Reisig and Parks, 2000; Wu and Sun, 2009). What is intriguing is the effect of locality. While students in the Northern city were more likely than those in the Southeast city to have higher global satisfaction with the police, they had lower satisfaction with police fairness.

This seemingly contradictory result might reflect the variations in the two cities, the police who serve the cities, and the students who live in the cities. On one hand, police in the large Northern city overall tend to have a stronger education and training background than those in the small Southeast city. This might contribute to a higher professionalism and better service provided by the Northern city police, which could lead to more positive overall feedback from the public. On the other hand, to explain the less favorable views of police fairness held by students in the Northern city, we might need to take into consideration the fact that students in the Northern city are mostly non-local, while students in the Southeast city are mostly local. It is reasonable to expect that people who are in the residential minority group (i.e. non-locals) would have a higher level of sensitiveness to differential treatment by the criminal justice system based on citizens' residential status than people who are residential majorities (i.e. locals). This reasoning is in line with the group position thesis in the USA. The thesis posits that an individual's view of the police reflects the collective sentiments of the group that he/she belongs to, and minorities as a group tend to perceive police as protecting the majority group's interests and controlling their own group, and thus hold less favorable views of the police (Blumer, 1958; Bobo and Hutchings, 1996; Bobo and Tuan, 2006; Weitzer and

Tuch, 2006). Applying this argument to China, where residential mobility is highly controlled, residential majorities are more likely to perceive police as critical and scarce resources with which their interests and superiority are ensured, while residential minorities are more likely to perceive police as controlling themselves unfairly. More empirical data are needed to either support or refute these speculations.

Before discussing policy implications, several limitations associated with this study should be noted. First, the findings from this study have a limited generalizability because data were collected from a small number of universities, and within each university a non-probability sampling method was used. Although the universities in the two cities have substantial variations (e.g. north versus south, high-ranking versus middle ranking, and national versus regional), they could not represent sufficiently the diverse nature of all Chinese universities. As such, we believe that our findings can be most appropriately generalized to college students who study in similar types of institutions in the same geographical areas. Future research should therefore recruit more students from universities with different characteristics in different geographical areas (e.g. smaller colleges in rural China).

Second, some of the measures in this study may not adequately reflect the complex connections between individual experiences and perceptions of police performance. For example, the variable “contact with police” was measured by a single item asking whether students had had a recent encounter with the police. A better measure should include more information such as the reason for the contact (e.g. traffic violation versus asking officers for information), type of contact (e.g. voluntary versus involuntary), and police performance during the contact (e.g. polite versus rude) to untangle the link between contact with police and satisfaction with police. Similarly, the measurement of the variable “quality of life” could be improved by tapping into citizens’ perceptions of various aspects of quality of life.

Thirdly, due to the cross-sectional nature of this study, causal inference is difficult to make. Like most other studies on attitudes toward the police, this study could only provide a “snapshot” of Chinese college students’ perceptions of the police and the characteristics associated with such perceptions at a specific point in time. Future research could collect observational data through methods such as police “ride-alongs” and document the causal relationship between factors, such as resident-police interactions and citizen perceptions of the police.

The findings of this research bear some important implications for policy. It is found in this study that experiential factors, rather than individual background characteristics, are significant predictors of college students’ evaluations of the police. As such, efforts should be made to generate more positive experiences for the public, including college students. This may be easier said than done in a society where citizens often complain about the absence of integrity and accountability of the police while police officers frequently raise concerns about a lack of respect for law and authority by citizens. Nevertheless, it is never too late to seek effective ways to cultivate such positive experiences. To improve citizens’ understanding of the police and foster better police-community relations, Chinese police administrators should consider implementing useful programs and practices, such as citizen police

academy, school resource officers, and citizen ride-along programs, which have been widely used by American police departments. These activities can be designed to specifically target college students and can be actively promoted on police departments' websites and in the public media.

Another area that is worthy of consideration is improving the image of the police through the media. The key is not to influence the portrait of police officers and their activities reported by the state-owned newspapers and television stations, since the official media seldom carries negative news regarding the police. Instead, attention should be paid to information that is available on the internet, which has become the primary source of reference for many educated and young Chinese citizens. Political leaders and police administrators need to act swiftly to refute any rumors or incorrect information about illegal or corrupt police behavior posted on the internet and, even more importantly, to admit wrongdoing and take responsibility if any violations of law or policies by officers or departments are confirmed.

Police departments can also take advantage of the power of the internet to enhance the quality of their services by, for example, allowing citizens to apply for various licenses and household registration, pay traffic fines, report crimes, and make complaints online. Providing quality services to citizens can serve as a starting point to improve citizens' perceptions of the police. Eventually, the establishment of an open and accountable police force that serves and protects the interests of the people rather than political and party leaders and wealthy businessmen has to be the ultimate goal in the hearts and minds of all police officers and administrators.

NOTE

1. Specifically, cross-tabulation was used to examine potential university-level variation in college students' global satisfaction with the police, and mean comparison was used to compare the average levels of positive assessment of police fairness, effectiveness, and integrity between students in the two universities.

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Performance Management in Police Agencies: A Conceptual Framework

Jon M. Shane

Abstract

Purpose – The purpose of this paper is to define a systematic management structure that helps police practitioners institutionalize performance management and analysis in more rational-technical ways.

Design/methodology/approach – The design is based on Gold’s “complete participant” field researcher method.

Findings – The findings suggest a performance management model is more rational than the traditional command-control model and may increase consistency in police management by systematically collecting and reporting on streams of data to measure performance instead of relying on rote compliance.

Research limitations/implications – The model is limited because it does not account for important intangible qualities of performance (e.g. attitude, initiative, judgment); in the hands of autocratic managers it can be oppressive and cause more problems than it solves; it may constrain officer discretion; it has not been advanced as a learning instrument; and performance indicators are subject to measurement error.

Practical implications – Most police agencies are already capturing the necessary data elements to implement a performance management model. Police executives and policymakers can use this model to definitively measure how well police agencies and individual programs are performing.

Originality/value – The paper represents an opportunity for police practitioners to embrace a new management process intended to improve performance and accountability. The framework is a universal management process that can be applied to any size police agency or any police program.

Keywords: Police; Performance management; Performance measures

Introduction

Performance management is a systematic effort to improve performance through an ongoing process of establishing desired outcomes, setting performance standards, then collecting, analyzing and reporting on streams of data to improve individual and collective performance (Whitaker *et al.*, 1982). Policing has begun adopting this is evolving management paradigm, which represents a departure from the traditional management approach police agencies are accustomed to working with. Traditional police management and supervision place an emphasis on compliance through command and control doctrine, “means over ends” (Goldstein, 1979, p. 238) and symbolism (i.e. “appearances”) (Manning, 1978, p. 192), consistent with institutional theory of the police (Crank, 2003; Crank and Langworthy, 1992; Mastrofski and Uchida, 1996; Meyer and Rowan, 1977). From the top of the organization to the bottom, compliance[1] is the watchword: strict compliance with policy, rules, regulations, verbal orders and written directives are at the root of police officers’ activities, often at the expense of performance (Alpert and Smith, 1994; Cordner, 1989; LeBrec, 1982; Merton, 1940). This management paradigm tends to create stagnation and indifference toward clientele (Kaufman, 1973; Mastrofski, 1998) by sapping the energy and initiative from employees. As such, it is difficult at best to motivate employees to work toward a common goal, with a collective sense to be productive and it is difficult to measure agency success.

Except for some limited research on strategic management in police organizations (Moore and Stephens, 1991) and the recent Compstat literature on reengineering police management (Bratton, 1998; Kelling and Bratton, 1998; Magers, 2004; Moore, 2003; Moore and Braga, 2003; Walsh, 2001; Walsh and Vito, 2004; Weisburd *et al.*, 2003; Willis *et al.*, 2007), little is known about the management processes police departments use to carry out their daily responsibilities and the relationship between those processes and intended outcomes. This implies developing a more practical management model and encouraging police executives to implement it could add value to a largely unknown dimension of police management.

Methodology

The concept for this paper was developed during my tenure as a command-rank officer in the Newark, New Jersey (USA) police department. This paper relies primarily upon written management plans, notes and observations I made over the course of 20 years of participant-observation in policing, ten of which were spent at the supervisory, middle-management and command level. My position afforded me unique access to the internal functions of a major urban police department at the executive level, which provides a distinct perspective on the backstage setting, politics and operations that occur in policing. My daily interactions were typically with mid-level and upper-level management police personnel who had responsibility for personnel and program performance as well as senior elected officials. My role as

commanding officer of the research, analysis and planning division was to develop policies and programs to ensure the agency was working as efficiently and effectively as possible.

Participant-observation is perhaps the most tangible method to systematically collect data on police management. With such an extended period of time in the field, I had the opportunity to gain rare insight into police administration from a perspective often closed to outsiders. It was also an opportunity to contemporaneously record temporal/causal sequences as they occurred instead of relying on muddled notes and recollection. I was able to view policing through several successive elected administrations and appointed police administrations, over different social and economic periods and over a new generation of police officers. The issues confronting the agency were virtually the same regardless of the season, policing style or political culture.

Based on my experience, conversations with colleagues across the world and the literature, I developed a cause and effect diagram that served as the template. This helped me identify substantive issues related to the agency's social and political purpose with an emphasis on the agency's mission as the foundation. With the mission as the foundation, it was possible to create a rational structure that can be evaluated empirically.

Literature Review

Police departments are complex government agencies that come in various forms with an amalgam of intricate responsibilities (Bayley, 1985; Goldstein, 1977) and they are organized along bureaucratic lines (Weber, 1946). Similar to Frederick Taylor's *Principles of Scientific Management* (Taylor, 1911), employees are not paid to think, but to follow their superior's orders – right, wrong or indifferent (Stinchcombe, 1980). The ostensible benefits are “rationality, predictability, impersonality, technical competence and authoritarianism” (Nigro and Nigro, 1973, p. 97). However, the efficiencies and “scientific principles” advocated by Taylor (1911), Fuld (1971), Weber (1946) and some forward-thinking police chiefs of the time (Gazell, 1976; Vollmer, 1936; Wilson, 1950) never reached their full potential during policing's professional era. Nearly 90 years after the professional movement began, modern policing still faces some of the same management problems of yesterday including an underdeveloped technical core and the outmoded command and control management style along with some contemporary issues such as role complexity and rising egalitarianism.

Rational-Technical Theory

The impetus for government agencies to perform more efficiently and effectively is partly attributable to the Government Performance and Results Act of 1993. This Congressional measure ensures that federal agencies produce strategic plans so

those agencies potentially become better at delivering service. Embedded in these plans is the necessity that agencies redefine their business methods in more rational ways; rational in this sense is aimed at measuring aspects of the agency such as input, output, intermediate objectives, outcome, strategies, work processes and resources, all of which combine to hopefully improve performance.

The rational-technical theory of organizations, as applied to a police department, suggests the agency comports within a normative framework. The normative framework implies the organization behaves and is structured in a manner designed to optimize efficiency and effectiveness toward specific goals (e.g. controlling fear crime and disorder, delivering public value through budgeting accountability, reverence for law and authority, citizen satisfaction) (Thompson, 1967; Blau and Schoenherr, 1971). The intent is to address real issues facing the agency – offender accountability, response time, citizen complaints, crime and disorder – while concurrently synthesizing the interests held by a collection of powerful actors who hold sway over the organization (Crank, 2003; Crank and Langworthy, 1992; Moore, 1995).

Problems Confronting Police Management Structures

Some weaknesses of current police management systems

Police forces across the UK and, to a slightly lesser degree, the USA are prominent users of performance management models. In the USA, Compstat has emerged as the leading performance management process. In the UK, police forces are using a more structured framework that is driven by experiences in policing, academia and the private sector. Both processes show promise of creating rational management structures, but also show some weaknesses.

Recent research on Compstat suggests that, while an important and progressive step toward a more rational-technical method of police management, the model reinforces much of the traditional police bureaucracy (Willis *et al.*, 2003, pp. 448; Willis *et al.*, 2004, p. 468) and the evidence is inconclusive as to whether it reduces crime (Eck and Maguire, 2006; Rosenfeld *et al.*, 2005; Weisburd *et al.*, 2003). Compstat's confrontational "show trial"[2] forum tends to increase employees' psychological defensiveness, which prevents lower-ranking officers from sharing potentially replicable ideas (Delorenzi *et al.*, 2006, p. 37). This is because voicing their opinion in the traditional police bureaucracy is often interpreted as subtle criticism of their commander who did not think of the idea first. Consequently, officers keep quiet – the path of least resistance.

By design, the Compstat model is aimed at holding mid-level managers and command-rank officers accountable for performance but fails to reach the line officers. The officers who actually deliver police services rarely, if ever, appear at Compstat to answer for their performance and rarely must they meet established targets. My experience is that without having to account for their performance, officers may be given to indolence, apathy and may shirk their responsibilities. Individual performance becomes a contest of ingenuity, a trifling game of "catch me if you can"

between line officers and management, where line officers snicker and try to out-smart supervisors in their daily work as they try to avoid accountability in the “us” (line officers) against “them” (managers) work environment (Reuss-Ianni, 1984). Although this is by no means universal, it occurs frequently enough to warrant some observers to suggest a small percentage of officers perform the lion’s share of work while the others abrogate their responsibilities in a “game of bluff” (Maple and Mitchell, 1999, p. 6). All of this is contrary to Compstat’s theoretical proposition that it was designed, at least partly, to disentangle the performance problems created by traditional police management.

Across the UK, a culture of police performance has become embedded in police forces. Britain’s Home Office (1999) views performance measures as an incentive to improve service delivery and has published several papers, reports and guides on performance.[3] However, cash-limited budgets have produced some conflict between allotted financial resources and pressure to increase productivity, resulting in unintended consequences for professional integrity and human rights, which ultimately affect legitimacy (Collier, 2001).

As budgets become more limited, police have prioritized efficiency, which means getting more done with fewer resources. Yet, simply increasing funding or staffing levels does not necessarily translate into better performance (e.g. a lower crime rate or a higher clearance rate; Audit Commission, 1997, p. 12). Concerned with “numbers”, the police may sacrifice legal mandates and due process rights in the interest of crime control and efficiency (Lawrence Inquiry, 1999, p. 312). Social pressure to increase productivity while concurrently lowering expenditures may partly explain the gradual erosion of professional standards in some UK police agencies, which has led to increased citizen complaints and at least one case of in-custody death (Police Complaints Authority, 1999). This has also led police forces in England, Wales and Northern Ireland to “trawl the margins” in an effort to portray police performance in the best light (Collier, 2001, p. 36, citing HM Inspectorate of Constabulary, 1999). As a result, critics have called for a renewed emphasis on individual rights and social values in an effort to find common ground between the values expressed by due process and the competing values of crime control (Packer, 1968).

An underdeveloped technical core

In the broadest sense, the technical core of a business is the work performed by the organization, where technology is employed to produce a desired outcome (Scott, 1992). Technology includes the intellectual and physical capital, tactics and strategies used by the agency to process raw materials toward a particular outcome – in policing, raw materials are information, citizens, victims, offenders, and places. My experience is that desired outcomes in policing are often not operationalized, leaving the agency with a poor understanding of how to apply technology to execute its responsibilities. Often subject to political meddling or budget constraints, the police agency’s task environment is subject to limitations and shifting priorities, including power relations that are necessary to sustain the environment (Moore, 1995). The task environment includes environmental factors that impinge on the work of the

agency or shape its structure and function including citizens, social and physical attributes of the community and other elements of the criminal justice system (Maguire and Uchida, 2000, p. 535). The amorphous loose-knit operational style that arises in this environment leaves officers and managers to choose an individual course of action as they go along, perhaps relying on intuition, perceptions and experience, instead of a pre-determined plan supported by data and technology. This is the product of “mock” bureaucracy (Bradley *et al.*, 1986) that reduces many police officers to “casual, lackadaisical, offhand, ad hoc and lowly motivated” employees (Punch, 1983, p. xii).

What tends to keep the technical core of policing from developing is the failure to articulate the specific services to be provided then shaping the organization to deliver those services. For example, police agencies deliver more services than just crime control but frequently subordinate the service orientation to the law enforcement function. Then, they adopt an organizational structure, complete with wartime rhetoric (i.e. the war on crime, the war on drugs, the war against terrorism) that embraces the law enforcement function and ignores the balance of their social responsibilities. This may leave the community dissatisfied by the lack of attention to their other needs or enraged by oppressive tactics (e.g. Gould and Mastrofski, 2004; McArdle and Erzen, 2001). In response to that dissatisfaction and to perceived external pressure for change, police agencies use symbolic means to improve appearances. This creates false favorable impressions with the aim of preserving the status quo and offers little if any substantive improvement (Edelman, 1964; Lorinskas *et al.*, 1985). The real business of the agency – its technical core – never gets accomplished because the agency is chasing symbolism over substance.

Role complexity

The role of the chief executive has become more complex. Litigation and investigative commissions affect police operations, administration and policy (*Escobedo v. Illinois*, 1964[4]; *Knapp Commission*, 1972; *Mapp v. Ohio*, 1961[5]; *Miranda v. Arizona*, 1966[6]; *Mollen Commission*, 1994; *Rampart Independent Review Panel*, 2000). The convergence of litigation, information/technology and the shift from traditional to community/problem-oriented policing have created new demands necessitating changes in the way police organizations are managed (Redlinger, 1994). Based on my observations, it is simply less possible – if not impossible – for today’s police chiefs to exercise direct control over every organizational element than years past, regardless of their individual talent. It is also imprudent to try and do so by micromanaging the organization at the expense of leadership, particularly with technically and emotionally competent employees (Whisenand and Ferguson, 1996).

The complex role necessitates devolving decision-making authority to mid-level managers and front-line supervisors who work toward predefined performance standards set inside a logical framework. This frees the chief executive to concentrate on high level policy details instead of daily minutia, where the chief can steer while the workforce rows.

The rise in egalitarianism

Worldwide, hierarchical institutions are leveling, resulting in a general loss of trust, confidence and authority in government in general (Balogh, 1996; Fukuyama, 1992; Heclo, 1996; Orren, 1997) and policing in particular (e.g. Reiner, 2000; Terpstra and Van der Vijver, 2006). As workforces become better educated, intellectual capital replaces physical capital (buildings, cars and equipment) as the dominant value orientation and the perceived need to control conduct in minute ways evanesces. Intellectual capital lends itself to interpersonal networks and to diffused control, where talent is respected as an individual asset. This rising group of current and future police officers does not appreciate the rigid hierarchical structure of command authority so willingly accepted by less educated officers of years past; they resent unquestioned obedience, the logic and imperatives of the quasi-military structure, particularly when management grants them little or no say in decisions that affect them (Peak, 1990; Thibault *et al.*, 1985, p. 328). Consequently, they perceive their supervisors and top management as distant illegitimate authorities who fail to steer toward definable outcomes and who would rather nitpick at *de minimus* rule infractions to exercise control than to produce quantifiable outcomes.

The evolving social preference is recognition of the individual and respect for dignity over absolute authority and deference to rank (Peak, 1990). Because of changing social attitudes, new police officers are less willing to immediately accept the authoritarian command structure that governs their conduct (Peak, 1990, pp. 63-4). They are more willing to challenge the incongruence between training and reality, the utility of agency rules and their superiors' authority through established means such as civil lawsuits and administrative processes (e.g. merit system board; arbitration; union grievances; Peak, 1990, p. 64; Thibault *et al.*, 1985, p. 4).

By placing an emphasis on outcomes instead of rote compliance, the department is fostering support, cooperation and diligence toward specified goals. Emphasizing results and giving employees something to strive for is part of Maslow's (1943) "hierarchy of needs" theory, where employees desire the challenge of higher achievement, want to be empowered with the autonomy to act, want to feel affiliated, and want recognition for their efforts. Such constructive management practices may breed higher individual performance and achieve the overall discipline and deference the "old guard" so steadfastly cherishes by showing officers management respects them as valued organizational members first.

Command and control doctrine

Dovetailing on egalitarianism is the traditional command and control bureaucracy, which seeks to control officers' behaviors in minute ways through centralized command structures that afford officers little or no voice over the way strategy is created and by placing an emphasis on output over outcome (Trojanowicz and Bucqueroux, 1990). This style of management reinforces the quasi-military, paternalistic role the agency assumes, where officers are treated like children and administrators act as parents, micromanaging their every move, lest they get into trouble if

left to think on their own (Goldstein, 1990). Former New York City Police Commissioner Lee P. Brown commented:

The command-and-control culture of the police department doesn't treat officers as intelligent, creative, and trustworthy people. It allows them very little discretion. It's designed to make sure that they don't get into trouble, don't embarrass the department, and don't get their supervisors into trouble (Webber, 1991, p. 116).

The result is a management structure bent on conformance with rules and overly concerned with routine and appearances rather than substantive results. Rational performance targets yield to oppressive rules in an effort to "get through the day" because no one is expecting very much anyway. Employees choose the path of least resistance and tend toward laziness because they are not responsible for producing anything. Line officers want more autonomy but await management's directive on how to proceed. The problem is management's directive on how to proceed is not coming because no one really knows where they are headed. What is left is a group of leaders with acerbic immature personalities who issue vague orders instead of logical instructions on how to solve the problem.

The Proposed Performance Management Framework

Conceptualizing Police Performance

Both what constitutes performance and how to measure it have been a conundrum for many years, particularly because there is little consensus about what constitutes performance and because measuring it is complex, technical and takes many forms (Alpert and Dunham, 2001; Alpert *et al.*, 2001; Langworthy, 1999; Maguire, 2004; Skogan and Hartnett, 1997; Weatheritt, 1993). Performance is commonly found in two forms, either as trait dimensions that are scored subjectively by the officer's immediate supervisor based on observed behaviors (e.g. a qualitative appraisal of communication skills, appearance, decisiveness, leadership, emotional stability, assertiveness, etc.; Iannone, 1987; Landy, 1977), or as activities arising from the tasks related to the police function that are scored objectively based on the number of instances per activity (e.g. a quantitative appraisal of arrests, sick days, motor vehicle accidents, directed patrols and self-initiated stops, etc.; Cascio, 1977; Fabricatore *et al.*, 1978).

This model relies on a quantitative appraisal of police activity because it is objective, grounded in relevant activities that relate to the things the police do (i.e. lower level activities) as well as closes a gap in previous studies, where researchers may not have operationalized relevant performance indicators that

measure effectiveness, efficiency and quality. For example, effectiveness is the relationship between an organization's outputs (activities) and what the organization intended to accomplish (outcomes) and is expressed as a percentage. Loveday (1994, p. 16, citing the Police Foundation) reported:

...there was no clear relationship between the recorded property crime rate and the *number of marked patrol cars per square mile*. There was no apparent relationship between the recorded property crime rate and *the level of police expenditures per inhabitant*. There was no clear relationship between the rate of violent recorded crime and *police expenditures per officer* and only a tendency for cities with high levels of recorded property crime per officer to have *smaller numbers of sworn officers per square mile* (emphasis added).

The number of marked patrol cars, the level of expenditures and number officers per square mile are not indicators of police effectiveness; they are indicators of budget priority. Merely spending more money on the police, or placing more officers in the field or placing officers on random patrol does not, *per se*, translate into crime-control action (see, for example, Kelling *et al.*, 1974). Indeed, it is the things the police do while they are in the field that should be measured. Thereafter, correlations can be drawn between the amount of police activity and crime rates, which is a more accurate measure of police effectiveness.

Improving police management necessitates a logical structure that connects police activities to intermediate objectives, and to end outcomes. This provides the basis for systematic evaluation of effectiveness, efficiency and quality by creating a more rational structure with the aim of developing the technical core of policing. The framework introduced here resembles "the corporate strategy" method advocated by Kenneth Andrews (1980), which emphasizes setting goals, designing the organizational structure and allocating resources to achieve the desired ends. The model moves in a linear manner through six stages that connects police department activities to their social utilitarian purpose. Along the way, empirical data are collected that can be used to inform citizens and train personnel through performance targeting (Halachmi and Holzer, 1987). This enables top administrators to pay closer attention to the logic behind their mission, particularly connecting lower-level activities with higher-level goals to clarify employee expectations and define departmental obligations.

To represent how performance management is conceived, a cause-and-effect diagram (Figure 1) is used to reveal the logical relationships among component parts and provide additional insight into process behavior by illustrating the relationship between a given outcome and the factors that influence that outcome. This model revolves around six interrelated drivers that lead to sustainable and measurable performance. At the same time they create a platform to overcome some of the existing problems confronting police management.

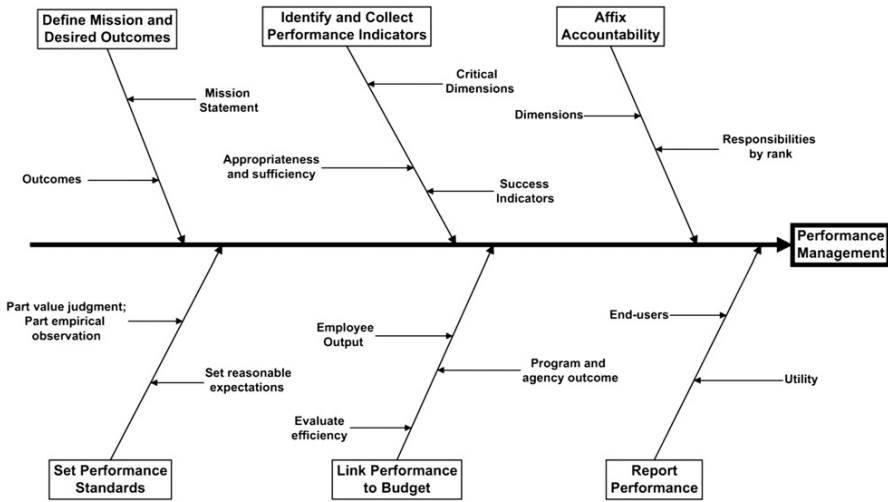


Figure 1: The performance measurement framework

Define the Mission and Desired Outcomes

Mission statement

There is some debate about the utility and relevance of mission statements in policing (Mastrofski, 1999) and there is a noticeable absence of studies linking mission statements to performance in general (Lynn, 1996). However, research suggests mission statements are a popular staple of corporate life (Campbell and Nash, 1992; Pascarella and Frohman, 1989; Pearce, 1994) and others suggest they serve a valuable function for police agencies by helping shape who they are and what they do (DeLone, 2007; Schroeder *et al.*, 1995; Weiss, 1996; Weiss and Piderit, 1999; Wilson, 1989).

To determine the organization's mission, it is imperative to identify the mandates imposed on the organization from external and internal sources. Formal external mandates are typically found in state or federal laws, court decisions, city ordinances, regulatory guidelines and city charters. Informal internal mandates are often embedded in "cultural norms or expectations" and accepted past practices of constituent groups and key stakeholders (Bryson, 1995, p. 65). Through focus groups with key stakeholders, including citizens, police employees and other criminal justice agencies the organization can clarify what it does and what it prioritizes (Kaptein and van Reenen, 2001).

Once developed, the mission statement provides a sense of legitimacy and identity for the organization. It forms the basis upon which the organization builds its policies, programs and ultimately delivers its services (Denhardt, 1999; Eccles and Nohria, 1992; Peters and Waterman, 1982). It communicates management's intentions, as well as defines its core purpose and serves as a motivating force for employees (Barnard, 1966; Drucker, 1974; Nutt and Backoff, 1996; Selznick, 1957;

Vardi *et al.*, 1989; Wilson, 1989). Defining the mission is the first step to resolving the amorphous and loose connections between policy and service delivery that are so prevalent in policing. Instead of leaving individual officers and managers to their own devices, the mission provides coherent guiding principles to ensure employees are working toward a common goal with a collective sense.

Desired outcomes

Scholars tend to agree that performance measures should reflect what the agency is trying to achieve (Ammons, 1996; Hatry, 1999). However, measuring outcomes often gives way to measuring outputs (Coe, 2000; Glaser, 1991). Desired outcomes must reflect an exhaustive list of the substantive things the police do, as reflected in the mission (Behn, 1997). For example, Moore *et al.* (2002, p. 132) identify seven performance outcomes (i.e. call offenders to account; guarantee safety in public spaces; use force and authority fairly, efficiently and effectively; reduce fear and enhance personal security; reduce criminal victimization; satisfy customer demands/achieve legitimacy with those policed; use financial resources fairly, efficiently and effectively) that may serve as the internal accountability structure that motivates the workforce and ignites their commitment to service. These seven desired outcomes reflect the multidimensional nature of police work and better express what the police do, thus helping shape the technical core (Kaplan and Norton, 1996).

Set performance standards

Performance standards specify the minimum acceptable outcome for the agency's goals. They provide employees with structure, reduce internal dissention and make personnel decisions more fair and consistent (Jones, 1998), something courts have recognized, regarding employment decisions[7]. Previous research suggests that setting performance standards engenders positive action in employees by giving them a better understanding of agency expectations and the "control system" to be used, which improves clarity and reduces ambiguity (Skolnick, 1968, p. 180, see also Wilson, 1968, p. 53).

Performance standards are the numeric values of a performance metric that must be achieved by a given date (i.e. they must be time bound) and are typically expressed as a degree of excellence or some required level that meets or exceeds pre-defined specifications. By setting division-level goals and monitoring intermediate objectives at specific intervals (Weekly, monthly, quarterly, semi-annually), police managers can assess short-term and mid-term progress toward the stated end outcome and evaluate the collective effect of each division's progress toward delivering on the agency's stated mission.

Performance standards are also used to develop baseline measures, which establishes a dataset as of a given date and to provide a starting point for subsequent measurements and comparisons (e.g. crime rates, clearance rates, convictions rates). This is essential because baseline data (see Table I) are the standard against which individual, program and agency performance will be measured. Improvement over the baseline is typically considered "good" performance.

Table I: Data sources for performance standards

Research findings	Legal mandates
Expert opinion	Geographical areas within the same jurisdiction
Similar jurisdictions	Technically developed norms for similar programs
Past agency trends/historical data	Private sector results for similar programs
Industry/government/professional standards	Community expectations
Pre-program baseline level	Cost or relative cost
Ethical or moral basis	Customary practice

Source: Modified from Rossi *et al.* (2004, p. 75)

Identify and collect performance indicators

Performance indicators are qualitative or quantitative measurements that demonstrate meaningful steps are being taken toward the stated goal. Outputs such as the number of arrests, the number of directed patrols and the percentage of cases cleared by arrest are the things police officers do that contribute to a stated outcome. Measuring output is necessary to motivate the workforce and keep them engaged by counting the activities and processes they are tasked with. Police officers can “see” and “feel” the immediacy of an arrest, or a traffic citation or a guilty plea, which helps stimulate them into better practice (Behn, 2004b). It is important to capture several different indices that measure a particular construct, not just rely on a single measure, which improves validity (Behn, 2004a; Carter *et al.*, 1992).

Before performance indicators are collected, the structure of each performance dimension must be described and may take the form shown in Figure 2. The components include:

- the goal;
- the critical dimensions;
- the success indicators; and
- the performance indicators.

The goal, or outcome, is a measure of the degree to which a service has achieved its intended effect, and as defined, meets the needs of its recipients in terms of quantity and quality. The critical dimensions are the principal aspects of a goal that, if achieved, are intended to assure the goal is accomplished. Critical dimensions are often rooted in theory; for example, it is believed (and it is logical to assume) that to control fear and crime (a goal), a few different things must occur:

- crime and criminal victimization must be reduced;
- holding offenders accountable must be increased;
- fear and blight must be reduced;
- feelings of personal safety must be enhanced; and
- the guarantee of safety while in public places must be enhanced.

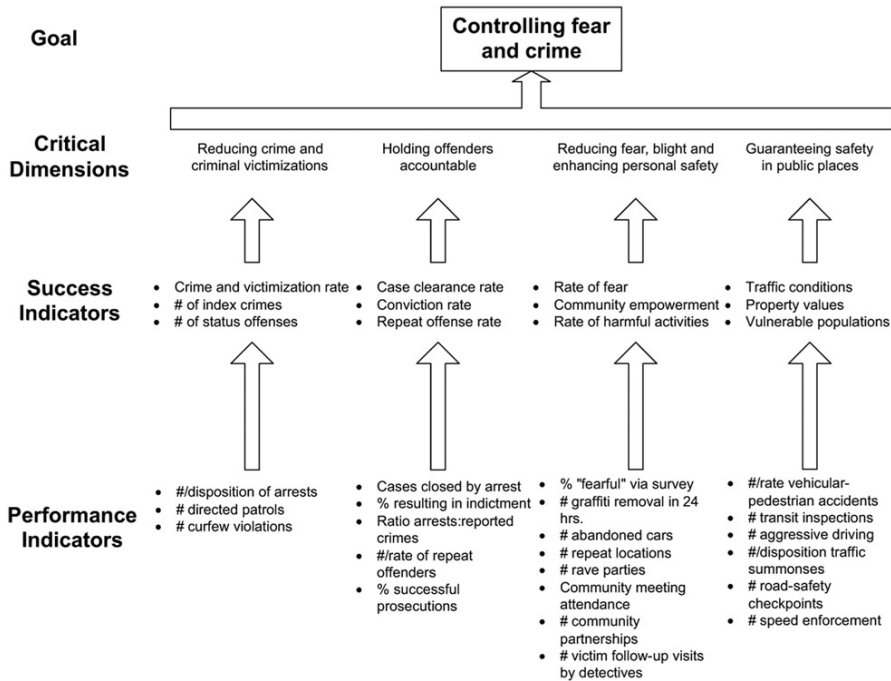


Figure 2: Basic structure of performance dimensions

Critical dimensions separate police activities and create conceptual order for the performance indicators; this is the systematic nature of performance management because the activities the police engage in measure different things and they must be arranged in a logical order.

Critical dimensions are measured through success indicators. Success indicators define the attributes or characteristics to be measured and include a particular value or characteristic used to measure output. The management question being asked is: if we are to reduce crime and criminal victimization, then where will success manifest itself? In this case, success will come from the crime and victimization rate, the number of index crimes (e.g. FBI Uniform Crime Report, Part I crimes) and the number of status offenses, to name a few.

Link performance to the budget

By linking performance to the budget, top administrators can decide where to expend resources and for what purpose. Linking the budget to performance shows how resources are allocated to achieve qualitative and quantitative outcomes and has at its core the following question: "What did we get for our money?". This process offers a meaningful indication of how dollars are expected to turn into outcomes, how dollars fund daily activities, the required resources (input), the expected output and the resulting outcomes.

The appropriate budget orientation is a performance-based budget (PBB). A PBB answers the question “What is to be done?” and is oriented toward management and efficiency (Carter, 1994). The intent is to establish a nexus between activities, processes and outcomes to determine which activities are cost-effective in relation to the desired outcome. The PBB is an outgrowth of the earlier planning-programming budgeting system (PPBS) that sought to improve accountability by emphasizing outcomes and coordination of activities that are consistent with the management responsibilities of chief executives (Hudzik, 1977). Linking performance to the budget also engenders a sense of accountability by demonstrating that financial resources are scarce, they are not limitless and come with expectations.

Affix accountability

Police agencies are judged by their record of achievement. To ensure the agency achieves its desired outcomes and provides the best level of service possible, it is necessary to affix accountability across the entire spectrum of rank in the department. Accountability need not be associated with punishment, as it typically is with the command and control system. Rather, accountability should focus on performance targets, where supervisors work in a concerted manner to meet managerial expectations instead of focusing on rote compliance. Public accountability means police employees have an obligation to accept responsibility and proffer a statement or explanation of the reasons, causes, or motives to account for their actions[8]. It does not mean that every shortcoming must result in negative discipline.

Before accountability may attach, the chief executive must:

- clarify what is expected from employees;
- examine activities and performance measures and compare actual performance with what is expected;
- act on findings to improve activities and performance measures; and
- communicate findings in accordance with agency and regulatory policy (Kuykendall, 1975, cited in Meagher, 1986).

This element of transparency provides a structured operating framework for employees by striking a balance between management’s right to demand accountability and the employee’s right to be free from unfettered discretion – these are the same employees who will ultimately reject management as illegitimate for imposing inconsistent and sporadic accountability. These requirements are satisfied in this model through the following rational structure, which is absent from the command and control model:

- policy objectives are developed at the administrative level after consultation with the community, employees and elected leaders to define what is expected from employees and to communicate those expectations in accordance with agency and regulatory policy;

- goal-directed strategies are developed at the command level, where division-level managers are responsible for implementing and monitoring strategies and comparing actual performance with what is expected;
- coordination of resources and personnel assignments are developed at the supervisory level, where front-line supervisors act on findings to guide personnel toward established targets with an eye toward improving performance; and
- field activities are initiated at the operational level, where line officers carry out the daily work of the agency and consult with supervisors to ensure performance targets are achieved (Table II) (Butler, 1983; Dean, 1984).

This creates unanimity of purpose, the lines of accountability are clear and the authority to execute is devolved to each successive level, which reduces the prospect of inefficiency and redundancy and affixes specific responsibilities for each rank and for each organizational element.

Table II: Structure of accountability within the rubric of organizational function

Dimensions	Accountable rank	Level	Organizational function
End outcome	Chief/Deputy Chief	Administrative	<i>Overall general direction of the department: policy development, long-range planning, rational and comprehensive decision-making, budgeting, coordinating external requirements with organizational resources</i>
Division goals	Captain	Command	<i>Overall implementation of policies and programs developed by top administrators: Devising strategies that capitalize on strengths, overcome weaknesses, seize opportunities and reduce threats; determining staffing requirements; devising and adjusting goal-directed strategies, as necessary</i>
Intermediate objectives	Lieutenant	Command	
Input	Sergeant	Supervisory	<i>Overall operational control of the workforce, production of outputs and, to a degree, consumption of inputs: initiating actions to ensure specific activities are coordinated and carried out efficiently and effectively, devising personnel assignments, ensuring performance standards and targets are achieved</i>
Output	Police Officer/ Detective/Civilian	Operational	<i>Overall execution of specific activities, processes and individual productivity: performing activities specified in policies, programs or when directed by supervisors, direct outputs that meet or exceed performance standards or targets</i>

Source: Modified from Gaines and Cain (1981)

This type of accountability structure breeds conformity instead of dichotomizing line personnel and management personnel, as happens in the command and control model (Reuss-Ianni, 1984). It also provides each agency level (administrative, command, supervisory and operational) with a clear idea why they are pursuing particular goals and at the same time retains operational control, something Compstat neglects.

Report performance

Reporting on performance is essential if top administrators are to make responsible, effective decisions, and foster full transparency and accountability across the agency. The utility of the reports should be such that the findings are clearly, accurately and consistently presented and compare what was achieved with what was intended. Police administrators should use three types of reports to inspire confidence in the agency and to manage operations:

- (1) *Police business plan.* Documenting and disseminating where the agency wants to be and how it plans to get there may be accomplished through a business plan. The business plan is the chief executive's foundation to justify to taxpayers what services the agency provides and the strategies for meeting its social and political obligations. It also serves as a communication, management and planning tool. As a communication tool, the business plan is used to attract investment capital to the jurisdiction, develop community partnerships and attract strategic partners (government, non-profit and corporate). It is also the primary means for communicating management's expectations to the workforce who carry out the business strategy. A comprehensive business plan requires a realistic look at every phase of operations and allows the chief executive to show that he or she has worked through various assumptions and decided on potential alternatives before actually implementing a given strategy, which reduces unwelcome surprises (Dewar, 2002).

As a management tool, the business plan helps the agency to monitor and evaluate progress. Because planning is an iterative and "continuous" process (Schroeder *et al.*, 1995, p. 43), the business plan will be modified as the department gains knowledge and experience. By using the business plan to establish timelines and milestones, the chief executive can monitor progress and compare projections to actual accomplishments. As a planning tool, the business plan guides the agency through various phases of its operations and management. A thoughtful plan will help identify load-bearing vulnerable assumptions, so shaping actions can address issues that arise (Dewar, 2002). The completed business plan should be widely distributed among employees, elected leaders and the community to foster a broader understanding of where the department is going and to secure individual commitment.

- (2) *Interim performance reports.* Interim performance reports should be the focal point of a continuous improvement and feedback process. The essence of organizational control is an information feedback system that enables management to respond to the information it receives and ask: where did we do well? Why?

What can we replicate? Where did we fall short? Why? What is the action plan for improvement? Interim reports should contain the necessary data to answer these questions and should be published at regular intervals (weekly, monthly) to measure incremental progress or setbacks.

- (3) *Annual police report.* There is limited previous research on annual police reports; however, that which is available suggests that the annual report is an aspect of police management that is completely under-developed and has been of little or no importance to top administrators (Timmerman, 1929; National Commission on Criminal Justice Standards and Goals, 1973). The annual report is perhaps the single best opportunity to express accountability in an open system of government, however, recent research by Law (2001) suggests while annual police reports have improved, they still lack information necessary to establish accountability. Many annual police reports read like a “scrapbook” replete with action photos memorializing various events; the report typically over-emphasizes the crime control function, lacks meaningful substance, displays inconsistent data across years making comparisons nearly impossible, and does not connect actual performance with intended performance (as reflected in the mission). Consequently, police executives miss a rare opportunity to express to the public the complexity of police work as well as communicate the social and political responsibilities of the organization and its progress (Vanagunas, 1982).

For citizens to hold their elected representatives accountable for the money and authority entrusted to them, they must have a statement comparing what was planned and what was actually achieved; indeed, the consent to govern is derived from the authority of the people in a democracy (Simey, 1984). If the consent of the people establishes the authority to govern, then the logical extension is to provide the governed with information that calls the police to account for their behavior so the public may continue with, modify or retract their consent (Stewart, 1984). Information is the impetus for public officials to justify decisions and shape future states. Placing information into the public forum for scrutiny completes the accountability circuit.

To be effective and informative, the annual police report must contain information that is relevant to the user base – the various internal and external authorizing agents that can hold police accountable (Moore, 1995). This means the annual report must revolve around the multiple dimensions of police work and must contain measures of effectiveness and efficiency from a quantitative and qualitative perspective (Moore *et al.*, 2002).

Limitations

For all its potential contributions, this model does have limitations. First, quantitative performance data do not obviate the need for competent supervisors to reinforce the intangible qualities of policing that are important for success, such as attention to detail, manners, equity and fairness (Mastrofski, 1999). Objectively

measuring these dimensions of performance is always difficult and often leaves employees angry and disappointed.

Second, the danger of a data-driven model in the hands of intimidating autocratic managers can also lead to progressively deeper problems than that which the model seeks to improve in the first place. A good illustration is the “Powertrac” scandal – a Compstat-like management process – that unfolded in the Broward County (FL) Sheriff’s office in the late 1990s, where a corruption investigation led to indictments of several members of the sheriff’s office for altering official records to appear more favorable (Olson, 2006).

Third, the police may feel their discretion has been limited and may opt for formal action over informal action even where informal action is preferred. Attitudes toward performance management among various levels of Dutch police left them feeling somewhat constrained by targets. Chiefs believed setting targets was gamed and they would vacillate between taking things seriously and being unenthusiastic; police officers believed their work was more routinized and subject to political pressure; and citizens believed being fined was due to the officer having to meet his or her target, resulting in distrust (Hoogenboezem and Hoogenboezem, 2005).

Fourth, there are many skeptics, fewer advocates and mixed research findings. Although there has been a global movement toward adoption, adoption has not been global. There are few advanced performance management training courses for police executives, the link between performance and legitimacy and citizen satisfaction is tenuous, it has not been promoted as a learning instrument, and some believe it is nothing more than a passing administrative fad (Behn, 2002; Hoogenboezem and Hoogenboezem, 2005, p. 577; Kay, 2001; Kelly, 2003; Sanderson, 2001; Terpstra and Trommel, 2009; van Reenen, 1999). The challenge is convincing police executives that it does more than invite unwanted scrutiny and criticism. It invites unambiguous leadership insofar as it instills a sense of accountability in people, it provides control over an essential public resource, and can stimulate managerial and professional competence throughout the agency.

Lastly, the model is limited by measurement error and invalidity (Klockars, 1999, p. 198; Maltz, 1975; Starbuck, 2005). The data used to measure performance may contain conceptual errors. Police agencies must rely on proxies to measure ambiguous constructs that are difficult to quantify (e.g. equity, fairness, fear, offender accountability), unlike concrete measures such as height, weight and temperature. The performance indicators outlined in Figure 2 may be high in face validity but low in construct validity, which is more important. Performance indicators may also contain errors that affect reliability such as clerical mistakes, changes in collection procedures, corrections made by the agency, data manipulation, instrumentation and categorization (Jacob, 1984). To close the gap between the information that is sought and the information that is actually measured, police executives must ensure the data is audited for accuracy and integrity (Serpas and Morley, 2008) and consider how performance indicators are, theoretically, related to the constructs before adopting them.

Discussion

The police management model presented in this paper represents a departure from the existing management models. The command and control model is an outmoded style that does little to respect individual talent as the primary means of achieving desired outcomes consistent with the agency's mission. Command and control is a model that concerns itself with authoritarianism, compliance and control at the expense of performance. This may be why many scholars view institutional theory as a better explanatory framework for policing than rational-technical theory.

The benefit of the performance management framework is that it logically connects what the police intended to achieve with what they actually achieved through empirical measures, better enabling them to account for their performance in a public forum and develop internal capacity to deliver services. It also represents an opportunity to capitalize on individual talent, where employees at every level are accountable for specific goals instead of accountable for perfunctory rules.

The organization benefits from both hindsight and foresight. As a "learning organization" (Senge, 1994), the police department develops the capacity to look backwards (hindsight) and extract useful information from the data as it forges ahead connecting strategies and tactics to sustainable outcomes. Foresight is found in imagination and proactive management, which is the capacity to forecast various future states in order to anticipate vulnerabilities, improve resource allocation and enhance service delivery through scenario-based planning. Imagination also helps top administrators envision where the agency will be if they do not do things differently. This comes through continuous reporting on streams of data to ensure performance standards are achieved; if performance standards are achieved, then it is likely the outcomes will be achieved. With hard data about what personnel are doing, a chief executive is well poised to defend the agency against criticism; they no longer must rely on affability, impressions, conjecture or anecdotal evidence to justify their practices and they are better able to clarify expectations, which benefit the community, the employees and the organization.

Top police administrators must take the initiative to break from the makeshift and haphazard management processes of yesteryear, those driven by "management by crisis" and institutionalism and integrate performance management with existing operations. Police administrators have the opportunity to capitalize on an element of professionalism that once before escaped them during the reform era of policing. Imagine the benefits that might accrue if thousands of police agencies adopted a universal management model. Meaningful comparisons across agencies worldwide could be undertaken, "performance" could be ranked and agencies could be graded (Sherman, 1998). Future research should examine the relationship between performance management and citizen satisfaction and legitimacy to ensure the quantitative aspects of management align with Constitutional guarantees and human rights. For if police departments over emphasize quantity and sacrifice quality, then we are no further along than our predecessors at the beginning of policing's professional movement 90 years ago.

NOTES

1. In a police department, compliance, which also connotes control, means conformity, obedience and a tendency to defer to a ranking superior, especially in a subservient manner, based on rules, policies and orders. In police organizations, obedience is characterized by submission to authority without question; questioning an order (or rule or policy) is tantamount to disobedience, an infraction subject to disciplinary action. As the demand for, and enforcement of, compliance rises, creativity and initiative decrease, so much so that police officers adopt an “I do nothing until I am told” attitude, and even then, they do only as much as necessary to get by without raising their supervisor’s attention. This attitude arises because police agencies are pervasively regulated bureaucracies with a quasi-military orientation and it is extremely easy to violate some obscure policy or rule buried at the back of the third volume of the policy manual. Therefore, the less the officer does, the less negative attention they attract. Very quickly, many police officers do little or nothing except that which they are compelled to do, such as answer calls for service.
2. This reference is to Joseph Stalin’s show trials. The harsh public criticism at the center of some agencies’ Compstat meetings produces a culture of employees who may comply out of fear of reprisal but generally wither, becoming less productive and more recalcitrant, and may sabotage the work product. In effect, the agency is brought into a state of complete submission to the executive’s authority, and the result is poor agency performance.
3. A series of papers, reports and guides on police performance management has been published by the Home Office (see <http://police.homeoffice.gov.uk/performance-and-measurement/>; accessed April 1, 2009).
4. *Escobedo v. Illinois*, 378 US 478 (1964).
5. *Mapp v. Ohio*, 367 US 643 (1961).
6. *Miranda v. Arizona* (consolidated with *Westover v. United States*, *Vignera v. New York*, and *California v. Stewart*), 384 US 436 (1966)
7. *Alvarado v. Texas Rangers, Texas Department of Public Safety* (492 F.3d 605, July 16, 2007).
8. Obligations are embedded in laws or other public policy, whereas willingness is embedded in the oath of office. Policing is a voluntary endeavor; officers are not drafted, they choose law enforcement as a career. Consequently, they freely consent to subject themselves, through a solemn appeal to the governing body (i.e. the citizens of the jurisdiction), to speak the truth, to keep a promise or to uphold a legal obligation when called to do so (i.e. the oath of office).

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Measuring Public Perceptions of the Police[☆]

Edward R. Maguire and Devon Johnson

Abstract

Purpose – The purpose of this paper is to test Mastrofski's six-dimensional conceptualization of perceived service quality of the police.

Design/methodology/approach – The paper draws on data collected from a mail survey of residents in a suburban Virginia (USA) community and uses confirmatory factor analysis to test the six-dimensional model of service quality.

Findings – The six-dimensional model does not fit the data. Instead a one-factor model fits the data, suggesting that public perceptions of police service quality are a one-dimensional construct.

Research implications – Further research is necessary on two fronts. First, research should seek to determine whether the findings are consistent across different community contexts and types of samples. Second, research on related perceptual constructs, including procedural justice and legitimacy, should explore measurement properties in more detail.

Originality/value – This is one of few studies to examine the construct validity of public perception measures in police research.

Keywords: Police; Attitudes to the police; Measurement; United States of America

[☆]The authors are grateful to Megan Gantley and Brittany Davenport for their assistance in preparing the manuscript and to participants in the 2002-2003 Administration of Justice Honors Seminar at George Mason University for their assistance in designing the survey instrument and collecting/cleaning the data used in this paper. They include: Roberta Stifter, Kathryn Simmons, M. Christine Ibar, Brian Alsbaugh, and Shelane Bryant. Thanks also to the police officers in Orangetown (a pseudonym) who participated in the development of the survey instrument, to the police administrators who allowed us to carry out the research, and to Stephen Mastrofski and Cameron McIntosh for providing comments on an earlier draft.

1. Introduction

Policing is a service industry. Those who request assistance from police are its clients, as are those who are involuntarily subjected to police authority. These clients have varying opinions about the quality of the service they receive from police. Tapping into clients' perspectives of police is vital for understanding a fundamental element of the relationship between citizens and the state – the tenor and character with which formal social control and regulatory authority is imposed and perceived. While applying the customer service perspective to the police has some limitations, it also offers a number of benefits[1].

The research outlined in this paper sought to specify and test a multidimensional conceptual model of police service quality. Based on the large body of research on service quality, most of which has developed in industries other than policing, [Mastrofski \(1999\)](#) articulated six dimensions of service quality in policing:

- (1) attentiveness;
- (2) reliability;
- (3) responsiveness;
- (4) competence;
- (5) manners; and
- (6) fairness.

We developed a survey instrument based on Mastrofski's conceptualization of police service quality and administered it to citizens in one community who had recent police contact. We then used the data to test measurement models consistent with Mastrofski's conceptualization. Our findings suggest that the six dimensions of perceived service quality are not empirically distinguishable. In this sample, we can measure overall perceptions of service quality, but we cannot parse it into empirically distinct dimensions. These results have clear implications for several domains of related research on public perceptions of the police, including the growing and influential body of research on procedural justice and the legitimacy of police and other authority figures.

2. Background

Scholarship on public perceptions of police is rooted in four overlapping traditions of theory and research. In this section we provide a brief review of each tradition and its application to policing. The first is the rapidly expanding body of social science research on service quality ([Cronin and Taylor, 1992](#); [Parasuraman *et al.*, 1985](#)). Much of this research has been done in the private sector and published in marketing and business journals. Researchers have developed and tested standardized instruments for measuring service quality across the service industries ([Parasuraman *et al.*, 1988](#)). A handful of studies have applied the service quality

framework to policing (Donnelly *et al.*, 2006; Reisig and Chandek, 2001; Webb, 1998). Although the customer service perspective is appealing, the police are unique in a number of ways among service industries. Perhaps the most important differences are their ability to use state-sanctioned force, their near total monopoly over their specific service sector, and their capacity to deliver their “services” involuntarily to clients (for example, by arresting or using force against them). Thus, while useful in some ways, the service quality perspective also has limitations in its application to policing.

A second intellectual tradition that serves as a foundation for research on public perceptions of police focuses on justice. Justice theorists outline at least three specific kinds of justice – procedural, interactional, and distributive – that are related both conceptually and practically to public perceptions of police (Greenberg, 1987)[2]. Procedural justice refers to the perceived fairness of the processes leading to an outcome (e.g. Thibaut and Walker, 1975; Lind and Tyler, 1988). Interactional justice refers to the perceived fairness and quality of the interpersonal interaction between a decision maker and the individuals affected by the decision (e.g. Bies, 2005; Bies and Moag, 1986; Brockner and Greenberg, 1990)[3]. Distributive justice refers to the perceived fairness of an outcome (e.g. Brockner and Siegel, 1996; McFarlin and Sweeney, 1992). Some research examines perceptions of justice as a dependent variable (Frey, 1997), while other research examines the effects of these perceptions on other dependent variables (Liljander, 1999; Nel *et al.*, 2000). Research on perceptions of justice has taken place in many settings where authority figures interact with those subordinate to their authority, including families (Gold *et al.*, 1984), workplaces (McFarlin and Sweeney, 1992), courts (Casper *et al.*, 1988), and prisons (Henderson *et al.*, 2010). Since police are a fundamental component of the administration of justice system, it is important to ask whether those with whom they interact perceive them as just. A recent flurry of research in policing has examined the antecedents and effects of procedural, interactional, and distributive justice (e.g. Paternoster *et al.*, 1997; Reisig *et al.*, 2007; Reisig and Lloyd, 2009; Sunshine and Tyler, 2003; Tyler, 1990; Tyler and Huo, 2002). This body of research has generated intriguing findings about the effects of these different types of justice on compliance with the law and legal authorities.

A third tradition of public perception research examines the global notion of citizen satisfaction with government, public agencies, and public services (e.g. Kelly and Swindell, 2002; Stipak, 1977, 1979). This wide-ranging body of research is rooted in multiple disciplines, including political science, public administration, and economics. It is concerned primarily with global or diffuse citizen attitudes such as “satisfaction with” or “confidence in” government agencies or institutions. Research on citizen satisfaction tends to rely on different assumptions and designs than research on service quality and justice because it does not assume that a citizen has experienced a specific type of service or an encounter with a particular agency. Thus while research on service quality and justice is often able to gauge client perceptions of a particular transaction with a service provider or authority figure, citizen satisfaction research focuses on more global or diffuse perceptions about the institution (e.g. Brandl *et al.*, 1994; Frank *et al.*, 2005). Although only

a small proportion of citizens has direct face-to-face contact with a police officer each year (Langan *et al.*, 2001), citizens still have opinions about the quality of policing in their community (or state or nation), and hundreds of public opinion polls have attempted to measure these opinions (Gallagher *et al.*, 2001). Many studies have tested models that explain citizen satisfaction with police (e.g. Brandl *et al.*, 1994; Reisig and Parks, 2000; Worrall, 1999). Because public opinion polls gauge attitudes among citizens who may not have been direct service recipients, this body of research is usually distinct from research on service quality and justice.

Finally, a fourth tradition of public perception research focuses on the concept of legitimacy. Legitimacy is “a quality possessed by an authority, a law, or an institution that leads others to feel obligated to obey its decisions and directives voluntarily” (Tyler and Huo, 2002, p. 102). The notion of voluntary compliance is the defining characteristic of legitimacy. If the majority of people chose not to comply voluntarily with the law or legal authorities, formal social control institutions would become overwhelmed. According to Zelditch (2006, p. 325): “if a regime is legitimate, even the disaffected, no matter how much they dislike the regime, tend, for a time at least, to willingly comply with it ...”. Institutions that are not perceived as legitimate are more likely to encourage resentment, hostility, and opposition among citizens and clients. Philosophers have speculated about the legitimacy of government and other social institutions since antiquity, and social scientists from numerous disciplines – including political science, sociology, social psychology, and others – have sought to measure, explain, and otherwise understand legitimacy. The police have endured challenges to their legitimacy since their inception, and people have widely varying opinions on the extent to which they view the police as legitimate and worthy of compliance. A recent summary of research on fairness and effectiveness in policing emphasized the importance of police legitimacy in the eyes of the public, pointing out that it can “be created or undermined by their behavior” (Skogan and Frydl, 2004, p. 297). Researchers have measured legitimacy in a number of ways, typically asking people about their perceived obligation to obey the law, cynicism about the law or legal authorities, or their degree of “support, allegiance, institutional trust, and confidence” (Skogan and Frydl, 2004, p. 299). Public perceptions of legitimacy overlap in both concept and measurement with all three of the previous research traditions.

2.1. *Combining the Perspectives*

The four research traditions outlined above are sometimes separate and independent and sometimes combined. For instance, several studies outside of policing have examined the effects of justice on perceptions of service quality (Carr, 2007; Liljander, 1999; Nel *et al.*, 2000; Smith *et al.*, 1999). Similarly, some research examines the influence of service quality on overall satisfaction ratings with an organization or agency (e.g. Andaleeb, 2001; Tian-Cole *et al.*, 2002). These are just some of

the many ways in which these four bodies of scholarship overlap. One ongoing complication that we will discuss in more detail later is that the same indicators are frequently used in these different bodies of research to measure different concepts (e.g. Colquitt, 2001; Reisig *et al.*, 2007).

Within the policing arena, there is significantly less overlap between these bodies of scholarship. For instance, while dozens of studies in marketing and business journals have examined the links between procedural justice and service quality, these relationships have not yet been explored in policing. Nonetheless, some research in policing has examined the links between procedural justice and legitimacy (e.g. Reisig *et al.*, 2007; Sunshine and Tyler, 2003; Tyler and Huo, 2002), and other research has focused on the relationships between general and specific attitudes toward the police (e.g. Brandl *et al.*, 1994; Reisig and Parks, 2000; Skogan, 2006). While many studies have sought to measure public perceptions of police, very few of these studies have paid serious attention to understanding the structure of these attitudes (Scaglion and Condon, 1980; Sullivan *et al.*, 1987; Webb and Marshall, 1995). Little is known about the dimensionality of public perceptions of police, about the relationships between the salient dimensions, and about their antecedents and effects.

2.2. *Developing a Measure of Perceived Police Service Quality*

Drawing on Parasuraman *et al.*'s (1985, 1988, 1991) conceptualization and measurement of service quality in the private sector, Mastroski (1999) identified six characteristics that "illuminate the service aspects of policing," including attentiveness, reliability, responsiveness, competence, manners, and fairness. According to Mastroski, citizens want the police to be available and accessible (attentiveness). In addition, citizens want police service to be predictable (reliability), client-centered (responsiveness), and effective at getting the job done (competence). Finally, citizens want the police to treat them with respect (manners) and use fair procedures (fairness). Mastroski's conceptualization is one of the most carefully articulated statements in the literature about the structure of public perceptions of the police, therefore testing its validity is important.

We test the validity of Mastroski's six-dimensional model as part of a larger concern with understanding the nature of public perceptions of police. We had three goals in mind when beginning this project. First, we wanted to translate Mastroski's conceptualization of police service quality into survey items that sought explicitly to measure the dimensions he articulated. Second, we wanted to specify a measurement model containing multiple indicators of each dimension and then test the conceptual model. Third, if the empirical model behaved in accordance with the conceptual model, we intended to test a series of propositions about the effects of service quality on overall satisfaction with police. As we will demonstrate, however, problems with the measurement model made it inappropriate to proceed to the third step. The methods, results and implications of our research are discussed below.

3. Data and Methods

The data for our study come from a 2003 survey of citizens in a suburban Virginia community, conducted in partnership with a local police agency. Given the nature of the data, our results cannot be generalized to larger populations. Fortunately, that is not our main concern here. Rather, our primary goal was to conduct an empirical test of a conceptual model of perceived police service quality. Thus, we were primarily concerned with issues of conceptualization and measurement.

3.1. *Selecting the Sample*

An extensive body of research exists on public attitudes toward the police, ranging from academic studies, to local surveys conducted by police agencies, to national public opinion polls. Each of these methodologies has its strengths and weaknesses. The general population has opinions about the police that are important to gauge, but understanding the factors that shape those opinions is difficult because only a small proportion of people has contact with the police in any given year (Langan *et al.*, 2001; Smith *et al.*, 1999b). For that reason, many agencies have turned to contact surveys, which are administered only to those people who have had direct contact with the police within a certain time frame (Bondurant, 1991; Langan *et al.*, 2001; Mastrofski, 1981; Mestre, 1992). Contact surveys provide useful information from people well positioned to render judgment about the police, but these people often constitute only a small segment of the community.

For this study, we surveyed citizens who experienced recent contact with the police. Unlike typical contact surveys that ask respondents about a specific encounter with a service provider, our interest here was to measure more global attitudes about the service quality provided by the police agency. We viewed it as likely that some service recipients might have experienced multiple contacts with the agency, and we did not want to discard impressions formed during previous contacts. Because we chose to survey individuals who had contact with the police, but to measure their general impressions beyond that specific contact, our instrument represented an unique hybrid of two common research approaches.

We had initially hoped to survey a broad base of service recipients, including victims, witnesses, arrestees, ticketed drivers, and others who interacted with the police. However, the police department's preference was to limit the population to three categories of people: those involved in motor vehicle collisions (including those who received citations), those who filed police incident reports, and those listed as victims on offense reports. At the request of the department, we excluded witnesses and those who had received a "simple" citation (outside the context of a motor vehicle collision) due to the brevity of the contact. The police department's information technology (IT) coordinator extracted a pseudo-random sample of 500 people residing within the two zip codes covered by the agency, whose contact with the police fell into one of these three categories and occurred in the previous 12 months[4]. Table I lists the nature of the contact for the 374 citizens for whom such

information was available[5]. It illustrates the diverse mix of police-citizen contact types represented among the citizens selected for our sample.

3.2. *Developing the Questionnaire*

When designing the instrument, we focused our efforts on developing quantitative measures of the six dimensions of service quality outlined by [Mastrofski \(1999\)](#): attentiveness, reliability, responsiveness, competence, manners, and fairness. We struggled with the conceptual meaning of attentiveness. On its face, it seemed to overlap with responsiveness, but as defined by [Mastrofski \(1999\)](#), it appeared to represent the concept of accessibility more than attentiveness. Therefore we chose to develop a measure of accessibility rather than attentiveness. We were mindful that constructing valid and reliable measures of the six dimensions required us to include at least three, and preferably four, questions measuring each dimension. The items used to measure each dimension were developed by a working group consisting of the first author, five undergraduate honors students, and several officers from the police agency under study. The final instrument contained 34 questions: 27 on service quality and satisfaction, two on prior contact with the police, and five on demographics.

3.3. *Administering the Survey*

We mailed the initial batch of surveys in April 2003. Per the recommendations of [Dillman \(2000\)](#), we personalized the mailing in several ways to improve response

Table I: Nature of contact for people in the sample

Case type	Number
Motor vehicle accident	130
Larceny	68
Vandalism	44
Assault	39
Suspicious person	14
Burglary	11
Animal case (dog/cat bites)	7
Natural death	7
Property report	7
Fraud/forgery	7
Intimidation	6
Telephone violation	6
Auto theft	5
Mental health case	5
Missing person	5
Offenses against family/child	2
Open window or door	2
Drunken/disorderly behavior	2
Robbery	2
Other	5

rates, including handwriting the principal investigator's name and address on the outgoing survey packet and the incoming envelope, and using postage stamps rather than metered mail. The research team tracked the incoming survey responses as soon as they started to arrive, and a reminder postcard was sent to non-respondents once there was a noticeable decline in the incoming responses. A second mailing of the complete survey packet was sent to the remaining non-respondents two weeks later. In total, 138 completed surveys were returned. After adjusting the denominator for bad addresses and out of scope respondents (e.g. minors and those who had died), the final response rate was 32.1 percent.

While this response rate is far from ideal, it is consistent with other mail survey response rates. For example, a meta-analysis of 64 mail surveys of the general public found an average response rate of 35 percent (Green *et al.*, 1998)⁶. The sample size alone is not necessarily problematic, given numerous statistical advances for testing multivariate models with small samples (Hoyle, 1999). The larger concern is the potential for nonresponse bias, in other words, if the respondents are systematically different than non-respondents. However, a low response rate does not necessarily imply nonresponse bias. For example, a recent meta-analysis of 59 studies containing estimates of nonresponse bias concluded that "nonresponse differences are largely similar across the range of nonresponse rates found" (Groves and Peytcheva, 2008, p. 175). Unfortunately, we have no way of estimating nonresponse bias in this study, so we do not know to what extent it represents a limitation.

3.4. Profile of Survey Respondents

As shown in Table II, the majority of survey respondents were white, married, college-educated, and female. Of the respondents 84 percent were white, and 58.5 percent were female. Asians constituted 4.5 percent of the respondents, while African Americans and Hispanics made up 3.8 percent each. A total 27 percent had some college or an Associate's degree, 27 percent held a Bachelor's degree, and 30.8 percent had a Master's or advanced degree. The vast majority of respondents (87.1 percent) were in the 35-65 age range. The fewest respondents, only 6.1 percent, came from the 25-34 year age range. Only 26 percent of the respondents reported that they had received some form of traffic citation in the previous two years. We did not explicitly sample those who had received citations, but these cases may have resulted from our decision to sample from people involved in collisions. Less than one percent (0.8 percent) of respondents had been arrested during the same time period.

4. Findings

4.1. Descriptive Findings

Table III contains descriptive statistics for each police service quality item, including the percentage of respondents selecting each response option and overall mean

Table II: Descriptive statistics

Variable	Categories	Percent
Race	White	84.2
	Black	3.8
	Asian	4.5
	Native American	1.5
	Hispanic/Latino	3.8
	Other	2.3
Age	18-24	6.8
	25-34	6.1
	35-44	28.8
	45-54	22.7
	55-64	14.4
	65+	21.2
Sex	Male	41.5
	Female	58.5
Education	No High School/some High School	3.8
	High School Diploma	10.0
	Some College/Associate's Degree	27.7
	Bachelor's Degree	27.7
	Master's Degree or Advanced Degree (MD, JD, PhD, etc.)	30.8
Marital status	Never married	16.9
	Separated/divorced	11.5
	Widowed	5.4
	Married	66.2
Cited within the past two years?	No	74.0
	Yes	26.0
Arrested within the past two years?	No	99.2
	Yes	0.8

scores. Potential scores for each service quality item ranged from 1 (strongly disagree) to 6 (strongly agree). Mean scores for each item were computed from these ordinal scores, with higher mean scores representing perceptions of greater service quality.

4.2. *Measuring Service Quality*

Our initial strategy in this study was to develop, test, and refine a measurement model that specified six dimensions of service quality. Once these measures were calculated and refined, we planned to examine their effects, together with numerous control variables, on overall satisfaction with the police. Our initial analyses, however, suggested that for this population, the six dimensions of service quality were not empirically distinguishable. As we will discuss later, we view this serendipitous finding as fundamentally important for several lines of research on perceptions of service providers and authority figures, including the growing literature on procedural justice and legitimacy.

Table III: Survey findings

Variable	Question	Dimension	Strongly disagree (%)	Disagree (%)	Slightly disagree (%)	Slightly agree (%)	Agree (%)	Strongly agree (%)	Mean score
V1	The Chief of the City of Orangetown Police Department is willing to speak with citizens who have concerns about the police	Accessibility	1.0	5.9	2.9	15.7	51.0	23.5	4.80
V3	City of Orangetown police dispatchers answer telephone calls in a timely manner	Accessibility	0.8	0	2.5	13.1	54.9	28.7	5.07
V12	City of Orangetown police officers, when handling calls for service, advise citizens of a telephone number where they can be reached should the citizen need follow-up assistance	Accessibility	1.7	0.8	2.5	12.5	42.5	40.0	5.13
V25	It is easy to contact the police	Accessibility	0	0.8	2.4	4.9	50.4	41.5	5.29
V6	City of Orangetown police officers appear to be knowledgeable about police procedures	Competence	1.7	0.8	2.5	9.1	56.2	29.8	5.07
V8	City of Orangetown police officers resolve problems effectively	Competence	0.8	5.0	5.9	16.8	42.0	29.4	4.82
V16	City of Orangetown police officers are knowledgeable about resources available in the community	Competence	1.8	0.9	2.7	11.5	57.5	25.7	4.99
V20	City of Orangetown police officers are well trained	Competence	0.09	1.7	3.4	9.4	53.8	30.8	5.06
V10	City of Orangetown police officers remain neutral and fair	Fairness	3.5	7.1	4.4	9.7	49.6	25.7	4.72
V13	Bias-based policing is not a problem in the City of Orangetown Police Department	Fairness	2.8	5.6	6.5	9.3	53.7	22.2	4.72

Variable	Question	Dimension	Strongly disagree (%)	Disagree (%)	Slightly disagree (%)	Slightly agree (%)	Agree (%)	Strongly agree (%)	Mean score
V15	City of Orangetown police officers use fair and impartial decision making when resolving disputes in the community	Fairness	1.0	6.7	6.7	9.5	52.4	23.8	4.77
V2	City of Orangetown police officers treat people equally	Fairness	2.6	8.8	7.0	4.4	55.3	21.9	4.67
V24	City of Orangetown police officers use fair and impartial decision making when issuing citations	Fairness	3.6%	6.3%	5.4%	6.3%	54.1%	24.3%	4.74
V9	City of Orangetown police officers address citizens in a respectful manner and appropriate tone	Manners	1.6	5.7	3.3	8.1	44.7	36.6	4.98
V4	City of Orangetown police officers take into consideration the feelings of citizens with whom they have had contact	Manners	2.4	4.1	4.1	12.2	48.8	28.5	4.86
V17	City of Orangetown police officers pay attention and listen to what citizens say to them	Manners	3.2	4.8	3.2	12.0	48.8	28.0	4.82
V18	City of Orangetown police officers readily identify themselves to citizens with whom they have contact by providing their name and contact information	Manners	0	0	3.3	8.9	49.6	38.2	5.23
V5	City of Orangetown police officers are consistent in the services they provide to citizens	Reliability	2.6	4.3	2.6	12.2	51.3	27.0	4.86

Variable	Question	Dimension	Strongly disagree (%)	Disagree (%)	Slightly disagree (%)	Slightly agree (%)	Agree (%)	Strongly agree (%)	Mean score
V19	City of Orangetown police officers attempt to maintain a safe environment for citizens	Reliability	0	0	3.3	13.8	48.0	35.0	5.15
V7	City of Orangetown police officers take the appropriate action when a citizen is in need of services	Reliability	0.8	1.7	5.0	5.8	54.5	32.2	5.08
V21	City of Orangetown police officers follow through on commitments they make to citizens.	Reliability	2.6	2.6	2.6	16.7	51.8	23.7	4.83
V22	City of Orangetown police officers attend to the safety and welfare of citizens.	Responsiveness	0.8	0.8	1.7	10.8	56.7	29.2	5.09
V23	City of Orangetown police dispatchers are responsive to citizens who request services	Responsiveness	0.8	1.6	1.6	8.2	54.1	33.6	5.14
V14	City of Orangetown police officers keep citizens informed and follow up with them when necessary	Responsiveness	2.6	2.6	11.3	11.3	49.6	22.6	4.70
V11	City of Orangetown police officers meet or exceed the expectations of citizens in responding to requests for assistance	Responsiveness	0.8	4.1	6.6	11.6	44.6	32.2	4.92
V26	City of Orangetown police officers take action when problems are brought to their attention	Responsiveness	1.6	2.5	3.3	12.3	50.0	30.3	4.98

Table IV: Pearson correlations and alpha coefficients

Scale	Manners	Accessibility	Competence	Fairness	Responsiveness	Reliability	Overall
Manners	1.0						
Accessibility	0.733	1.0					
Competence	0.900	0.797	1.0				
Fairness	0.900	0.758	0.856	1.0			
Responsiveness	0.908	0.784	0.931	0.843	1.0		
Reliability	0.907	0.836	0.895	0.875	0.922	1.0	
Overall	0.861	0.689	0.863	0.867	0.865	0.883	1.0
α	0.863	0.756	0.917	0.960	0.885	0.867	0.977

Ideally we would have multiple independent samples with sufficient sample size to enable us to specify and test an initial model on one sample and then continue to calibrate and test more refined models successively on fresh samples. This type of testing and calibration process would ensure that changes in model specification at each successive step are not the result of sampling error or trivial variation across samples. Unfortunately, we only have one sample available and it is small relative to the number of variables. Because of the small sample size, we rely on several modeling approaches, some of which make greater demands of the data than others and some of which are more appropriate for small samples. The goal is to determine whether the findings are robust across a series of different statistical methods.

The first step in the analysis was to form additive indices measuring each of the six dimensions. This approach is not ideal from a measurement perspective, but given the small sample size, it is an easy way to examine the measurement properties of the six constructs. All of the survey items on service quality were measured using six ordinal categories ranging from one (“strongly disagree”) to six (“strongly agree”), thus higher scores correspond with perceptions of greater police service quality. Table IV contains descriptive statistics resulting from this effort. Two

conclusions are evident from this initial analysis. First, as evidenced by the alpha coefficients on the bottom row, the indices are internally consistent. Within each dimension, respondents who viewed service quality as high on one item tended to view it as high on the other items as well. Second, the correlations between the six indices are very high, ranging from 0.73 to 0.93, with a mean correlation of 0.86. This is the first piece of evidence to signal a potential problem with discriminant validity. It suggests that the dimensions of service quality articulated by [Mastrofski \(1999\)](#) may not be empirically distinguishable in this sample.

The second step in the analysis was to estimate a confirmatory factor analysis model with latent variables representing each of the six dimensions of service quality. We chose the robust mean and variance adjusted weighted least squares (WLS) estimator available in the software package Mplus ([Muthén and Muthén, 1998-2007](#)). Monte Carlo simulations have found that the robust WLS estimator performs well in models with ordinal outcomes, including those with small samples and skewed distributions ([Flora and Curran, 2004](#); [Muthén et al., 1997](#))[7]. The CFA model we specified is complex relative to the sample size, therefore we also used a bootstrapping procedure to estimate test statistics and standard errors[8]. Simulation studies have found bootstrapping to be a useful procedure for estimating parameters in confirmatory factor models with ordinal data and small sample sizes ([Zhang and Browne, 2006](#)). We encountered estimation problems in the analyses both with and without bootstrapping. We traced the source of these problems to the latent variable covariance matrix (Ψ) which was not positive definite in both cases, most likely because of multivariate linear dependency among the latent variables[9]. The correlation estimates between the latent variables (some of which are out-of-range due to the nonpositive definite Ψ matrix) range from 0.90 to 1.03 with a mean of 0.98 in the CFA without bootstrapping; in the bootstrapped CFA, the correlations ranged from 0.83 to 1.0 with a mean of 0.94. These results are consistent with the findings from the first step of our analysis using additive indices, except in this case the correlations between factors are even larger.

The large correlations that we have obtained so far between the separate dimensions of service quality signal a problem with discriminant validity. Separate dimensions of a phenomenon may be correlated with one another, but when the correlations are too high, the natural question is whether the dimensions are really distinct from one another. According to [Brown \(2006, p. 166\)](#), “in applied research, a factor correlation that equals or exceeds 0.85 is often used as the cutoff criterion for problematic discriminant validity.” A typical strategy for dealing with highly correlated factors with poor discriminant validity is to combine them into a single factor. Taken together, the findings so far suggest that a six-factor model is not appropriate for these 26 items. Since the correlations between the factors are uniformly high, we examined the fit of a one-factor model instead.

We began by estimating a one-factor CFA model using the same estimator as in previous models, first without and then with bootstrapping. The initial one-factor CFA model fit the data reasonably well, though fit statistics and other indicators (such as modification indices and the analysis of residuals) were useful for highlighting some localized areas of strain in the model¹⁰. We treated this initial one-factor

model as a baseline model and explored options for modifying it in subsequent analyses. The modification indices revealed that freeing some of the error correlations would improve the fit of the model. Based on the modification indices and substantive interpretability, we freed two of the error correlations¹¹. The revised model fit the data slightly better than the original model¹². The final step in testing the one-factor model of service quality was to estimate the model using bootstrapping. The findings from the bootstrapped estimates mirror those from the non-bootstrapped estimates. The overall model fit the data well and 24 of the 26 items had statistically significant loadings on the factor, with standardized loadings ranging from 0.575 to 0.992 and averaging 0.867¹³. The standardized factor loadings from this analysis are shown in Table V.

Although this study presented some analytical challenges due to its small sample size, our results were consistent across multiple types of analysis ranging from simple to complex. A basic approach using additive indices to represent the six dimensions of service quality showed that they were highly correlated (mean correlation = 0.86). A confirmatory factor analysis (CFA) using a robust estimator that has been shown to perform well with small sample sizes yielded similar findings (mean correlation = 0.98). Finally, a bootstrapping procedure to estimate the same model obtained similar findings (mean correlation = 0.94). Based on these consistent findings across methods, we concluded by testing and refining a one-factor model of perceived service quality that achieved a reasonably good model fit.

Taken together, these various results suggest that for this sample, using this instrument, respondents were unable to distinguish between different dimensions of service quality. Thus we conclude that for this sample, the six-dimensional model of police service quality has poor discriminant validity. In this case, police service quality appears to have only one underlying dimension, not six. It appears that respondents had a general notion of service quality, but that it could not be parsed into the finer dimensions we attempted to measure here. The separate measures of service quality in this study appear to measure a single concept – presumably overall service quality or some other similar perceptual dimension.

5. Discussion

We can only speculate as to why the six dimensions we hoped to examine were not empirically distinguishable from one another, but three explanations seem most plausible. First, the community in which we carried out this study is a small, prosperous, homogeneous community with low crime and little disorder, and the police agency receives little exposure in the media compared with others in the region. Therefore, the range of public opinions about the police is probably narrower than in more heterogeneous or more troubled communities. It is possible that the survey instrument we developed in this study may produce better, more detailed measures of service quality in busier, more heterogeneous communities with more social problems than the city we surveyed.

Table V: Factor loadings

Var	Question	λ
V1	The Chief of the City of Orangetown Police Department is willing to speak with citizens who have concerns about the police	0.792
V3	City of Orangetown police dispatchers answer telephone calls in a timely manner	0.672
V12	City of Orangetown police officers, when handling calls for service, advise citizens of a telephone number where they can be reached should the citizen need follow-up assistance	0.756
V25	It is easy to contact the police	0.692
V6	City of Orangetown police officers appear to be knowledgeable about police procedures	0.898
V8	City of Orangetown police officers resolve problems effectively	0.950
V16	City of Orangetown police officers are knowledgeable about resources available in the community	0.906
V20	City of Orangetown police officers are well trained	0.907
V10	City of Orangetown police officers remain neutral and fair	0.992
V13	Bias-based policing is not a problem in the City of Orangetown Police Department	0.967
V15	City of Orangetown police officers use fair and impartial decision making when resolving disputes in the community	0.967
V2	City of Orangetown police officers treat people equally	0.947
V24	City of Orangetown police officers use fair and impartial decision making when issuing citations	0.917
V9	City of Orangetown police officers address citizens in a respectful manner and appropriate tone	0.901
V4	City of Orangetown police officers take into consideration the feelings of citizens with whom they have had contact	0.947
V17	City of Orangetown police officers pay attention and listen to what citizens say to them	0.936
V18	City of Orangetown police officers readily identify themselves to citizens with whom they have contact by providing their name and contact information	0.575
V5	City of Orangetown police officers are consistent in the services they provide to citizens	0.946
V19	City of Orangetown police officers attempt to maintain a safe environment for citizens	0.723
V7	City of Orangetown police officers take the appropriate action when a citizen is in need of services	0.962
V21	City of Orangetown police officers follow through on commitments they make to citizens	0.848
V22	City of Orangetown police officers attend to the safety and welfare of citizens	0.880
V23	City of Orangetown police dispatchers are responsive to citizens who request services	0.820
V14	City of Orangetown police officers keep citizens informed and follow up with them when necessary	0.866
V11	City of Orangetown police officers meet or exceed the expectations of citizens in responding to requests for assistance	0.903
V26	City of Orangetown police officers take action when problems are brought to their attention	0.866

Second, the depth and level of detail inherent in citizens' opinions may depend on the quantity or intensity of their contacts with the police. The police-citizen contacts experienced by people in our sample appear, in some cases, to have been fleeting or of low-intensity. Although all of the respondents were selected from a police database containing individuals who had experienced a recent contact with the police, some of the respondents wrote that they had insufficient experience to answer our detailed questions[14]. Our instrument may work better with respondents whose contacts with the police were frequent or intense enough to enable them to form more fine-grained opinions about police service quality. This interpretation of our findings is consistent with findings from research in a very different regulatory context – the relationships between nursing home regulators and the nursing home industry. Makkai and Braithwaite (1996, p. 96) reported that “Australian nursing home regulation is a domain where corporate satisfaction with the regulatory process is mostly high ... concerns about impartiality, ethicality, and correctability are rarely intense. These ... facets might loom as more important in regulatory settings with greater heterogeneity of client satisfaction.” This interpretation is also consistent with a body of marketing research suggesting that clients' perceptions of service encounters are influenced by the duration and affective content of these encounters, as well as the spatial proximity of the service provider and recipient (Price *et al.*, 1995). Clients may experience shallow attitudes toward encounters that are fleeting, emotionally neutral, and distant. Their attitude structures may become significantly more complex when experiencing encounters that are extended, emotionally charged, or intimate.

Third, our hybrid approach of sampling recent contacts but asking broader questions about the police that transcend a specific contact may have led us away from the very kind of specificity we were trying to measure. Although we were unable to measure the six individual dimensions of service quality using this sample, it would be useful to test whether these dimensions might still be meaningful and measurable in different contexts, or using different sampling or research strategies. Perhaps when asked about the nature of a specific contact, respondents may draw on different cognitive referents when formulating responses to survey items. Little is known about how sampling choices influence the measurement of public perceptions of police, though some research has started to disentangle the relationship between global and specific attitudes toward police (Brandl *et al.*, 1994).

If these suspicions about our findings are correct, they suggest that theories attempting to account for public perceptions of police need to focus more intently on the contexts in which police and citizens come into contact with one another. It may be the case that citizens' attitudes toward the police do not just vary in magnitude across communities – the very structure of the attitudes themselves may differ. While a small body of research has examined the structure of public attitudes about police, we are not familiar with any research that has examined community differences in the measurement of these attitudes (Scaglione and Condon, 1980; Sullivan *et al.*, 1987; Webb and Marshall, 1995). Perhaps in stable, peaceful communities (like the research site in this study) where the majority of police-citizen contacts are fleeting, not very serious, and of low-intensity, citizens do not develop the kinds of

specific, nuanced attitudes toward the police that we sought to measure in this study. Again, if this is true, researchers interested in measuring citizens' perceptions of police might need to tailor their methods to the population they are interested in studying. Citizen satisfaction surveys administered to the general population (who may or may not have had contact with the police) would need to pose only a handful of general survey questions. Surveys administered to citizens who have had limited, fleeting, or not-very-recent contact with the police could be a bit longer and contain more detailed questions than general community surveys. Long, detailed survey instruments would be used to study the perceptions of those whose contact with the police was frequent, intense, and/or very recent. These citizens would be expected to have the most detailed, fully formed, and perhaps multidimensional opinions about the police. These conclusions are speculative and further research is needed to test their validity.

The findings of our study also raise larger questions about conceptual and empirical ambiguity in the largely separate bodies of research on public satisfaction with police, police service quality, procedural justice, and legitimacy. To what extent do these concepts overlap, and is it possible to distinguish one from the others, both conceptually and empirically? Our review of the research in the four traditions suggests a significant degree of conceptual overlap. For instance, citizen satisfaction constructs are sometimes used to measure legitimacy. Similarly, fairness is an important component of both service quality and procedural justice. Indeed, many of the items used in this study to measure fairness are similar to items used by Tyler and his colleagues to measure procedural justice (Tyler, 1990; Tyler and Huo, 2002; Sunshine and Tyler, 2003). Moreover, the results of our study call into question the findings of research that fails to account for the measurement properties – particularly the dimensionality and discriminant validity – of constructs that measure public perceptions of the police.

5.1. Implications for Research on Procedural Justice and Legitimacy

Although the findings reported in the present research focus specifically on perceptions of service quality, they have significant implications for the more general body of research on public perceptions of police, particularly those studies that pay insufficient attention to the dimensionality of their measures. We offer two recent examples from scholarship on procedural justice and legitimacy to illustrate this point. Research on procedural justice and legitimacy has a long history in social psychology (Leventhal, 1980; Thibaut and Walker, 1975; Tyler and Lind, 1992), but has begun to expand rapidly into other disciplines, including criminology and criminal justice. Procedural justice scholarship is now an important part of the literature on public perceptions of police (Skogan and Frydl, 2004). In the two example studies, Tyler and Huo (2002) and Sunshine and Tyler (2003), perceptions of police drawn from a single survey were used to construct measures intended to reflect distinct and theoretically meaningful concepts like procedural justice, motive-based trust, and

legitimacy. Moreover, both studies examined the relationships between these measures in multivariate models and drew inferences about cause-and-effect.

First, [Tyler and Huo \(2002\)](#) examined both the antecedents and the consequences of procedural justice using data from telephone surveys of residents in Oakland and Los Angeles (hereafter referred to as the California study) as well as Chicago. The authors presented a variety of analyses but for our purposes we will just concentrate on two of them. In one set of analyses using the Chicago data, procedural justice was measured using an index constructed from eight survey questions that asked respondents about their personal experience with the courts or the police. These items were summed into an additive index that comprised one of two indicators (along with motive-based trust) of a latent variable measuring “social motives.” In that analysis, perceived legitimacy, also measured as a latent variable with two summative indicators[15], was endogenous to procedural justice. The authors concluded that social motives (including procedural justice) had a “distinct and significant” influence on legitimacy ([Tyler and Huo, 2002](#), p. 80). The items used to measure procedural justice and legitimacy overlapped in content. For example, some of the survey questions used to construct the legitimacy indices asked about the extent to which the police “treat everyone equally” or “favor some people over others” ([Tyler and Huo, 2002](#), p. 79), while the procedural justice measure was constructed from a series of survey questions that asked whether the respondent was treated fairly, politely, properly, and honestly. This overlap, when considered in the light of the service quality findings presented above, suggests the possibility that the items Tyler and Huo used to measure different concepts located on different sides of a regression equation might be measuring the same underlying concept. Although procedural justice and legitimacy may have different conceptual meanings (just as the dimensions of service quality we examined earlier appeared conceptually distinct), it is not clear whether these constructs can be distinguished empirically given the overlap in the items used to measure them.

In a separate analysis using the California data, [Tyler and Huo \(2002\)](#) treated procedural justice as endogenous to several other variables, including additive indices measuring quality of treatment and quality of decision-making. The authors concluded that both indices had independent effects on people’s perceptions of the procedural justice they experienced ([Tyler and Huo, 2002](#), p. 84). The quality of decision-making index was constructed from three survey questions asking whether the officer was honest, “made decisions based on the facts,” and “treated me the same as he/she would treat anyone else in the same situation” ([Tyler and Huo, 2002](#), p. 83). The quality of treatment index was constructed from three survey items that focused on whether the officer treated the respondent politely, with concern for his/her rights, and with dignity and respect. There is some inconsistency in Tyler’s work about the relationship between procedural justice, quality of decision-making (QD), and quality of treatment (QT). In some studies, QD and QT are treated as antecedents of procedural justice ([Tyler and Huo, 2002](#)), while in others they are treated as defining characteristics ([Blader and Tyler, 2003](#); [Sunshine and Tyler, 2003](#))¹⁶.

More recently, [Sunshine and Tyler \(2003\)](#) examined the influence of perceptions of procedural justice on perceptions of police legitimacy using data from two telephone surveys of New York City residents. Procedural justice was treated as a latent variable comprised of three additive indices measuring quality of treatment, quality of decision making, and procedural fairness using measures similar to those contained in [Tyler and Huo \(2002\)](#). Legitimacy was also treated as a latent variable comprised of three additive indices measuring trust in the police, affective feelings about the police, and “perceived obligation to obey the directives of a legal authority” ([Sunshine and Tyler, 2003](#), p. 539). Procedural justice had a strong effect on legitimacy, with a standardized regression coefficient of 0.74. Legitimacy, in turn, affected measures of cooperation with police, support for police (which they term empowerment), and compliance with the law. The authors concluded that “the influence of procedural justice generally flowed through legitimacy” ([Sunshine and Tyler, 2003](#), p. 531).

The same overlap in the items used to measure procedural justice and legitimacy in [Tyler and Huo \(2002\)](#) is evident in the Sunshine and Tyler study as well. For instance, one of the survey questions used to measure legitimacy was “people’s basic rights are well protected by the police in your neighborhood” (p. 540). A similar survey question used to measure procedural justice asked about the extent to which police “respect people’s rights” (p. 543). Another legitimacy question was “the police in your neighborhood are generally honest” (p. 540), while a similar procedural justice question asked about the extent to which the police “give honest explanations for their actions” (p. 543). Thus, while there are important conceptual differences between some of the indicators of procedural justice and legitimacy, for other items there appears to be conceptual overlap.

We draw on these two studies as examples of a larger tendency in the procedural justice and legitimacy literature to pay insufficient attention to the conceptualization and the measurement properties of theoretically meaningful constructs measuring public perceptions of police. The authors make a clear case that the concepts are separate and distinct from one another, but they do not carry out any of the necessary analytical work necessary to confirm that the measures are empirically distinct. This is a vital next step in the progression of the research, especially since researchers have not done a good job so far of demonstrating that constructs used on different sides of a regression equation are not tapping the same underlying concepts. Without using the proper measurement tools to confirm that constructs built using similar indicators are empirically distinct, it is impossible to know whether the findings are a methodological artifact. These measurement problems are not simply academic; they go to the root of the conclusions that we can meaningfully draw from these influential studies.

Recall that the present study sought to measure six separate conceptual dimensions of perceived police service quality. We used a single survey instrument to measure these concepts and discovered that the resulting measures could not be empirically distinguished from one another. Instead of measuring six separate aspects of police service quality that were conceptually distinct in our minds, we ended up only being able to measure overall service quality. Had we chosen to

ignore certain crucial steps in exploring the measurement properties of our constructs, we could have easily made some crucial scientific mistakes. Consider two very real possibilities.

First, suppose that we wanted to explore the independent effects of these six dimensions of service quality on a single dependent variable like overall satisfaction with police (an analysis that is common in both service quality and procedural justice research and that we had in fact had hoped to conduct). If we had failed to examine the correlations between these dimensions, or if we had failed to examine collinearity diagnostics, we would have missed an important finding: that the six dimensions are not independent of one another, and therefore their separate effects on overall satisfaction cannot be estimated[17]. Collinearity is not mentioned and no collinearity diagnostics are reported in either [Tyler and Huo \(2002\)](#) or [Sunshine and Tyler \(2003\)](#). More generally, this problem is endemic in research on procedural justice and legitimacy ([Reisig et al., 2007](#)).

Second, suppose we wanted to test a theory about the causal relationships between these (or other) dimensions drawn from the same survey, so that some ended up in a causal model as exogenous variables and others as endogenous variables. Given that the six dimensions were measuring the same underlying concept, were drawn from the same survey instrument, and had the same available response options, we would likely have found large regression coefficients and high levels of explained variance[18]. In such an instance, we might then have concluded mistakenly that the evidence supports the theory. [Reisig et al., \(2007, pp. 1010-1011\)](#) urge researchers to use caution in these instances: "... the observed relationship between an independent variable (e.g. procedural justice) and a dependent variable (e.g. legitimacy) will be artificially high if the two scales feature redundant information."

These problems are common in research on procedural justice and legitimacy because there are no standardized measures, the concepts underlying the measures are described or specified in unstable ways across studies, and the same (or similar) indicators are used to measure different concepts. For instance, [Colquitt \(2001, p. 387\)](#) concludes that these "dimensionality and measurement issues create theoretical and practical problems. An inability to separate purportedly distinct constructs at a measurement level leads to confusion regarding the nomological network of those constructs." Similarly, in their analysis of procedural justice, [Reisig et al. \(2007, p. 1008\)](#) lamented that "gauging the psychometric properties of existing process-based variables is frustrated by the fact that composite measures have differed from one study to the next"[19].

One way to avoid these problems is to draw on separate data sources to measure exogenous and endogenous variables. In survey research, unfortunately, that is difficult to do. Another approach is to use caution in translating concepts into tangible measures. At a minimum, using caution would mean paying serious attention to the conceptual substance and the construct validity of the measures to ensure that they are both conceptually and empirically distinct from one another. Inattention to dimensionality and discriminant validity is endemic in most research on public perceptions of police.

Research on citizen or client perceptions of police and other authority figures is conceptually and operationally messy. The concepts overlap with one another and they are translated into measures that overlap as well. The dimensionality of citizen perceptions is unknown and the science of understanding these dimensions is evolving in a way that can best be described as chaotic. Given the theoretical vitality and practical utility of these concepts and this body of research, beginning to build an orderly and cumulative body of research is essential.

6. Conclusion

This study specified and tested a conceptual model of perceived service quality in police agencies. Our primary intellectual foundation was the large body of research on service quality, justice, citizen satisfaction with government, and legitimacy. We tested and rejected a measurement model based on six dimensions of service quality articulated by [Mastroski \(1999\)](#): accessibility, reliability, responsiveness, competence, manners, and fairness. Our findings suggest that respondents in this study were unable to distinguish between the six dimensions of service quality. Rather, responses to the 26 service-quality items suggested a one-dimensional pattern – a single dimension that we interpret as overall perception of service quality. This study demonstrates the need to pay careful attention to conceptualization and measurement in assessing service quality, procedural justice, satisfaction, legitimacy, and other related perceptual constructs.

NOTES

1. As [Tyler and Huo \(2002, p. 43\)](#) argue, “legal authorities can utilize a customer service perspective in one important respect: they can handle problems in ways that show a concern for how people are treated and that reflect a good-faith effort to deal with people’s needs.”
2. These are not the only kinds of justice discussed by justice theorists. Other major forms include restorative and retributive justice.
3. Some scholars treat interactional justice as a unique concept separate from procedural justice ([Bies and Moag, 1986](#); [Colquitt, 2001](#); [Makkai and Braithwaite, 1996](#)), while others treat it as a component of procedural justice ([Tyler and Bies, 1990](#); [Tyler and Hou, 2002](#)).
4. The sample was not selected using traditional random sampling methods. We are reasonably confident that the methods used by the IT coordinator to select cases approximate a random sample. However, because we were unable to ascertain the total population of cases in each category, we do not know whether the proportions of cases selected within each category are equivalent. For instance, we do not know whether our sample over-represents people in collisions but under-represents crime victims. Furthermore, we do not know how large our sample is relative to the population of cases eligible for inclusion. Thus, we cannot generalize our findings to a larger population.
5. Unfortunately, due to database problems at the police department, we were unable to recover information on the nature of the contact for 126 of the 500 people selected for the sample.
6. While telephone surveys generally produce higher response rates, they are more expensive and time-consuming. Thus, public agencies like police departments typically rely on mail surveys to gather community feedback.

7. According to [Flora and Curran \(2004\)](#), robust WLS leads to “slightly biased test statistics and standard errors when large models are estimated with small samples. This inflation of the test statistic increases Type I error rates for the chi square goodness-of-fit test, thereby causing researchers to reject correctly specified models more often than expected. It may be that researchers can supplement the chi-square goodness-of-fit test with other fit indices often computed in applications of SEM to retain a model that would otherwise be rejected on the basis of the chi-square goodness-of-fit test alone.” They recommend the comparative fit index (CFI) and the root mean square error of approximation (RMSEA).
8. Monte Carlo simulations have cast considerable doubt on commonly used rules-of-thumb about the number of parameters to be estimated or the number of indicators per factor relative to the sample size. Although a large sample size is always preferable, simulation research has concluded that CFA performs well with small samples when a larger number of indicators per factor is used (opposite what common rules-of-thumb suggest). Moreover, CFA performs better with small samples when “saturation” (the magnitudes of the factor loadings) is uniformly high rather than low or mixed ([Marsh and Hau, 1999](#)). Although this study has a small sample size, the number of indicators per factor is high and the loadings are uniformly high. These are the conditions under which CFA is expected to perform well in spite of small samples. For the bootstrapping analysis, we attempted 5,000 replications, each one drawn on a random subset of cases. The averages of the parameter estimates across the replications serve as the point estimates, and the variability across all replications is used to compute standard errors. We are grateful to Cameron McIntosh for recommending the bootstrapping approach
9. A nonpositive definite matrix causes computational problems during the estimation of CFA models ([Brown, 2006](#)). Often this results from a singular matrix in which “one or more rows or columns in the matrix are linearly dependent on other rows or columns” ([Brown, 2006](#), p. 187). Singular matrices have no inverse, thus computations requiring the inverse of a matrix cannot be completed. Typically when this happens, it can be traced back to one or more of three explanations: a negative variance or residual variance for a latent variable, a correlation between two latent variables that equals 1.0 or more; or a linear dependency among three or more latent variables ([Muthén and Muthén, 1998-2007](#)). We do not see any evidence of a negative variance or residual variance, but we do find evidence of high correlations between the latent variables.
10. Two fit statistics for this initial model were inflated ($\chi^2 = 126.95$, $df = 35$, $p < 0.0001$; RMSEA = 0.146), but the others suggested a good fit (CFI = 0.975; TLI = 0.993; WRMR = 1.046. Findings from simulation research suggest that the WRMR should be “approximately” less than one ([Yu, 2002](#)). All of the factor loadings are statistically significantly different from zero.
11. Three modification indices had a value of 3.84 or greater (the critical value of chi-square with one degree of freedom). Error correlations are ordinarily fixed at zero on the premise that the latent variable should account for all the nonrandom variation between items. Freeing the error correlations represents an implicit acknowledgement that this premise may not hold. The first pair of items highlighted in the modification indices was q18 (“Orangetown police officers readily identify themselves to citizens with whom they have contact by providing their name and contact information.”) and q19 (“Orangetown police officers attempt to maintain a safe environment for citizens.”). We see no clear substantive connection between these two items, so we chose not to alter the model based on this first modification index. The second item pair was q2 (“Orangetown police officers treat people equally”) and q13 (“Bias-based policing is not a problem in the Orangetown Police Department”). In this case there is a clear substantive connection between the two items and not all of the relationship between them can be explained by the factor. Freeing the residual correlation between them ($r = 0.60$) acknowledges the existence of a trivial factor related to equality and bias in policing. The third item pair consisted of q14 (“Orangetown police officers keep citizens informed and follow-up with them when necessary.”) and q21 (“Orangetown police officers follow through on commitments they make to citizens”). Once again there is a clear substantive connection between these two items having to do with following up with citizens after an initial contact. Freeing the residual correlation ($r = 0.54$) between them acknowledges this connection.

12. Two fit statistics were inflated ($\chi^2 = 120.53$, $df = 35$, $p < 0.0001$; RMSEA = 0.140), but the others all suggested a good fit (CFI = 0.976; TLI = 0.993; WRMR = 1.010).
13. The only available test of model fit for the bootstrapped model is the weighted root mean residual (WRMR) which should be approximately less than one (Yu, 2002). The WRMR for our model was 0.809 which suggests a good fit. The two nonsignificant loadings presented evidence of having encountered estimation problems, so we do not interpret them as casting substantive doubt on the model. The point estimates for these two loadings were both large ($\lambda_{q7} = 0.962$; $\lambda_{q10} = 0.992$), but the standard errors were seriously inflated. The standard error of the estimate for item q7 was more than 12 times the size of the next largest standard error. The standard error for q10 was more than 260 times the size of the next largest standard error (excluding item q7). With ordinal data, sometimes these kinds of estimation problems can result from highly correlated sets of skewed items with some near-zero cells in the joint distributions with other variables.
14. The survey contained a comments section in which many of the respondents provided feedback about the police agency in question. However, seventeen respondents provided comments about the survey itself, and all echoed a similar theme: that the respondent had experienced insufficient contact with the police to provide accurate responses to all of the survey questions. Some of these respondents recommended adding a “don’t know” or “not applicable” category to the response options for the service quality questions. These comments raise important issues for those interested in measuring police service quality using citizen surveys, and reflect a longstanding discussion among survey researchers about the use of a neutral response category (Schuman and Presser, 1981; Bishop, 1987). Respondents sometimes find it easier and less cognitively taxing to choose a neutral category than to spend time reflecting on whether they might have an opinion in one direction or the other. Yet, omitting this category sometimes means that respondents who truly have no opinion must either choose a response option that does not apply to them or choose not to answer the question at all. Response rates for the 26 service quality items ranged from 75-92 percent with a mean of 87 percent and a median of 89 percent. To determine whether missing data might have influenced the findings, we re-estimated the models using full-information maximum likelihood, which uses all of the observed data in generating parameter estimates. The results were similar and the conclusions we drew from these analyses were the same.
15. The two indicators were obligation to obey rules and institutional trust. The obligation index contained six items and the institutional trust index contained 19.
16. Some of the confusion over the role of QD and QT is evident in Tyler and Huo (2002): “the relational model articulated by Tyler and Lind (1992, p. 52) identifies three interrelated elements that *define* procedural fairness: motive-based trust, the quality of decision making procedures (neutrality), and the quality of treatment (status recognition)” (emphasis added). Later on the same page they state: “As noted, Tyler and Lind (1992) treated trust as one of three *antecedents* of procedural justice, while Tyler and Blader (2000) treated motive-based trust as an aspect of quality of treatment, one of two *antecedents* of procedural justice” (emphasis added). It is unclear from this discussion of Tyler and Lind (1992) whether QD and QT were defining characteristics of procedural justice (as in the first quote), or antecedents (as in the second). Tyler and Huo (2002) are clear in pointing out that QD and QT are antecedents of procedural justice in their study. On the other hand, Blader and Tyler (2003) and Sunshine and Tyler (2003) both treat QD and QT as indicators of a latent procedural justice variable. Implicit in this specification is the idea that procedural justice causes QD and QT.
17. Although the Gauss-Markov assumptions are not violated by a “nearly linear” relationship among the independent variables, high correlations among them inflate standard errors for regression coefficients and make it difficult to generate “precise estimates of the unique effects of independent variables” (Berry, 1993, p. 27).
18. These issues are referred to by social scientists as “common method” or “monomethod” biases and can result from a number of factors. Podsakoff *et al.* (2003) list four main categories of common method biases, each one containing multiple types of more specific biases: common rater effects, item characteristic effects, item context effects, and measurement context effects. While there is not sufficient space here to describe them all in detail, it is notable that all of them are present in most of the research on procedural justice and service quality. Data for the independent and dependent variables

in these studies are typically drawn from the same person (a common rater), the survey items are constructed similarly (similar item characteristics), and all items are typically contained in the same survey instrument (identical item and measurement contexts). The best approach for dealing with common method bias is to measure the independent and dependent variables using different data sources, different instruments, or different measurement occasions. These approaches are often not feasible in survey research on citizen perceptions of police, yet statistical remedies are also available (Podsakoff *et al.*, 2003). Paying proper attention to measurement and dimensionality issues – particularly to ensure that the independent and dependent variables do not measure the same underlying concept – can go a long way toward minimizing common method bias. For a recent example of research on both service quality and procedural justice that attends carefully to the possibility of common method variance, see Carr (2007).

19. Most studies do not address dimensionality; they simply specify a dimensional scheme and “confirm” it using coefficient alpha. Reisig *et al.* (2007) outline the severe pitfalls in using this approach. Existing research specifies procedural justice as having between one and four dimensions (e.g., Blader and Tyler, 2003; Erdogan *et al.*, 2001; Kim and Mauborgne, 1991; Makkai and Braithwaite, 1996; Reisig *et al.*, 2007; Sunshine and Tyler, 2003; Tyler, 1990; Tyler and Huo, 2002). Moreover, the findings of the studies reporting multiple factors are very different from one another (for instance, see Colquitt, 2001; Blader and Tyler, 2003).

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