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Enhancing Procedural Justness of Encounters Through Substantiation (EPJETS): The Atlantic County Randomized Controlled Trial¹

Technical Summary

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Introduction

The Enhancing Procedural Justness of Encounters through Substantiation (EPJETS) project came out of a growing need to strengthen and, in some cases, rebuild the relationship between law enforcement and the communities they serve. The goal was to introduce a new communication-based strategy that not only helps de-escalate tense situations but also builds public trust and promotes that every interaction is fair, respectful, and lawful.

The procedural justice model suggests that people interacting with criminal justice agents highly value fairness in procedures. Although theoretical research on procedural justice is well-established (Donner et al., 2015; Lowrey et al., 2016; Mazerolle et al., 2012; McCluskey, 2003; Pryce, 2018; Sahin et al., 2023), its practical use remains limited. This study is the first and only randomized controlled trial in the US to examine how procedural justice influences citizens'

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perceptions during traffic stops. It is also unique because it tests combining procedural justice principles with Body-Worn Cameras (BWC) as a strategy for positive interaction. Furthermore, this is the first research to look at how making BWC footage accessible to people affects their views of police and traffic stops. Overall, this study makes a unique contribution to the field by: 1) introducing a new traffic stop protocol that encourages positive engagement during brief interactions; 2) increasing the quality of interactions through mutual respect and responsible policing; 3) applying evidence-based practices by strategically choosing enforcement locations; and 4) examining citizens' perceptions of police and testing whether trust and confidence can be improved through accountable, procedurally fair interactions.

One of the key elements of this research was the usage of a procedurally just script. The script was developed by building on the insights from the Queensland Community Engagement Trial (QCET), the Scotland Community Engagement Trial (ScoCET), and the Adana Randomized Controlled Trial (ARCT). Input from Atlantic City police officers was also obtained to ensure practicality, as the preceding scripts were not fully compliant with local law enforcement practices and policies. Unlike the motor vehicle stop protocols in place, which instruct officers to keep the interaction brief and avoid engaging with them, our approach suggests a respectful two-way interaction in which parties attempt to understand each other's perspective. The EPJETS protocol also mandated that officers mention and provide data evidence, such as crash statistics and maps, to help citizens gain a better understanding of the officers' perspectives.

As the script was at the core of this study, the successful delivery of the message was critical. To measure adherence to the EPJETS script, natural language processing (NLP) was utilized. This was to flag diversion from the protocol under evaluation. The process of testing the adherence to the script included using large language models (LLMs) that enable comparison of

the 'reference' script to the 'hypothesis' script (For similar work, please see Camp et al., 2024). We should note that the use of LLMs is a distinctive feature of this study, as similar studies measuring the impact of procedural justice in policing have never used this approach to ensure the successful delivery of the script.

Randomized Controlled Trial Design and Implementation

This research was conducted with the Atlantic City Police Department (ACPD) and Pleasantville Police Department (PPD), which are both located in the southern part of New Jersey. Atlantic City is a tourist town, once known as America's Favorite Playground, and is renowned for its iconic boardwalk and casino industry (Cooper, 2007). Although the city's population is 40,000 residents, it attracts 25 million visitors annually. The constant influx of people due to tourism over the summer makes policing in the city challenging because of constantly changing visitor profiles. ACPD employs 297 sworn officers. Pleasantville is located 5 miles away from Atlantic City and shares many of its characteristics. Pleasantville Police Department employs 62 full-time officers.

Research Design

The EPJETS concept combines procedural justice theory with evidence-based policing practices. Specifically, its implementation during traffic stops included: i) utilizing traffic crash data analysis to deploy officers at high-risk traffic crash locations, ii) communicating the purpose of the traffic stops with drivers in a procedurally just manner, iii) recording and sharing BWC footage of interactions with the individual being stopped, and iv) sharing traffic crash statistics and maps generated through Risk Terrain Modeling (RTM).

The EPJETS script included two unique aspects: an explanation of how data-driven enforcement policies inform decisions and the accessibility of the BWC footage, which allows

individuals to see how their interaction with the officer unfolded (point to where people can find the script if you want them to have access to it). We should note that although officers received extensive training on the script and were expected to deliver the message as closely as possible to the scripted version, they were not expected to read it verbatim during a traffic stop, as this could be perceived as inauthentic.

Training and video sharing protocol

The principal investigator of this project led a procedural justice training program before being awarded the NIJ grant. The training portion of the project was a natural progression of the partnership with the agencies that were involved. At the start of the project, a call for involvement was sent to officers who might be interested in delivering the newly developed script. Officers who were interested in taking part in the project received either basic or refresher training courses, depending on their current training status regarding procedural justice. Both training courses included context covering the basics of procedural justice. Officers were also introduced to the EPJETS protocol and asked to engage in practice sessions. A total of 20 (13 from ACPD; 7 from PPD) officers were trained to deliver the project, and of these, 18 actively implemented the protocol (2 withdrew their consent to participate after completing the training).

The implementation of the project also necessitated a website to securely share the footage recorded during the experimental stops with the individuals who were being stopped. Two skilled software developers designed a website that can generate access codes and associate the codes with the footage of each experimental interaction. Information regarding procedural justice and BWCs was also made available to the public on the project website. The website also included a login page that enabled researchers and officers to upload, track, and share the footage to be made accessible to the individuals who were stopped.

The project team also subscribed to AXON's evidence.com² platform to download the traffic stop videos. Following the stops, footage was downloaded from evidence.com and redacted as needed. Then, redacted videos were uploaded to the *epjets.org* website, and the system automatically queued them for the review of the police supervisor³. After being approved, the footage was made accessible to the driver. The release of the footage was made possible by the blanked approval, granted by the Atlantic County Prosecutor's Office.

The code that was given to the driver to view the interaction expired after being used 5 times (a security feature of the website to prevent improper usage, suggested by the officers). Each video made accessible included a watermark and a copyright disclaimer to highlight that the footage was the intellectual property of the agency and should not be downloaded, recorded, or shared on social media.

Implementation & Randomization

The schedule and planning of the stops were conducted in cooperation with the Atlantic City and Pleasantville Police Departments, starting in November 2022 and ending in June 2024. The agencies we partnered with conducted four hours of non-stop daily speed enforcement (which we named speed control operation, or SCO) for 20 months. A total of 1,423 drivers were stopped during this period, with a breakdown of 752 drivers assigned to the control group and 671 assigned to the experimental group. In the treatment condition, officers followed the protocol. In the control condition, officers conduct traffic stops as usual. The number of stops conducted in Atlantic City was 955 (67%), and Pleasantville was 468 (33%).

² ACPD and PPD personnel are required to upload all BWC footage recorded during a traffic stop to a secure storage database, evidence.com.

³ The system also enabled the police supervisor to return the video to the project team for further redactions or to deny the release if there is an ongoing investigation related to the traffic stop.

Randomization was achieved through white and colored (green -for ACPD- or orange for -PPD-) index cards, which were shuffled and given to the officers who conducted the stops. The officer was required to draw a card from a stack of index cards each time they pulled over a driver for speeding. The card determined the specific protocol to be delivered. If the card is white, the officer delivers business-as-usual treatment, which includes only body-worn camera activation, with no access to footage (unless the driver submits a request to the department to gain access to the footage through the Open Public Records Act -OPRA-). If the card drawn was colored, the officer was required to follow the EPJETS protocol. After being shuffled, the order of the cards (Experimental/control) was logged, and officers were monitored to ensure that they adhered to the delivery order recorded before the stops.

At least one CITI-trained member of the research team (such as a surveyor, research assistant, student worker, PI, or Co-PI) was present during stops conducted by ACPD and PPD. The research team members observed the stop from a distance of at least 25 feet and did not interact with officers or drivers until the traffic stop had concluded, and the driver or pedestrian was free to leave.

Immediately after the official completion of the stop, the police officer informed the driver or pedestrian that a surveyor from Stockton University would like to approach and ask questions about the traffic stop. If the individual agreed to participate, the officer would notify a research team member, who would then approach the driver or pedestrian to explain the purpose of the research and invite them to complete a 34-item questionnaire. The survey was available both on paper and via Qualtrics, an online survey platform.

Participants were given the option to complete the survey on paper or digitally, either by scanning a QR code with their smartphone or by using a tablet provided by the surveyor. If the

participant opted for the paper survey, a physical consent form would be provided. For those taking the survey online, the consent form appeared at the beginning of the survey, and participants were reminded that they may print or save it for their records.

Evaluation of adherence to the scripted message

We reviewed the BWC footage to assess the extent to which the EPJETS script was followed. It was not anticipated that officers would recite the script verbatim to individuals, as this might come off as artificial or robotic, but we needed to ensure that the spirit of the script was maintained. Footage from each stop was uploaded to Evidence.com, an online police record storage system, which was also used to generate automatic speech recognition (ASR) transcripts for each video. These transcripts and their associated metadata were pulled from the Axon Evidence.com for the NLP analysis. The final dataset to be used in NLP analysis included 1078 transcripts, 580 of which were from experimental stops and 498 were from control stops.

The scores assigned to interactions were then compared across experimental and control conditions. The analysis suggests that the treatment and control groups are separable. In other words, there is a greater sentence-level semantic alignment between the scripted protocol and officers' real-world implementation of the experimental condition⁴.

Survey and Demographics of Participants

A survey was offered to all the drivers (except for the ones who were arrested due to various reasons, such as an outstanding warrant or use-of-force situations). A total of 359 respondents from the experimental group (N = 671) and 423 respondents from the control group (N = 752) completed

⁴ For more details on how this scoring was completed, see the supplemental analysis entitled, Quantifying Script Adherence in Behavioral RCTs, uploaded on the NACJD data repository.

the survey, yielding an overall response rate of 54.95%. The average number of cars stopped during the implementation phase was 9.8 cars per SCO. The demographics of the drivers who completed the survey are included in Table 1.

Table 1. Demographics of Participants

Variable	Category	Frequency	Percentage
Race	White	332	45.48
	African American	173	23.70
	Hispanic	170	23.29
	Other	55	7.53
Gender	Male	427	58.41
	Female	304	41.59
Educational Level	Did not complete high school	30	3.99
	High school diploma/GED	232	30.98
	Some College	179	23.83
	Associate's Degree	90	11.98
	Bachelor's Degree	152	20.24
	Master's/Doctoral Degree	68	9.05
Age	Mean=42.61	Range=17-92	

Findings

An independent samples *t*-test (two-tailed) was conducted to compare the average scores of experimental and control conditions. Higher scores⁵ reflect greater agreement with the survey statements, indicating more positive perceptions.

Table 2. Findings

	Does it work?	Significance (p)	Average (N=764)		Effect Size (Cohen's d)
			EXP	CONT	
Trust and confidence in the police	<input checked="" type="checkbox"/>	S (<0.05)	4.62	4.47	.185
Legitimacy of the stops	<input checked="" type="checkbox"/>	S (<0.05)	4.88	4.79	.172
Cooperation with the police	<input checked="" type="checkbox"/>	S (<0.05)	4.74	4.61	.183
Police professionalism, attributed to the BWC usage	<input checked="" type="checkbox"/>	S (<0.001)	3.61	3.32	.425
Obligation to obey police law and police directives	<input checked="" type="checkbox"/>	S (<0.005)	4.43	4.31	.218

⁵ The items contributing to the latent variables were measured using a 5-point Likert scale (1 = *Strongly Disagree*, 5 = *Strongly Agree*).

The results from the surveys indicated a positive impact of the EPJETS Protocol within the experimental group. The research team found that the EPJETS protocol not only enhances citizens' perceptions of the police but also improves compliance with police directives. Individuals who experienced the EPJETS protocol found police officers more professional compared to those who received business-as-usual treatment.

The protocol's impact extends beyond perceptions; individuals who experienced EPJETS are more likely to assist police in solving crimes and sharing information. Given that 85% of police-initiated interactions in the US occur during traffic stops, agencies can leverage this moment to enhance community trust and gain compliance and cooperation. Notably, there was an increased public trust in law enforcement among citizens in the experimental group. The protocol also enhanced the public's perception of the legitimacy of traffic stops. Furthermore, it led to increased support for traffic enforcement activities and higher cooperation with the police. Citizens who received the EPJETS dialogue also attributed improved perceptions of police professionalism when officers share BWC footage.

Key Outcomes

The EPJETS model offers a new protocol for police departments aimed at strengthening relationships with the community. The key outcomes of the EPJETS protocol are as follows:

1. The EPJETS protocol has a positive impact on police-citizen interactions, enhancing trust and improving cooperation.
2. The protocol, which has been successfully implemented by the Atlantic City and Pleasantville Police Departments, can also be adapted and implemented by other law enforcement agencies, as supporting systems (e.g., Evidence.com, SIMSI's RTMDx

software, and procedural justice training) are either already in use or easily accessible to others.

3. It enhances perceptions of police transparency, as citizens can reflect on their actions by watching the footage and better understanding the officer's response. This may, in turn, influence their compliance in future interactions.
4. Officers may also be more mindful of their behavior, knowing that the footage will be reviewed by supervisors and accessible to the individuals who were stopped.
5. Although not directly assessed in this research, the EPJETS protocol may contribute to the civilizing effect of body-worn camera (BWC) usage in policing.

Conclusion

The EPJETS protocol is demonstrating a positive impact on police-citizen interactions, fostering trust, and improving cooperation. The successful methodology implemented in Atlantic City and Pleasantville holds the potential for adaptation and implementation by other law enforcement agencies nationwide. Although it was not assessed in this research, the EPJETS concept may even contribute to the civilizing impact of BWC usage in policing. Citizens may reflect on their actions by watching the footage and better comprehending the officer's reaction, which may, in turn, impact their behavior towards police in future interactions. At the same time, officers may be more mindful of their actions, knowing that the footage will be reviewed by supervisors and made accessible to the individual who was stopped. The EPJETS model prescribes a new protocol for police departments, which can be used to enhance relations with the community.

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