

# The effects of procedural injustice during police-citizen encounters: a factorial vignette study

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# Abstract

*Objectives* This study tested the effect of procedural injustice relative to being sanctioned by police on a variety of outcome measures, such as decision acceptance and immediate compliance, in two types of police–citizen encounters, traffic stops and noise complaints.

*Methods* A factorial vignette design was used to determine the effect that the manipulations (i.e., procedural injustice and receiving a citation) had on the dependent variables. Participants (N = 594) were randomly assigned one vignette scenario with four possible conditions. After reading the hypothetical encounter, closed-ended survey items were administered to participants.

*Results* The standardized regression coefficients from the ordinal regression models revealed that participants who were administered the procedural injustice stimuli are less satisfied with how the police resolved the encounter, reported that they are less likely to follow the police directives, said they are less willing to accept the officer's decisions, and are more likely to wish the police had handled the situation differently. This pattern of findings was consistent in both types of police encounters. Importantly, support was also found for the hypothesis that procedural injustice is more salient in predicting outcomes than whether a citation is issued.

*Conclusions* The results support the process-based model of regulation and serve to underscore the influence of unfair police processes on encounter-specific outcome variables.

Keywords Compliance  $\cdot$  Police encounters  $\cdot$  Satisfaction with police  $\cdot$  Traffic stops  $\cdot$  Vignettes

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# Introduction

Interest in the process-based model of regulation has increased dramatically in the past decade. Much of the growing body of research uses survey data to test whether subjective fairness judgments of police process influence supportive values, and whether the latter affects general cooperation (see Tyler 2003, p. 284, for a graphical depiction). The weight of the empirical evidence largely supports this two-part argument (Mazerolle et al. 2013a). Although such research is frequently referenced in police policy discussions, critics caution that subjective procedural justice judgments may not accurately reflect actual police behavior (Nagin and Telep 2017).

The process-based model also posits that police action consistent with the principles of procedural justice—respectful treatment, participation opportunity, neutral decision making, and motive-based trust—directly influence various outcomes that are of interest to the police, such as the willingness to accept authorities' decisions (Tyler 2003). What is more, the salience of procedural justice during encounters is said to exceed the favorability of outcomes (Tyler and Huo 2002). To date, general population survey studies of the main effect of procedural justice judgements are relatively limited (Nix et al. 2015; Reisig 2007). Systematic investigations of the "process versus outcome hypothesis" using data from individuals who had recent contact with legal authorities are even sparser. This state of affairs is unfortunate because it is in the best interest of the police that encounters unfold in an orderly and cooperative fashion, even when issuing a citation is necessary.

Although research has used samples of individuals with recent contact with the police to test the main effects of procedural justice (Penner et al. 2014; Skogan 2005), the process versus outcome hypothesis is rarely subjected to empirical scrutiny. But such tests do exist. Paternoster et al. (1997) not only found that individuals who were arrested for spousal assault who judged the police in their case favorably in terms of procedural justice were significantly less likely to reoffend, but they also observed that the procedural justice effect was stronger than whether the participant received a favorable outcome (i.e., shorter term of detention). Tyler and Huo (2002), who sampled individuals with recent contact with the police or courts, report that procedural justice judgments significantly influence trust, acceptance of decisions, and satisfaction with the decision maker. Importantly, the procedural justice effects are stronger than outcome favorability. Although studies using samples of individuals with recent criminal justice experience likely benefit from more reliable data about the quality of police action (Reisig 2002), such studies also rely on subjective fairness judgments.

Methodologies that do not rely on subjective judgments of police action have also been used to test process-based model hypotheses. A small number of studies use systematic social observation (SSO) data. This method involves trained observers transcribing detailed accounts of transactions between officers and individuals according to a predetermined protocol. Arguably, this methodological approach effectively captures objective accounts of police behavior. Mastrofski et al. (1996) found that citizens who were treated disrespectfully by the police were less likely to comply with police directives. The effect of respectful police behavior was null. McCluskey et al. (1999) found that both respectful and disrespectful police behavior shape citizens' compliance. Finally, Dai et al. (2011) found that police disrespect had no appreciable effect on compliance. At best, extant SSO procedural justice research is incomplete: the main effects of procedural justice elements vary across studies and researchers have yet to consider the importance of process relative to favorable outcomes.

Recent field experiments have assessed the influence of procedurally just police action. The Queensland Community Engagement Trial (QCET) involved the use of a script infused with procedural justice principles during random breath test traffic stops. Drivers receiving the experimental intervention were more satisfied with the police than drivers receiving a standard breath test (Mazerolle et al. 2013b; see also Sahin et al. 2016). The results from the Scottish Community Engagement Trial (ScotCET) showed that the experimental treatment did not produce the desired effect (MacQueen and Bradford 2015). Field trials testing the impact of procedurally just policing are relatively new, though the evidence is encouraging. Field experiments considering the resolution of police encounters, such as variation in the dosage of police sanctions, would help fill a critical void in the process-based model literature.

A handful of non-field experiments have examined how citizens perceive scenarios of hypothetical police encounters in terms of procedural justice. Maguire et al. (2016) used videos depicting traffic stops and found that individuals who observed procedurally unjust treatment were less willing to cooperate with police, had a lower sense of obligation to obey, and reported less trust and confidence in police. Outcomes for those observing procedurally just stops were much more positive (see also Lowrey et al. 2016). Barkworth and Murphy (2015) used written traffic stop scenarios. They found that participants who received the procedurally just encounter reported lower negative affect scores and had a greater propensity for compliance relative to those who received the procedural injustice condition. As with field trials, the primary interest of researchers conducting non-field experiments has been the main effect of procedural justice. The importance of fair processes relative to the favorability of outcomes has taken a back seat, leaving an important empirical question open.

# **Current focus**

This study tests the effects of procedural injustice on encounter-specific outcome variables by using full factorial vignette survey data from a university-based sample. Participants were randomly given one of two scenarios—one involving a traffic stop and the other depicting a noise complaint. Both scenarios included two experimental conditions: (1) police behavior consistent with procedural injustice and (2) police issuing a citation. Ordinal regression models were estimated to test the magnitudes of the procedural injustice and police citation effects. The results will demonstrate the potential negative impact police processes can have on encounters with the public.

# Methods

## Data

This study uses data from self-administered surveys, distributed to undergraduate criminology and criminal justice (CCJ) students at Arizona State University (ASU).

Surveys were administered during the 2015–16 academic year. Students from 13 different CCJ courses were surveyed, nine of which were introductory classes that are open to all ASU students (n = 449). Four classes were upper-level courses that were only available to CCJ majors (n = 147). The survey took 20 minutes to complete. The research protocol was approved by ASU's institutional review board. A total of 596 of the 605 surveys were returned (participation rate = 98.5%). There was very little missing data (125 cells of the total of 4172 used in the analyses, or less than 3% of cells). Missing values were handled using similar response pattern imputation (or hot deck nearest neighbor method), which works well with Likert-type survey data (Jönsson and Wohlin 2006). Two cases with persistently missing values were omitted.

# Sample

The sample was 57.3% female and 42.7% male. A little less than half of the sample identified as White (45.2%), 38.0% Latino, 6.2% African American, 4.2% Asian, 3.5% Native American, and 2.9% identified as "other" minority. A majority of participants were between the ages of 18 and 19 years old (55.5%), 12.6% were 20 years old, and 31.9% were 21 years old or more. When compared to the university student population, the sample was more racially diverse, younger, and included a higher proportion of females.

# Design

Participants received survey booklets containing a variety of closed-ended items and a single hypothetical scenario (either traffic stop or noise complaint; see Appendix). The scenario was located near the end of the instrument. Presenting participants with only one vignette reduces carelessness when completing the instrument (Stolte 1994). The scenarios were short, concise, and true-to-life for many college students. Indeed, when asked how clearly they could imagine the story, most participants said "very clearly" or "somewhat clearly" (96.2% for traffic stop and 97.3% for noise complaint). Each survey altered the experimental stimulus and control condition for two different variables (i.e., procedural injustice and police citation), making for a total of four different possible versions of each scenario. Surveys were randomly pre-sorted and distributed by row in each classroom. After reading the scenario, participants were asked questions related to the hypothetical police encounter. Some of these items are used as outcome variables and others for manipulation checks.<sup>1</sup>

## Measures

The study uses four dependent variables. *Encounter satisfaction* is a single item that asked, "How satisfied are you with the way the police officer handled the situation?" This item featured a closed-ended scale (1 = very dissatisfied to 4 = very satisfied).

<sup>&</sup>lt;sup>1</sup> Balance tests using demographic information (e.g., age, sex, and race) and summated scales (e.g., distributive justice) were performed for each subsample. One of 20 *F*-ratios was significant (p < 0.05). It was concluded that the observed imbalance was spurious and attempting post hoc adjustments to the multivariate analyses could jeopardize the validity of the findings (Mutz et al. 2017).

*Handle differently* is a single item that read, "In a similar situation in the future, you would like to see the police handle the situation differently." The response set ranged from strongly disagree (coded 1) to strongly agree (coded 4). *Immediate compliance* is a single-item variable that asked, "How likely would you be to do what the officer asked you to do?" A closed-ended response was used (1 = very unlikely to 4 = very likely). *Decision acceptance* is operationalized using an item that read, "How willing would you be to accept the officer's decision?" A Likert-type response set was featured (1 = very unwilling to 4 = very willing; see Table 1 for summary statistics).

The two independent variables capture experimental conditions. One condition features a police officer behaving in a manner that is not consistent with the principles of procedural justice. In both scenarios, officers use profanity (disrespectful treatment), make judgmental statements (fail to remain neutral), and ask rhetorical questions in a condescending manner (fail to provide participation opportunity). Another element of procedural justice, motive-based trust, is not well represented in the manipulation. *Procedural injustice* reflects whether participants were administered the experimental condition (1 = yes, 0 = no). The second variable, *police citation*, indicates whether the participant responded to a hypothetical encounter where the police issued a citation (1 = yes, 0 = no).

## Analyses and results

#### **Manipulation checks**

To determine whether the injustice manipulations had the desired effects, one-way analysis of variance (ANOVA) models were estimated. After reading the scenarios and responding to the items for the outcome measures, participants were presented three items asking them to judge the behavior of the police officer in the scenario they received (i.e., "The officer treated you with respect", "The officer treated you politely", and "The officer showed concern for your rights"). Response sets ranged from strongly disagree (coded 1) to strongly agree (coded 4). Table 2 shows the mean scores for the evaluative measures across groups. The results demonstrate that individuals exposed to the injustice relative to those who received the control condition. These findings confirm that the injustice manipulations had the desired effect. Because the police citation manipulation was an objective action, checks similar to those employed for the

	Traffic stop (	n = 296)	Noise complai	int $(n = 298)$
	Mean	SD	Mean	SD
Encounter satisfaction	2.77	0.97	2.55	1.06
Handle differently	2.64	0.95	2.73	0.96
Immediate compliance	3.35	0.68	3.17	0.79
Decision acceptance	3.28	0.83	3.10	0.90

Table 1 Summary statistics for dependent variables

injustice manipulation were not performed. Instead, the sign and significance of the effect of the police citation manipulation will offer evidence as to whether this condition worked as intended.

## Multivariate regression models

Given the nature of the dependent variables, the ordinal regression model was used. The parallel lines assumption was met for the eight models presented in Table 3. Each model contains two variables that reflect the experimental conditions. Concerning the main effects of procedural injustice, the results are consistent in terms of sign and significance both within and across the two scenarios. In other words, participants who received the procedural injustice manipulation were less satisfied with how the police resolved the encounter, more likely to wish the police handle such situations differently, less likely to follow police directives, and less willing to accept police decisions. The effect sizes were also similar across scenarios. With regard to the outcome of encounters, the pattern of estimates indicates that the citation manipulation worked as intended. A negative effect was observed for encounter satisfaction, immediate compliance, and decision acceptance. And, as expected, these same participants were more likely to report that the police should handle these types of situations differently. All told, the evidence shows that both process and outcome were important predictors.

When it comes to the process versus outcome hypothesis, the evidence is somewhat mixed. For example, the regression estimates are clearly stronger for procedural injustice relative to police citation in the handle situation differently and immediate compliance models for both scenarios. However, when it comes to encounter satisfaction, the relative effect of procedural injustice is as expected in the traffic stop subsample, but fails to provide support among individuals responding to the noise complaint scenario. Finally, the effect of police citation was considerably stronger in the decision acceptance models, suggesting that the process-based model may

	Officer respe	ectful	Officer po	lite	Officer respected rights	
	Mean	SD	Mean	SD	Mean	SD
Traffic s	top ( $n = 296$ )					
Procedu	ral injustice					
Yes	1.865	0.744	1.791	0.810	2.392	0.830
No	3.466	0.552	3.541	0.621	3.231	0.703
F	442.323*		434.727*		87.801*	
Noise co	Somplaint ( $n = 298$	)				
Procedu	ral injustice					
Yes	1.647	0.787	1.687	0.828	1.920	0.894
No	3.331	0.653	3.378	0.694	3.074	0.739
F	403.509*		364.606*		147.484*	

Table 2 One-way analysis of variance (ANOVA) models testing procedural injustice manipulations

\*p < 0.001

	Encounter satisfaction	faction		Handle differently	ently		Immediate compliance	pliance		Decision acceptance	ance	
	b (s.e.)	β	z-Test	<i>b</i> (s.e.)	β	z-Test	<i>b</i> (s.e.)	β	z-Test	b (s.e.)	β	z-Test
Traffic stop $(n = 296)$												
Procedural injustice	- 2.81 (0.28)	-0.59	-10.09**	2.68 (0.27)	0.59	9.94**	- 1.11 (0.24)	-0.29	-0.29 - 4.69 **	- 0.93 (0.24)	- 0.23	- 3.92**
Police citation	-1.32 (0.23)	-0.28	- 5.73**	0.64 (0.22)	0.14	2.87*	- 0.77 (0.23)	-0.20	$-3.31^{**}$	-1.75 (0.25)	-0.42	- 7.05**
Likelihood ratio $\chi^2$ 152.66**	152.66**			$126.78^{**}$			32.87**			68.12**		
McFadden's R <sup>2</sup> 0.20	0.20			0.16			0.06			0.10		
Noise complaint $(n = 298)$	298)											
Procedural injustice – 2.86 (0.27)	- 2.86 (0.27)	-0.52	$-10.44^{**}$	2.51 (0.26) 0.51	0.51	9.54**	- 1.57 (0.24)	-0.38	$-6.50^{**}$	-1.71 (0.25)	-0.35	$-6.78^{**}$
Police citation	- 2.95 (0.28)	-0.54	$-10.68^{**}$	2.18 (0.25)	0.44	$8.60^{**}$	- 1.21 (0.23)	-0.29	$-5.15^{**}$	-2.72 (0.28)	-0.56	- 9.77**
Likelihood ratio $\chi^2$	228.23**			$168.06^{**}$			69.68**			153.43**		
McFadden's R <sup>2</sup>	0.28			0.21			0.10			0.21		

variables are not shown in the table

p < 0.01, p < 0.001 (two-tailed test)

Table 3 Ordinal regression models

underestimate the salience of citations among college students who may be hit comparatively hard by even modest economic sanctions.

## Discussion

The primary objective of this study was to test the process versus outcome hypothesis. The findings are largely supportive, with a couple of exceptions. Such findings suggest that the police can serve their cause well during public encounters by acting in accordance with the principles of procedural justice, even in situations when they issue citations. The contrary evidence regarding the salience of citations was unexpected. Until the findings are replicated using independent samples, caution must be exercised in calling for theoretical reform. Nevertheless, the potential theoretical questions are intriguing to consider. Is it possible that this aspect of the theory is age graded? Are younger people who are less financially secure more sensitive to economic sanctions? Do older adults who are similarly vulnerable in economic terms accept citation decisions more readily? More research is clearly needed.

Researchers should also keep in mind that vignette methodologies can be used to investigate other questions, such as the role of procedural injustice in other types of police encounters, such as voluntary contacts. Vignette research can also help assess whether procedural justice is more salient than distributive justice in police–citizen encounters. These are but two potential areas of future inquiry.

The practical significance of the findings is straightforward: police process matters. More specifically, unfair treatment by the police negatively shapes how their encounters with the public unfold. Coupled with SSO, experimental, and survey-based research, the evidence suggests that adhering to procedural justice principles during encounters pays dividends to police officers in the short and long run. Accordingly, extant research indicates that the continued development of academy and in-service procedural justice training could promote beneficial outcomes, though such reforms, like many past efforts to modify policing, will likely be met with some level of resistance.

This study is not without limitations. For example, vignette research is limited by the fact that the situations are hypothetical. It is unclear whether participants would make the same decisions and feel similarly if the situation had actually occurred. To address this concern, police encounters familiar to college students were used, and the language used in the procedural injustice manipulations was based on the authors' personal observations and second-hand accounts of police–student encounters. Another concern is the use of college students. It is well known that younger individuals view the police differently than older people. The results should be viewed as tentative until they are replicated using more representative samples. A third concern relates to the experimental conditions. The injustice stimuli did not capture all of the procedural justice elements. As such, it is impossible to conclude that the absence of such elements did not contribute to the unexpected findings regarding the salience of citation outcome on decision acceptance. Despite the limitations, the evidence reported here contributes to the body of research on the utility of the process-based model in a policing context.

Coupled with other experimental and vignette studies, this study marks another attempt to move process-based research beyond subjective fairness judgments. At this time, the evidence is clear: the way the police behave during public encounters matters. Police processes consistent with the tenets of procedural justice offer promise in ways that should be appealing to police professionals of all stripes, from the mayoral-appointed chief to the newbie officer walking the beat.

# Appendix

#### Hypothetical scenarios

## Traffic stop

You are driving down an unfamiliar road when you notice a police car with flashing lights behind you. You pull over. The officer pulls in behind you, gets out, and approaches your car. Standing outside your window, the officer says to you: ["Hi there. I pulled you over because you ran a stop sign a few streets back. May I have your license, registration, and proof of insurance please?" (Control Condition)] ["Why did you run that stop sign? Do you have any fucking idea how dangerous that is? Do you? You could have seriously hurt someone. Before you give me your excuses, get out your license, registration, and proof of insurance. I need to see it." (Experimental Condition)] You hand the officer your information and he walks back to his car. After a few minutes he comes back and says that [he is not going to write you a ticket but asks that you be careful not to run any stop signs in the future. (Control Condition)] ["I am issuing you a ticket. You can pay it online or mail it in. Or if you wish to challenge it be sure to mark the "not guilty" box and they will mail you your court date." (Experimental Condition)].

#### Noise complaint

You are hosting a party at your apartment. You and your friends are having a good time, getting a little rowdy, when you hear a knock at the door. You turn down the music and open the door to find a police officer standing in front of you. The officer says to you: ["Hi there, I am here tonight because we received a noise complaint from one of your neighbors. I need to speak with the residents of the apartment for a moment." (Control Condition)] ["Open this door all the way! We received a noise complaint from one of your neighbors. It's no fucking wonder, I could hear your shitty music from the parking lot. Are you all deaf?" (Experimental Condition)] After talking to the officer says that he is not going to break up the party as long as you can keep the noise down. (Control Condition)] [... the officer says your guests need to exit the apartment immediately and he gives you a ticket for violating the local noise ordinance. (Experimental Condition)].

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