



Procedural justice during police-citizen encounters: The effects of process-based policing on citizen compliance and demeanor

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ABSTRACT

Purpose: Theories of procedural justice have facilitated the development of a process-based approach to policing which emphasizes the fairness of the manner in which the police exercise their discretion. The study examines whether procedurally fair behavior by the police affects two types of citizen behavior during encounters: citizen disrespect toward the police and citizen noncompliance with police requests.

Methods: This study uses data from systematic social observations of police-citizen encounters to examine procedural justice factors on citizen behavior. Because of the reciprocal nature of police-citizen interactions, an instrumental variable is used in the statistical analysis to help address the causal relationship between police force and citizen disrespect.

Results: The statistical analyses find limited support for procedural justice factors. Two types of procedurally fair behavior by the police, police demeanor and their consideration of citizen voice, are significant in reducing citizen disrespect and noncompliance, respectively.

Conclusion: Procedural justice factors have limited and inconsistent impacts on the two types of citizen behavior, and future research should address the limitations of this study and evaluate process-based policing with more data from social observations of police-citizen encounters.

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Introduction

Recent theoretical advances in the social psychology of procedural justice have facilitated the development of a process-based model of state regulation in general and process-based policing in particular (Tyler, 2003; Tyler & Huo, 2002; Tyler, 2004; Sunshine & Tyler, 2003). This process-based model calls attention to procedural factors that may have significant impacts on citizens' behavior during encounters with police. Proponents such as Tyler (2003, 2004) argue that this process-based perspective is one of three major conceptual initiatives in the 1980s and 1990s that have profoundly shaped the thinking of criminal justice (the other two being restorative justice and community policing).

Process-based policing, however, has not been fully evaluated. Previous research is heavily psychological and has focused on perceptions about the fairness of procedures in comparison with perceptions about the fairness of outcomes and the favorableness of outcomes (Engel, 2005; Hickman & Simpson, 2003; Sunshine & Tyler, 2003; Tyler, 1990; Tyler & Huo, 2002). Though this body of research

provides strong evidence about the psychological effects of perceptions of procedural justice, it offers less information about the effects of fair procedures in process-based policing, especially their effects on desirable citizen interactions such as citizen cooperation and compliance. Further, this body of research has also noted that people's subjective judgments about police behavior during police-citizen encounters might not accurately reflect objective police behavior (for example, Sunshine & Tyler, 2003; Tyler, 2003). Thus, data from field observations of police officers' procedurally fair behavior are required for a more comprehensive examination of process-based policing. Equally important, extant policing research on actual behavior of citizens during encounters is very limited, and these studies, when incorporating procedural justice-related factors in their analyses, have only partially addressed the dimensions of procedural justice (Reisig et al., 2004; Mastrofski et al., 1996; McCluskey et al., 1999) or focused on only one type of citizen behavior (McCluskey, 2003).

This paper uses systematic observational data to examine police-citizen encounters. Although systematic social observation (SSO) is not flawless (see, for example, Mastrofski & Parks, 1990; Spano, 2003 for the concern about officer reactivity), it does have the advantage over other approaches of capturing more detailed information on police-citizen interactions over the entire incident (Gould & Mastrofski, 2004). For instance, SSO enables researchers to distinguish police-initiated actions

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from police responses to citizen requests, which are difficult to document through other methods. More importantly, SSO permits the collection of quantifiable data that may be used to examine the effect of a variety of factors on the observed behavior of police and citizens involved in an encounter (Gould & Mastrofski, 2004).

This study focuses on the effects of procedurally fair behavior by the police on two types of citizen cooperative behaviors, specifically citizen compliance with police requests and citizen demeanor. In this approach, procedural justice as a principle in policing is balanced against other principles such as controlling situations by using force. Therefore, this paper also represents an examination of what Bittner (1970) called the skill of policing where officers who possess absolute situational authority find ways to avoid the use of force (also see Sykes & Clark, 1975).

The theory of procedural justice and process-based policing

The theory of procedural justice by Tyler and his colleagues directs attention to the effects of the fairness of procedures used by legal authorities and seeks to answer such important questions as why people obey the law, why people cooperate with legal authorities, and why people have trust and confidence in legal authorities (Tyler, 1990, 2003; Tyler & Huo, 2002). According to the theory, people's evaluations of and reactions to legal authorities are shaped by their judgments about the fairness of the procedures used by legal authorities. Particularly, people are more likely to accept the constraints imposed by the law and legal authorities if they believe legal authorities use fair procedures in their decision-making and treatment of members of the public. In addition, the effects of judgments concerning procedural justice are often found to be stronger than judgments about outcome fairness and outcome favorableness (Lind & Tyler, 1988; Tyler, 2003).

Tyler's theory of procedural justice has facilitated the development of a process-based model of regulation including process-based policing. Process-based policing is considered a proactive strategy of regulation in which the police are supposed to follow fair procedures to improve the quality of their decision-making and the quality of their treatment of citizens (Sunshine & Tyler, 2003; Tyler, 2003). When people believe that they are treated in a procedurally fair manner, they are more willing to cooperate with police officers during encounters and defer to their decisions. In the long run, citizens will view the police as having more legitimacy. This process-based approach to policing is therefore different from the traditional view of policing that emphasizes forceful words and deeds as central to achieving control (Bazley, Lersch, & Mieczkowski, 2006; Bittner, 1970).

The subjective nature of process-based policing and its objective characteristics

A major issue in process-based policing is the subjective nature of judgments about the fairness of procedures. As Tyler (2003) pointed out, findings supporting process-based policing are linked to the subjective fairness of the procedures people experience. In fact, most of the research that undergirds this perspective uses citizen surveys and focuses on judgments made by the public rather than on objective police actions or failures to act (Reisig et al., 2007; Sunshine & Tyler, 2003; Tyler, 1990; Tyler & Huo, 2002; Tyler & Wakslak, 2004). However, what is objectively just or unjust may not be subjectively perceived that way. People cognitively process information in a way that conforms to their pre-existing beliefs and attitudes (Piquero et al., 2004). Specifically, behavior that confirms their existing beliefs is retained while information that disconfirms these beliefs is not likely to be retained. This all influences how citizens perceive and internalize the behavior of officers during an interaction. For example, in a study of general views of the police and specific views of experiences with the police, Brandl et al. (1994) found that people selectively interpreted their own experiences with the police based on

their previous general perceptions. In addition, Murphy (2009) determined that individual differences in people's responses to emotional stimuli (officer behavior here) may influence the effect of procedural justice factors on citizen compliance. As such, procedural justice factors may be less effective in getting people to comply if they are highly emotional individuals. Thus there remains a subjective component associated with exposure to what may be assumed to objectively fair police behavior.

Despite the subjective nature of procedural justice, Tyler and Lind (2001) argue that there may be a procedural consensus, that is, judgments of whether a procedure is fair or unfair may be socially shared. In other words, some key elements of a procedure lead a procedure to be viewed as fair (Tyler, 2003; 2004). Indeed, Tyler and his colleagues report that survey items measuring procedural justice isolate two objective dimensions (for example, Sunshine & Tyler, 2003; Tyler & Wakslak, 2004; Tyler, 2005; also see Reisig et al., 2007). The first dimension, quality of police decision-making, assesses whether police officers accurately apply the law and make their decisions based upon facts, try to understand the facts in a situation before deciding how to act, give honest explanations for their actions to the people they police, apply rules consistently to different people, and treat people the same as anyone else would be in the same situation. The second dimension, quality of treatment, assesses whether officers take account of people's needs and concerns, treat people with dignity and respect, respect people's rights, and show concern for people's rights. Taken together, by asking citizens to report their observations of police behavior, this process-based perspective has taken the fairness of certain procedures as an objective fact rather than an individual judgment about them.

The shared judgments about what is fair or unfair as suggested by procedural consensus are comparable to the objective principles of fairness and justice that are studied by philosophers (Van den Bos & Lind, 2002). Bayles (1990), for instance, proposes a moral theory of procedural justice to justify normative principles for objective procedures in making burden-benefit decisions. Bayles (1990) specifically argues that there are four moral principles of procedural justice. The first principle is impartiality. Procedural justice requires an independent and impartial decision maker without personal bias, preexisting preference, or self interest in the decision to be made. The second principle is an opportunity to be heard. People affected by a decision should have an opportunity to present information and to rebut adverse evidence. The third principle is grounds for decisions. People should be informed of the basis for action. Fourth, procedural justice requires formal justice that refers to consistency, adherence to precedents, and conformity to rules. Bayles argues that these moral principles are justified in terms of their direct cost, the economic and moral costs of incorrect decisions, and inherent process values such as autonomy, human dignity, and natural rights.

Taken together, procedural consensus and the moral principles of procedural justice have made it feasible to test procedural justice theory and process-based policing with objective measures of police actions. Moving from subjective judgments in citizen surveys to actual behavior under observation, the findings can provide a full picture of process-based policing including the effects of procedurally fair procedures on citizens' behavior in addition to the effects of perceived fairness on citizens' attitudes. In addition, focusing on the effects of police actions might be more useful to the police, because they are in direct control of their own actions and not the subjective judgments others make about them (Mastrofski, 2004).

Systematic observational data can play an important role in the evaluation of procedurally fair procedures. The two objective dimensions of procedural justice about the quality of police decision-making and the quality police treatment can be directly observed and recorded. In fact, prior research has used data from systematic observations to examine these procedural justice dimensions, and this body of literature is reviewed below. Therefore, based

on the findings from survey research, using social observational data can expand our understanding of the value of procedural justice. In other words, it is an indispensable complement to the existing survey-based research of procedural justice.

Previous research on police procedurally fair behavior

Previous research has directed attention to the immediate effects of some procedurally fair police actions on citizen behavior during encounters. Using data from systematic field observations, this limited body of research has examined citizen reactions to the police such as disrespect toward the police (Reisig et al., 2004), defiance during encounters (Piquero & Bouffard, 2003), and compliance with specific police requests (Mastrofski et al., 1996; McCluskey, 2003; McCluskey et al., 1999). These encounter-level studies have provided limited support for some of the arguments of process-based policing. It should be noted that at the precinct level, prior research has also found some support for procedural justice theory (Kane, 2005).

Reisig et al. (2004) viewed citizen disrespect as instrumental and argued that citizens behaved disrespectfully to protect their social identity or punish officers. They found that elevated levels of police force could induce suspect disrespect because in such situations the suspect may conclude that there was nothing left to lose. On the other hand, subtle forms of force, such as police disrespect and low levels of coercive acts, did not provoke suspect disrespect because the anticipated costs for the suspect appeared too great.

Piquero and Bouffard (2003) examined the effects of police behavior on citizens' negative or hostile reactions including using weapons against police officers, fighting with and cursing at officers, and not answering officers' questions or cooperating with officers. They found that all three police action variables (e.g., nonthreatening verbal, threatening verbal, and physical force) had significant effects on the defiance behavior of citizens during interactions. In particular, nonthreatening verbal actions (such as questioning and lecturing) reduced citizen defiance, while verbal threats and physical attempts to control citizens induced defiant reactions. The authors suggested that officers' threats and physical force were perceived as unfair and stigmatizing and thus likely to result in specific defiance of citizens. A more recent study by Bouffard and Piquero (2010) also found that fairness of police treatment affected continued offending by citizens.

Empirical research has also studied citizen compliance with specific police requests during interactions. Mastrofski et al. (1996) found that force at the beginning of interactions, the threat of force represented by more officers present at the scene, and police disrespect during interactions reduced the likelihood of citizen compliance. McCluskey et al. (1999) replicated the model and found that a variety of factors impacted the likelihood of citizen compliance. They noted that police behavior such as police disrespect, a mention of the illegal nature of citizen behavior, and repeating requests, were more likely to result in less compliance from citizens.

These two studies included legitimacy of the police intervention to predict citizen compliance, and legitimacy was measured by procedurally fair police actions (e.g., offering explanations, comforting citizens, and demeanor) and conditions of the intervention (e.g., evidence of wrongdoing, invocation of the encounter, location of the encounter, and role of the citizen). In a more recent analysis, McCluskey (2003) used procedural justice factors to predict citizen compliance. He found that procedural justice factors during the interactions had strong effects on citizen compliance with police requests for self-control. Seeking more information, being respectful, and explaining police decisions increased the likelihood of citizen compliance with initial requests made by the police.

Taken together, the small body of research on citizen behavior during police-citizen encounters has provided limited information about the effects of noncoercive behavior by the police, though this type of behavior is important in process-based policing and could

significantly affect citizens' perceptions about the legitimacy and fairness of police interventions and their reactions during encounters. Furthermore, this body of research has yielded mixed findings about the effects of police behavior related to judgments of procedural justice. For example, police disrespect had significant effects on citizens' compliance with police requests for self-control (Mastrofski et al., 1996; McCluskey et al., 1999; McCluskey, 2003), but no effects on citizens' demeanor during encounters (Reisig et al., 2004). Mastrofski et al. (1996) did not find any significant effects of police mentioning of the illegality of citizen behavior, though an effect was found by McCluskey et al. (1999) in their replication. Moreover, McCluskey (2003) found that only several procedural justice factors (such as whether police showed disrespect, whether police asked citizens for information about the situation, whether police terminated citizens' voice, and whether police mentioned legal basis and leniency of their decisions) were correlated with citizens' compliance with police requests for self-control. He also found that if these procedural factors failed to produce citizen compliance when they were first used by the officer, they were likely to fail again if subsequently used during the interaction. Thus, additional research on citizen behavior is needed to more fully understand the effects of procedural justice and process-based policing.

Research questions

The purpose of this study is to examine the extent to which procedurally fair behavior by the police effectively maintains social order during encounters with citizens. Based on previous research on process-based policing, this study focuses on the effects of procedural justice factors, quality of interpersonal treatment and quality of police decision-making, on two desirable outcomes of process-based policing: citizen disrespect and citizen noncompliance.

The main research hypothesis is that procedurally fair behavior by the police reduces the likelihood of citizen noncompliance and disrespect. Following previous research, these two types of citizen behavior are examined separately. This is also because disrespect and noncompliance are distinguishable, albeit not entirely separate, concepts. Citizen disrespect refers to discourteous or rude attitudes and behaviors that exhibit a lack of respect to officers. Citizens may passively (e.g., ignore an officer's command or question) or actively (e.g., make obscene gestures, call the officer a name, and make derogatory comments) display such attitudes and behaviors during their encounters with officers (Reisig et al., 2004). On the other hand, citizen noncompliance refers to the failure or refusal to conform to officers' requests to do or not to do something. The main difference between the two concepts is that disrespect reflects a broader range of citizen responses to police behaviors, whereas noncompliance captures citizen reactions to specific requests made by the police. Further, citizen noncompliance may contribute to disrespect to police, but noncompliance does not necessarily lead to disrespect. For example, citizens may refuse to comply with police requests in a respectful manner.

Data and methods

The data for this study were part of a larger project that was designed to document and compare the activities of community policing and beat officers employed by the Cincinnati Police Division (see Frank et al., 2001). Between April, 1997 and April, 1998, trained observers conducted systematic social observations of 442 shifts that were selected randomly.

During the systematic social observations, trained graduate-student observers accompanied police officers in their natural setting and recorded everything the officers did during their normal work shifts.¹ Coding instruments were used to systematically structure observations and the collection of necessary information to explore

the variance in the behavior of police officers. All observers were trained on how to take field notes and later code these notes in a systematic fashion on standardized forms to ensure the collection of reliable and valid data, thus inducing uniformity and reliability between observers on how to categorize the social world of police officers. Data on citizen characteristics, such as gender, race, approximate age, and whether they were under the influence of drugs or alcohol, were collected. The observational data also contained contextual information on where the encounter took place, the actions taken by the officer and the citizen while in the presence of one another (such as whether either party was hostile or antagonistic to the other), and other characteristics of the encounter (e.g., the severity of the alleged citizen behavior that prompted the encounter and the presence of other officers or supervisors). Researchers conducted 442 shift observations that yielded information on 2,671 encounters between the police and all citizens. During the study period, 84.3 percent of the sworn officers in the Division were male, 64.3 percent were white and 34.7 percent were African American (Cincinnati Police Division, 1997).

The samples for analyses were drawn from citizens in full police-citizen encounters that were defined as involving at least three verbal exchanges of information. The selection criteria was similar to previous observational studies on police-citizen encounters, that is, only encounters involving suspects (including peace disturbers, wrongdoers, and persons for whom complaints were received) and disputants (whose role of either suspect or victim is unclear, or may be both) were selected (Terrill, 2003; Terrill et al., 2003; Terrill & Mastrofski, 2002; Mastrofski et al., 2002; Terrill, 2005; Reisig et al., 2004). These police-suspect encounters were potentially violent situations in which the police and the citizens might use coercion and escalate the situations. Therefore, these encounters provided the contexts for evaluating and contrasting the effectiveness of police coercive and procedurally fair tactics.

Two separate samples were employed to assess citizen disrespect and noncompliance. The sample for the analysis of disrespect consisted of 818 citizens as either suspects or disputants. Of these citizens only 332 citizens were asked by officers to comply with their requests. These 332 citizens constituted the sample for the evaluation of citizen noncompliance.

Dependent variables

Citizen Disrespect

Evaluation of process-based policing involves whether procedurally fair behavior by the police can significantly reduce citizen disrespect. The first dependent variable captures instances in which citizens were disrespectful to the police before being arrested or the encounter was otherwise terminated. Forms of citizen disrespect included citizens being passive aggressive (i.e., citizen did what officer wanted, but body language or verbal cues hinted that the citizen was upset), moderately hostile (i.e., citizen verbally expressed that the citizen was upset with the officer), and highly hostile (i.e., blatant disrespect, swearing, extreme personal insults of the officer). Among the 818 sample citizens (i.e., suspects and disputants), 286 (35%) were coded as disrespectful.

Citizen Noncompliance

An additional research question in process-based policing involves an evaluation of whether procedurally fair behavior by the police increases the likelihood of citizen compliance with their requests during face-to-face encounters. During encounters with members of the public, police routinely make requests including asking for information, encouraging support for police actions, and requesting citizens to control their behavior. Among all the requests observed in the Cincinnati

study, three of these routine requests were used to form the measure of police request for compliance, namely (a) requests to leave another person alone, stop bothering them, or leave the premises, (b) requests to cease disorderly behavior, and (c) requests to discontinue illegal behavior. These requests are selected for three major reasons. First, they represent order maintenance and crime control situations in which citizens may be less willing to comply. Second, they are interactions between the police and citizens that might escalate into more serious encounters if not handled properly. This is especially true when compared to the situations where officers only requested information. Third, in these situations, there is a greater variation on police requesting manners, i.e., suggestions or threats, which provides the opportunity to examine the effects of different police behavior.

Observers recorded the citizen responses to the police requests. Specifically, observers recorded whether the citizen: (1) gave no indication one way or the other, (2) refused the request, (3) said he/she would do it, but did not do it in police presence, and (4) did it in police presence. Similar to the coding used by Mastrofski et al. (1996), if the citizen complied or indicated a willingness to do so in the future, the response was coded 1 representing compliance. For those who explicitly refused or who gave no indication that they would comply in the future, the response was coded 0 for noncompliance. Among the 332 sample citizens, 179 were asked to conform to officers' requests more than one time. When multiple requests were made, citizens were considered noncompliant if they failed to comply with any of the requests. Overall, approximately 24 percent of citizens were noncompliant with police requests.

In sum, the two dependent variables represent two outcomes of procedural justice during encounters. However, the measures of citizen disrespect and noncompliance might overlook the micro-processes during interactions, such as how many times the citizen showed disrespect, how many times the citizen failed to comply with a particular police request, and the temporal order of multiple occurrences of noncompliance and disrespect. The path to the measured outcomes of procedural justice, as noted by Mastrofski et al. (1996), could be long or short, twisting or straight. Nonetheless, these dependent variables provide basic information about citizen cooperation during an encounter, based on which the effects of procedural justice can be examined.

Independent variables

Extant research in process-based policing demonstrates that quality of interpersonal treatment and quality of police decision making are two major components of procedural justice during police-citizen encounters. Below are descriptions of these two major components of procedural justice in police-citizen encounters, followed by descriptions of other independent variables that prior research has identified as being related to citizen noncompliance and citizen disrespect. Table 1 presents the descriptive statistics of the independent and dependent variables.

Quality of Interpersonal Treatment: Police Care, Disrespect, and Force

Police care, disrespect, and force, are three indicators of quality of interpersonal treatment. Police care is a dummy variable which is coded as 1 when the officer engaged in any of the following: (1) contacted a government agency or private organization on the citizen's behalf, (2) provided physical assistance to the citizen, (3) provided information on how to deal with a problem, or (4) comforted and reassured the citizen. These police initiated activities demonstrated whether the police wanted to help, took the situation seriously, and respected others' rights.

Police disrespect is measured separately with a dummy variable because demonstrations of disrespect and anger during interactions are multifunctional (Mastrofski et al., 2002; Tedeschi & Felson, 1994). Police

Table 1
Descriptive Statistics of the Variables

	Range	Citizen compliance (n = 332)		Citizen disrespect (n = 818)	
		Mean	S.D.	Mean	S.D.
		<i>Dependent variables</i>			
Citizen compliance	0-1	.24	.43		
Citizen disrespect	0-1			.35	.48
<i>Independent variables</i>					
<i>Quality of police interpersonal treatment</i>					
Police care	0-1	.38	.49	.32	.47
Police disrespect	0-1	.11	.31	.09	.29
Police force	0-2	.93	.65	.77	.76
<i>Quality of police decision making</i>					
Accuracy	0-3	1.05	.92	.90	.94
Voice consideration	0-1	.26	.44	.28	.45
Voice rejection	0-1	.07	.26	.05	.21
Consistency	0-1	.35	.48	.32	.47
Inconsistency	0-1	.14	.35	.14	.34
<i>Audience</i>					
Size of police audience	Square root	.34	.56	.33	.60
Size of citizen audience	Square root	1.29	.99	1.16	.96
Audience encouraged cooperation	0-1	.17	.38	.11	.31
Citizen irrationality	0-1	.70	.46	.57	.49
<i>Social group indicators</i>					
Nonwhite citizen	0-1	.67	.47	.64	.48
Female citizen	0-1	.29	.45	.32	.47
Juvenile citizen	0-1	.32	.47	.25	.43
Lower social class	0-1	.77	.42	.67	.47
Black officer	0-1	.44	.50	.42	.49
Female officer	0-1	.16	.37	.16	.36
Citizen initiated encounter	0-1	.09	.28	.11	.31
COP assignment	0-1	.31	.46	.27	.45

disrespect may be viewed as a subtle form of coercion which attacks the citizen's identity, expresses disapproval, and threatens the citizen for compliance. During observations, observers recorded various forms of police disrespect including unnecessary remarks, racial or lifestyle slurs, swearing, and shouting at the citizen. Observers also recorded whether the police officer showed disrespect before citizen disrespect. This variable is coded as 1 only when the police officer showed disrespect first, so that it does not include encounters where police disrespect was a reaction to citizen disrespect.

Police force against a citizen, whether it is necessary or not in the eyes of officers, may be interpreted by the citizen as illegitimate or an attack on his/her social identity. This variable is measured with a 3-point scale that provides an ordering of the three levels of force: physical force, verbal force, and no force. Physical force includes the use of firm grip, handcuff, pain compliance, flashlight, impact, and weapon before the termination of an encounter. Verbal force is whether the officer used commands and threats during interactions with citizens including situations in which the officer is attempting to secure compliance.

Quality of Police Decision-Making: Accuracy, Citizen Voice, and Consistency

Theories of procedural justice suggest various criteria people may use to evaluate the fairness of police decision making, such as accuracy or rectitude of the decision, voice or participation in decision-making, and neutrality, consistency, or the rule-conforming nature of the decision. This study captures these concepts with five variables. Accuracy of police decisions is measured with an index of whether police observed or sought evidence of wrongdoing. The police actions that comprise this index include (1) police observed the citizen engaging in an illegal act or observed circumstantial evidence of an illegal act, (2) police observed physical evidence that implicated the citizen in a legal offense, and (3) police heard claims from others

that implicated this citizen in a legal offense. These police actions can be observed by citizens and may have an impact on citizen interactions. Each police action is binary coded (no/yes) and summed into a scale with higher values representing greater accuracy of subsequent decisions to intervene.

Two dummy variables are used to capture citizens' voice and participation in police decision making. Voice consideration captures instances where the police gave full consideration of the citizen's requests. This variable is coded as 1 when for every request made by the citizen during an encounter, police either complied with or explained to the citizen why the fulfillment of the request was not possible. The other dummy variable is voice rejection which is coded as 1 when any of the requests made by the citizen were ignored or rejected without an explanation. Encounters where citizens did not make any requests serve as the reference category.

Consistency in police treatments across citizens is another indicator of the quality of police decision making. In the multiple-citizen encounters, police may treat all citizens in the same fashion or differentiate among them in favor of some citizens. To examine the effects of consistency of police behavior in these encounters, two dummy variables are created, and encounters with only one citizen serve as the reference category. Police behavior is considered inconsistent when the citizens involved in the same encounter received different treatment with regard to police demeanor, police force, and police compliance with citizen requests. For example, the police behavior is coded as inconsistent when the police showed disrespect to one citizen and did not show disrespect to the other. Similarly when the police considered one citizen's voice but ignored the other's, the police behavior is coded as inconsistent. Only when all the citizens were treated in a similar fashion in terms of the three types of police behavior, is police behavior coded as consistent.

Audience Effects during Interactions

The presence of an audience during an encounter may have strong effects on citizen behavior, because the presence of an audience increases citizens' concern for desired social identities during interactions (Tedeschi & Felson, 1994). Tedeschi and Felson (1994) further argue that the direction of the audience effects is partly dependent on the attitudes of the audience. Thus, audience effects are examined with variables measuring the size of the police audience, the size of the citizen audience, and the attitudinal preference of the citizen audience.

Because some of the observed encounters involved very large audiences, following previous research (Mastrofski et al., 1996), the effects of the police and citizen audiences are examined with a square-root transformation of the number of additional officers and citizens (excluding the interacting citizen) present at the beginning of the encounter. To measure the attitudinal orientation of the citizen audience, a dummy variable is used to capture instances in which the citizen was encouraged to cooperate with the officer by another citizen during the encounter.²

Citizen Capacity for Rational Judgments during Interactions

Research on citizen behavior during encounters usually focuses on three factors that may impede citizens' rational judgment of the situation, and these factors include intoxication, heightened emotions such as anger and fear, and mental impairment (Reisig et al., 2004; Mastrofski et al., 1996; McCluskey, 2003; McCluskey et al., 1999). Citizen irrationality here is measured with a dummy variable coded as 1 for citizens who were intoxicated or who were believed to be suffering from a mental impairment or elevated emotions (e.g., fear or anger) at the beginning of the encounter.

Citizen and Officer Characteristics

Prior research has found that citizens in different social groups in terms of race/ethnicity, gender, age, and social class, may have different attitudes toward the police (for example, Frank et al., 2005; Reisig & Parks, 2000; Weitzer & Tuch, 2005; Brandl et al., 1994; Cao & Dai, 2006). These preexisting attitudes and values may influence citizens' decisions to be noncompliant or disrespectful during encounters. Citizen characteristics are measured with dummy variables including nonwhite citizen, female citizen, juvenile citizen, and lower social class.³ Similarly, officer race and gender (measured as nonwhite officer and female officer) are included, as citizens may perceive and react differently toward different officers (Mastrofski et al., 1996; Reisig et al., 2004).

Citizen Initiated Encounter

Citizen initiated encounter is a dummy variable measuring whether the encounter was initiated by the interacting citizen. Extant research suggests that in citizen initiated encounters, the police are perceived as having more legitimacy to intervene (Engel, 2003; Mastrofski et al., 1996; McCluskey et al., 1999; Piquero & Bouffard, 2003). In other words, citizens who summon the police to solve problems for themselves may have more trust in the police or in the outcomes they might receive. In these situations citizens are more likely to cooperate with the police by showing deference and complying with police requests.

Several of the variables included in our models so far are related to the concept of legitimacy. In general, it is assumed that when citizens believe the police are legitimate, they are more likely to cooperate and show respect toward the police because of internal beliefs about their obligation and responsibility as citizens to obey the law and authority (Tyler, 2004). Unfortunately, we do not have any data concerning citizens' actual beliefs about the legitimacy of the police. Instead, by following suggestions in prior research (McCluskey et al., 1999), we used measures from which legitimacy may be inferred. Specifically, officer respect should increase perceptions of legitimacy. Similarly, citizens who contact the police and ask the police to intervene are arguably more inclined to perceive the police as the legitimate agency to remedy their situation than when police involvement is in situations where their presence was not requested. When bystanders are present during an encounter and encourage cooperation with the police, this may also portray to the person in the encounter that police authority is legitimate. Finally, the quantity of evidence officers' possess about the citizen wrongdoing may facilitate perceptions that the police are acting properly and influence citizen beliefs about legitimacy. In each instance, the measure represents procedurally or substantively fair procedures that infer legitimacy.

COP Assignment

The present data contain observations of community (COP) and beat officers. COP officers, due to their training and assignment, could be more familiar with and sensitive to citizen needs as improving police community relations was a major goal of COP officers. In Cincinnati, COP officers were given an additional 40 hours of academy training geared toward community policing and problem solving, while other officers only received 8 hours of community policing and problem solving training through in-service training. As a result, COP officers may be more likely to use techniques considered less adversarial and antagonistic during encounters to solve citizen problems. Thus, they may be more likely to achieve citizen cooperation during encounters.

Methods

Two probit regression models were used to estimate the effects of procedural justice factors and other independent variables on citizen disrespect and noncompliance.⁴ In particular, we used a probit regression model with an instrumental variable to analyze citizen disrespect and a standard probit model to analyze citizen noncompliance.⁵ The model for citizen disrespect is more complex, because we were cautious about the sequencing order of police force and citizen disrespect. It is likely that the multiple occurrences of citizen disrespect and police force during an encounter are both the causes and effects. A standard way to make proper causal inferences in this type of mutual causal relationship is to use what is called the instrumental variables method (see Angrist & Krueger, 2001). In contrast to citizen disrespect, citizen noncompliance is conceptualized as an outcome of an encounter (see Mastrofski et al., 1996), that is, whether the citizen was compliant or not by the end of the encounter. Therefore, the causal inference between police behavior and citizen noncompliance is not a serious problem.

In order to make a causal inference between police force and citizen disrespect, the instrumental variables method used the predicted value of police force as an independent variable in place of the actual value of police force. In this approach, the instrumental variable used to predict police force should be logically related to police force but not related to citizen disrespect. Drawing upon previous ethnographic research on police activities (Black, 1980; Brown, 1988), we created an instrumental variable measuring whether the encounter occurred within 1.5 hours before the end of the officer's shift. As suggested by this body of research, police officers, like other workers, are less active when the end of their shift is approaching. In fact, only 73 of 818 encounters occurred during the last 1.5 hours of the officers' shifts. Of these 73 encounters, only 28 encounters occurred during the last one hour of their shifts. Thus, this instrumental variable may have particularly strong effects on police behavior during encounters. In addition, because this information was not known to the citizens involved in the encounters, this instrument is not expected to be related to citizen disrespect. As such, it is a theoretically sound instrumental variable for police force that allows one to make causal inferences between police force and citizen disrespect. In addition, the Wald test of exogeneity (Wooldridge, 2002) showed a significance value of .03, suggesting that it is a valid instrument for police force.

Results

Tables 2 and 3 display the results of the two models of citizen noncompliance and citizen disrespect.⁶ The correlation matrixes and collinearity diagnostics showed that collinearity among independent variables was not a problem (with VIF statistics ranging from 1.08 to 2.01).

Explaining Citizen Disrespect

Among the measures of quality of interpersonal treatments, police disrespect and police force had significant impacts on citizen disrespect, controlling for other variables. First, police disrespect increased the likelihood of citizen disrespect. This finding is consistent with the proposition of process-based policing that police disrespect has negative implications for citizens' social identities and thus provokes disrespect among citizens to protect their offended social identities.

Second, forceful behavior by the police decreased the likelihood of citizen disrespect. Though this is inconsistent with process-based policing, it is not surprising because "maintaining the edge" in a forceful manner has been so deeply imbedded in the traditional ways of handling situations on the street. Also, it is usually considered effective in intimidating citizens and prohibiting citizen

Table 2
Probit Model of Citizen Disrespect with an Instrumental Variable

Variable	Coefficient	Robust Standard Error	Z
Constant	-1.14	.48	-2.36*
Quality of police interpersonal treatment			
Police care	.01	.13	.10
Police disrespect	.71	.20	3.61**
Police force	-1.00	.37	-2.68*
Quality of police decision making			
Accuracy	.38	.06	5.98**
Voice consideration	-.29	.19	-1.54
Voice rejection	.37	.24	1.45
Consistency	.05	.16	.31
Inconsistency	.05	.18	.44
Audience			
Size of police audience	.19	.08	2.24*
Size of citizen audience	.06	.06	0.98
Audience encouraged cooperation	.22	.16	1.34
Citizen irrationality	1.08	.18	6.00**
Social group indicators			
Nonwhite citizen	.29	.13	2.24*
Female citizen	-.42	.09	-4.68**
Juvenile citizen	.21	.13	1.63
Lower social class	.30	.16	1.91
Female officer	.22	.12	1.79
Black officer	.15	.13	1.16
Citizen initiated encounter	-.35	.21	-1.62
COP assignment	.17	.15	1.15
Instrumental Variable			
Within 1.5 hours before the end of shift			
Wald test of exogeneity = 0.03			

* $p < .05$; ** $p < .01$.

defiance (Bittner, 1970; Brown, 1988). In other words, citizens may be more likely to take an instrumental view that they should behave well in a subordinate way to avoid further coercive sanctions from aggressive officers.

Among the measures of quality of police decision-making, only accuracy of police decisions exhibited a significant impact on citizen

Table 3
Probit Model of Citizen Noncompliance

Variable	Coefficient	Robust Standard Error	Z
Constant	-1.36	.37	-3.70**
Quality of police interpersonal treatment			
Police care	.38	.23	1.66
Police disrespect	.25	.26	.96
Police force	.14	.18	.81
Quality of police decision making			
Accuracy	.01	.12	.10
Voice consideration	-.58	.28	-2.10*
Voice rejection	-.24	.37	-.64
Consistency	-.29	.25	-1.15
Inconsistency	-.06	.21	-.31
Audience			
Size of police audience	-.31	.21	-1.43
Size of citizen audience	.07	.11	.61
Audience encouraged cooperation	.08	.25	.30
Citizen irrationality	.71	.26	2.70**
Social group indicators			
Nonwhite citizen	-.19	.22	-.87
Female citizen	-.09	.18	-.52
Juvenile citizen	.52	.21	2.42*
Lower social class	.15	.22	.66
Female officer	-.26	.24	-1.06
Black officer	.13	.22	.60
Citizen initiated encounter	-.13	.37	-.37
COP assignment	-.38	.25	-1.52

* $P < .05$; ** $P < .01$.

disrespect. Specifically, when officers observed more evidence or heard claims that the interacting citizen was involved in an illegal act, the citizen was more likely to show disrespect to the officer. This finding may be attributable to the measure of citizen disrespect which captures not only the verbal expressions of disrespect but also body languages and verbal cues that the citizen was displeased or upset with the officer's behavior.

Several independent variables in the model also had significant impacts on citizen disrespect. First, the presence of additional officers at the beginning of an encounter was associated with a higher likelihood of encountering a disrespectful suspect. Second, consistent with the interactionist theory of coercion (Tedeschi & Felson, 1994), citizen irrationality (due to intoxication, mental impairment, or elevated emotions) increased the likelihood of the citizen being disrespectful. Third, citizens in different social groups did appear to behave differently when interacting with the police. Results found that female citizens were less likely to show disrespect toward the police, while nonwhite citizens were more likely to show disrespect.

Explaining Citizen Noncompliance

Table 3 reports the results from the probit regression model for citizen noncompliance. Similar to previous research (McCluskey et al., 1999), only a limited number of factors were significant when explaining citizen noncompliance. Contrary to expectations, none of the indicators of quality of interpersonal treatment were significant. Only voice consideration, as an indicator of the quality of police decision-making, was significantly correlated with citizen noncompliance. Citizens were less likely to be noncompliant if officers considered their opinions in handling the situation by granting what they requested or offering explanations if their requests were not fulfilled. In fact, the likelihood of encountering a noncompliant citizen was reduced by 60% when officers took citizens' opinion into consideration.

Consistent with the model on citizen disrespect, citizen irrationality was a significant variable in the noncompliance model. The likelihood of being noncompliant increased by approximately 2.7 times when the citizen was intoxicated, had a mental impairment or elevated emotions. The results also revealed the effects of citizen age on citizen noncompliance. Consistent with the findings of McCluskey et al. (1999), being a juvenile was the only significant variable among the social group indicators. Particularly, the odds that police would encounter a noncompliant citizen increased by approximately two times if the encounter involved a citizen under the age of 18.

Discussion

Prior research on process-based policing has used citizen surveys to examine the effects of citizen perceptions about procedural justice on citizen willingness to cooperate with the police. This body of research has found that procedural justice factors have strong impacts on the willingness of citizens to cooperate with and/or support for the police. The present study extends our understanding of process-based policing by examining the effects of procedural justice factors on citizen demeanor and compliance, two types of cooperative behavior of citizens that are important for the accomplishment of police work at the street level. Contrary to expectations, the results demonstrate that the effects of procedural justice on citizen behavior are not as straightforward as suggested by process-based policing. In fact, procedural justice factors have limited effects on citizen behavior, and their effects vary by the type of citizen behavior being considered.

The results show that only two types of procedurally fair behavior by the police are significant in promoting citizens' cooperative behavior during interactions. In particular, police demeanor and consideration of citizen voice can reduce citizen disrespect and citizen noncompliance, respectively. First, during interactions with the police, citizen disrespectful behavior may be a response provoked by police demeanor. An attitude of hostility, an angry tone, or

unnecessary remarks by the interacting officer could be viewed by the citizen as an indicator of disapproval of his/her social identities, lack of police professionalism and legitimacy, and poor relationship with the police. As a result, these citizen concerns may outweigh the deterrent effects of police disrespect and provoke citizen disrespect. This finding casts doubt on the utility of police disrespect which is deeply rooted in the coercive subculture of police and the “we versus them” mentality toward citizens (Terrill et al., 2003). It further demonstrates the need for respectful policing as advocated by the community policing movement which calls for cooperation and partnership (Skogan & Hartnett, 1997).

Second, the results show the significant effects of consideration of citizen voice in reducing the likelihood of citizen noncompliance. This finding suggests that police may have at their disposal, and within their control, the tools necessary to reduce the risk of a violent encounter by improving the quality of their decision-making. When citizens make requests during encounters, the police can possibly prevent or at least reduce the likelihood of antagonistic interactions by granting what citizens want or by explaining to them the reasons that their requests cannot be fulfilled. Similar to the extant research on field interrogations (Wiley & Hudik, 1974) and differential police responses (Worden, 1993), citizen expectations of and satisfaction with the police are positively influenced by police explanations, which in turn appears to influence citizen cooperation.

Taken together, the effects of procedural justice factors on citizens' behavior are limited and inconsistent. However, the findings about the effects of police demeanor and consideration of citizen voice also suggest the pivotal role of police behavior in reducing citizen noncompliance and disrespect. Indeed, respectful policing with citizen participation in police decision-making is an effective strategy to promote citizen cooperation during interactions. There is also evidence that citizen complaints can be significantly reduced if policing is done with courtesy and respect (Davis et al., 2005). Furthermore, citizens are also in favor of this type of strategy that enhances procedural justice. For example, Weitzer and Tuch (2006) found that most white, Hispanic, and black respondents in a national survey supported reforms to reduce procedural injustice. These respondents were almost unanimous in the view that officers should explain the reasons of their actions. Thus, process-based policing is promising in increasing police effectiveness in maintaining social order and achieving citizen cooperation. In order to better understand this policing strategy, future research should evaluate it more carefully with a particular emphasis on specific procedurally fair actions.

In addition to the findings about procedural justice, the results also show the salient differences between the two types of citizen behavior. Citizen disrespect and citizen noncompliance did not share any common antecedents except citizen irrationality in the two statistical models. Citizen irrationality was consistently found to have positive effects on citizens' choice to be disrespectful and noncompliant. This finding is supported by prior research on citizen behavior during encounters (Engel, 2003; Mastroski et al., 1996; McCluskey, 2003; McCluskey et al., 1999; Piquero & Bouffard, 2003; Reisig et al., 2004). However, other factors had substantively different impacts on citizen disrespect and noncompliance, suggesting that the two types of citizen cooperative behaviors are distinct citizen reactions that probably result from different decision-making processes. As argued by the social interactionist theory of coercion (Tedeschi & Felson, 1994), citizens make judgments about the potential losses and gains from their coercive reactions. When citizens' social identities are offended by less coercive actions of the police, such as displays of disrespect, citizens tend to protect their social identities with disrespect. In contrast, citizens are not more likely to be noncompliant with police requests because the anticipated costs associated with defiant behavior are substantial, especially when compared to showing disrespect.

The distinction between the two types of citizen behavior is also clearly evident when the effects of citizen characteristics are contrasted. For citizen disrespect, citizen race and gender are important factors. The analysis with race-gender dyads (results not shown) further reveals that nonwhite males in particular are more likely to show disrespect to the police. It is possible that, in the study site under observation, nonwhite citizens have higher expectations concerning the treatment they will receive from black officers, and when their expectations are not met, they are more likely to express their dissatisfaction verbally or through their body language. In contrast, only citizen age affects the odds of citizen noncompliance, and juveniles are more likely to be noncompliant with police requests than adults. Noncompliance is an aggressive form of resistance during interactions with the police, and perhaps only juveniles are more likely to be impulsive and disregard the potential costs of being noncompliant. Additionally, these costs may be less for juveniles than adults. It is also possible that juveniles may not even be aware of the potential costs of being noncompliant. Taken together, these findings suggest that citizen interactions with the police such as cooperation and resistance may involve different types of behavior and should be analyzed separately.

This study has two major implications for future research on process-based policing and its implementation. First, this body of research should move its focus from evaluations of citizens' subjective perceptions toward a more comprehensive evaluation that also includes evaluations of the effects of objective police procedures. Police not only need to be sensitive to peoples' judgments about the fairness of a procedure but also need to be concerned with understanding what procedures are generally perceived fair and what are the effects of these fair procedures. As described earlier, because process-based policing is developed based on the social psychology of procedural justice, its benefits are based on citizens' attitudes and perceptions (Sunshine & Tyler, 2003; Tyler, 1990, 2005). Citizen perceptions, however, may not accurately reflect what they received from the police, and citizen pronouncements that they are willing to cooperate with the police does not necessarily mean that they will do so during real-life encounters. Because what is in the direct control of officers is their own behavior, the benefits of process-based policing should derive from observations of police behavior and its impacts rather than solely from citizens' subjective personal judgments and attitudes.

Future research needs to provide more evidence about the desired behavioral effects of fair procedures and identify the key elements in process-based policing that could have the strongest effects on citizen behavior. This new research direction will lead to a better empirical foundation for the utility of process-based policing by demonstrating what specific procedures should be implemented. For example, based on available findings, the recommendation would be that the police should respect citizens, involve citizens in their decision-making, and explain their decisions to citizens. More guidelines are clearly needed to instruct the police in the implementation of process-based policing.

Second, research on the effects of procedurally fair behavior by the police on citizen behavior has called for reconsideration of the value of coercive actions by the police. Extant research on police subculture often emphasizes its authoritative and coercive aspect in handling potentially violent encounters. Suspiciousness and maintaining the edge over citizens are described as the key elements of the traditional police subculture (Brown, 1988; Rubinstein, 1973; Skolnick, 1994; Van Maanen, 1974). However, whether police coercion has the hypothesized deterrent effects on citizen reactions remains largely unknown, due to the very limited empirical research on citizen behavior. Furthermore, a large body of research has reported that coercive strategies and practices with discourtesy erode police legitimacy (for example, see Gau & Brunson, 2010 and Sherman, 1993). Future research on process-based policing and citizen behavior can address this issue by contrasting the immediate deterrent effects of police coercion with the procedural-justice effects. Noncoercive,

procedurally fair actions may be more effective in accomplishing peace than the use of coercion in potentially violent situations. With a more careful and comprehensive evaluation of the behavioral effects of procedural justice in different situations, the police will be better informed of the value of their coercive and non-coercive tactics. Police administrators should in turn consider how to reformat the police subculture within the department to implement process-based policing.

The skill of policing, as argued by Bittner (1970), consists in finding ways to avoid the use of force. The importance of procedurally fair behavior by the police suggests one way in which police may avoid reliance on forceful behavior. There are other alternatives to forceful words and deeds. Whether citizens cooperate with the police is affected by various factors such as citizens' characteristics, their capacity for rational decision-making, their relationship with the police, and interactions with the police. If officers understand and appreciate the dynamics of their encounters with citizens, especially the different effects of procedural justice and coercion, then they can enjoy a better relationship with the public and receive more voluntary cooperation and less risk of physical harm and litigation.

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Appendix A

Table 4
Probit Model of Citizen Disrespect with an Instrumental Variable (with the nature of contact variables)

Variable	Coefficient	Robust Standard Error	Z
Constant	-1.23	.50	-2.46*
Quality of police interpersonal treatment			
Police care	.01	.13	.09
Police disrespect	.74	.20	3.79**
Police force	-.96	.39	-2.47*
Quality of police decision making			
Accuracy	.36	.06	5.58**
Voice consideration	-.32	.18	-1.74
Voice rejection	.36	.25	1.45
Consistency	.07	.16	.42
Inconsistency	.08	.18	.44
Audience			
Size of police audience	.17	.08	2.05*
Size of citizen audience	.07	.07	1.08
Audience encouraged cooperation	.19	.16	1.21
Citizen irrationality	1.07	.17	6.34**
Social group indicators			
Nonwhite citizen	.30	.13	2.34*
Female citizen	-.40	.09	-4.38**
Juvenile citizen	.19	.13	1.42
Lower social class	.26	.16	1.59
Female officer	.23	.12	1.87
Black officer	.16	.13	1.24
Citizen initiated encounter	-.35	.22	-1.64
COP assignment	.15	.15	1.02
Nature of contact			
Disorder	.05	.16	.29
Drug	.04	.33	.11
Index crime	.44	.26	1.70
Other	.37	.29	1.29
Instrumental Variable			
Within 1.5 hours before the end of shift			
Wald test of exogeneity = 0.03			

*P<.05; **P<.01.

Table 5
Probit Model of Citizen Noncompliance (with the nature of contact variables)

Variable	Coefficient	Robust Standard Error	Z
Constant	-1.44	.37	-3.95**
Quality of police interpersonal treatment			
Police care	.41	.23	1.78
Police disrespect	.22	.26	.83
Police force	.13	.18	.71
Quality of police decision making			
Accuracy	.03	.12	.22
Voice consideration	-.57	.27	-2.16*
Voice rejection	-.19	.38	-.51
Consistency	-.29	.26	-1.11
Inconsistency	-.04	.21	-.21
Audience			
Size of police audience	-.32	.21	-1.47
Size of citizen audience	.06	.11	.53
Audience encouraged cooperation	.10	.26	.37
Citizen irrationality	.68	.27	2.51*
Social group indicators			
Nonwhite citizen	-.19	.22	-.90
Female citizen	-.06	.18	-.35
Juvenile citizen	.51	.22	2.28*
Lower social class	.11	.23	.46
Female officer	-.29	.25	-1.16
Black officer	.12	.22	.57
Citizen initiated encounter	-.16	.36	-.44
COP assignment	-.41	.23	-1.73
Nature of contact			
Disorder	.14	.25	.58
Drug	.86	.45	1.91
Index crime	.12	.48	.24
Other	.16	.49	.32

*P<.05; **P<.01.

Notes

1. Prior to conducting ride-a-longs, observers were required to complete a training course over a period of several weeks. In this training, the project and its purposes were described in great detail. Also, information was provided concerning the organizational arrangement of the Cincinnati Police Division. The majority of effort in the training sessions was devoted to reviewing and discussing the four data coding instruments, and clarifying and interpreting each of the standardized questions. Observers reviewed videotaped activities and encounters of police officers and citizens, and were asked to code the actions viewed on the videotape using the project instruments. Coding decisions were immediately reviewed and discussed by the research team and observers. In addition to these training exercises, each observer was briefed on project confidentiality, and required to complete a form stating that they would not discuss activities observed while on ride-a-longs with personnel not related to the project, and that the discovery by the project staff of impermissible discussions would result in the termination of the observer from the project. This training was conducted in order to standardize coding rules and to increase inter-coder reliability. Over the course of the project (but especially after the first two months), the research team and the observers held meetings and debriefings in order to discuss general operations of the project. During these meetings the observers communicated coding dilemmas as a group (e.g., "I saw the officer do _____. How do I code this?"). These issues were addressed and clarified as a group, and designed to increase reliability.

2. We also created a dummy variable to capture instances in which the citizen was encouraged not to cooperate with police by a person in the audience. Because there were only 9 (1%) encounters where the interacting citizens were encouraged not to cooperate, this variable was not included in the analyses.

3. A citizen's wealth/class was determined based on the citizen's appearance, dress, the citizen's property and possessions, information provided by the citizens about his/her income (job, home, and other resources). Low social class refers to someone who appeared not to have a domicile that could shelter him/her from the elements and someone who had regular food, shelter, and clothing, but could provide these things at minimum levels for subsistence.

4. Because there was no information about whether an encounter occurred within the citizen's residential neighborhood, we did not include community factors in the analyses. It might be a problem to assume community characteristics are correlated with citizen behavior in the same way as with police behavior. Thus, HLM analyses were not conducted to examine the impacts of community factors. In addition, the limited number of encounters in each neighborhood may make it problematic to meet the assumptions of HLM. Another feature of the data was that the 818 encounters clustered around 140 officers, so in the analyses we controlled for the clustering effects and estimated the robust standard errors.

5. We also did the analysis using the logistic regression technique and found no differences in the findings.

6. We also did the analyses with a series of dummy variables measuring the nature of contact. Similar to previous studies (Mastrofski et al., 1996; Reisig et al., 2004), these dummy variables captured situations involving drug offenses (3%), disorder situations (e.g., disputes and minor offenses; 68% of all encounters), traffic violations (17%; served as the reference category), index crimes (5%), and other types of contacts (7% of the encounters having incomplete information about the nature of contact). The findings with these additional nature of contact variables are presented in the Appendix A. A comparison reveals that after controlling for the nature of contact, all significant variables in the original model remained significant, and all nonsignificant variables remained nonsignificant. Though the nature of contact is often a significant factor affecting police behavior, none of the dummy variables were significant and it is not surprising that nature of contact does not influence citizen behavior. Existing research has found that the nature of contact does not typically influence citizen behaviors, including citizen noncompliance (McCluskey et al., 1999) and citizen disrespect (Reisig et al., 2004). Perhaps, the nature of contact has an indirect relationship with citizen behavior through procedural justice (i.e., the nature of contact → procedural justice → citizen behavior). In other words, police are procedurally fair in treatment and decision making in less serious encounters and not so in more serious encounters. Because it precedes the relationship between procedural justice and citizen behavior, as noted, the nature of contact did not change any of the observed relationships in the original model, nor were the contact variables significant when controlling for procedural justice variables.

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