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Identifying and Unpacking the Role of Social Identity in Moderating Evaluations of Police-Civilian Interactions

Katherine P. Hazen[1,2] · **Eve M. Brank**[1]

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Abstract

Scholars and policy makers rely on the theory of procedural justice (PJ) to further the twin goals of improving police-civilian relations and reducing crime. Substantial PJ research demonstrates that civilians evaluate fairness in police-civilian interactions based on voice, neutrality, trust, and respect. Although social identity is an important predictor and outcome of PJ, little research has examined how police officers, who have a unique social identity and sub-culture, evaluate fairness. The current research examined how police officers, as compared to civilians, evaluated fairness through the PJ mechanisms and whether social identity explained differences between the groups. Police officers ($n = 125$), recruited from local law enforcement agencies, and civilians ($n = 151$), recruited from an online participant pool, evaluated a randomly assigned PJ or no-PJ police-civilian interaction. Multiple group analyses and nested model comparisons revealed that the data fit the PJ model best when civilians and police officers were allowed to perceive fairness through different mechanisms. Differences between the samples were explained by self-categorization with the police. The direct effects of respect and gender on fairness, condition on neutrality, condition and voice on respect, and the interaction between condition and self-categorization on voice were responsible for the differences between the samples. Finally, a three-way interaction revealed that civilians who self-categorized less with the police evaluated the PJ condition as providing less voice than more closely identified civilians, who were not different than police. This study replicated and expanded on PJ, policing, and social identity literatures.

Keywords Procedural justice · Police-civilian interactions · Self-categorization · Multiple group analysis · Police

Scholars, policy makers, and commentators have long recognized that both historical and recent conflicts between police and civilians influence how police officers and civilians interact today (Mourtgos et al., 2020; Najdowski et al., 2015; Pyrooz et al., 2021; Trinkner et al., 2019; Wolfe & Nix, 2016). Over the course of the last decade, many well-publicized, deadly encounters between police and civilians have reinvigorated conversations about the role of policing in American society (see, Corley, 2020; Laughland, 2021; Sullivan et al., 2018). These tragic incidents have been met with calls to reform policing to both reduce crime and improve police-community relationships by building trust. Many of these calls have argued that these reforms should rely on the theory of procedural justice (PJ) and focus on building positive relationships with one police-civilian interaction at a time (Council on Criminal Justice Task Force on Policing [CCJ], 2021; President's Task Force on 21st Century Policing, 2015; Wood et al., 2020). These suggestions have been successful in some contexts (National Initiative for Building Community Trust & Justice, 2018). However, with a few notable exceptions (Hazen & Brank 2021; Mourtgos et al., 2020; Padilla et al., 2022), the research and evaluation that support these calls for reform have focused on civilians' perceptions of police-civilian interactions without asking how police officers perceive the same interactions. Yet, social psychological research demonstrates that individual evaluations of situations are informed by each individual's perceptual experiences, cognitive representations, and motivations (Alceste & Kassin, 2021; Wann & Dolan, 1994, see Fiske & Taylor, 2017). We argued that because every interaction is influenced by an individual's unique experiences, cognitions, and motivations, a police officer's interpretation of a police-civilian interaction is central to improving police-civilian relations.

Social psychology provides various frameworks through which to examine how police officers perceive police-civilian

✉ Katherine P. Hazen
khazen@fitchburgstate.edu

[1] Department of Psychology, University of Nebraska-Lincoln, Lincoln, NE, USA

[2] Behavioral Sciences Department, Fitchburg State University, Fitchburg, MA, USA

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interactions (Goff & Rau, 2020; Heuer et al., 2007; Mourtgos et al., 2020; Tyler, 2017; Wann & Dolan, 1994). Research demonstrates that social context, including interaction quality and procedures, social identity, and the relationship between police and the community inform laypersons' evaluations of fairness (Braga et al., 2014; Pickett et al., 2018; Solomon, 2019; Tyler, 2017). Although policing scholarship has focused on important topics such as training, use of force, organizational justice, and professional well-being, there has been little research examining how the unique social context of being a police officer influences their own evaluations of specific police-civilian encounters (Alceste & Kassin, 2021; Goff & Ru, 2020; Hazen & Brank, 2021; Kearns, 2017; Mourtgos et al, 2020). The current research addresses this gap in the literature by relying on the PJ framework to compare police officers' evaluations of a police-civilian interaction to civilians' evaluations of the same interaction and examining the moderating effect of social identity.

Procedural Justice: Providing a Social Psychological Framework

The vast PJ literature has demonstrated that when people evaluate decisions, they care at least as much about process as they do about outcome. People grant authority figures more legitimacy and accept their decisions more readily when they are satisfied that the decision-making process was fair (Gerber et al., 2018; Lind et al., 1997; Bradford, 2014; Tyler et al., 2014). And fair decision-making processes communicate to decision audiences that they belong to the same social groups as the decision maker (Blader & Tyler, 2009; Bradford, 2014). Therefore, fair decision-making processes have important consequences for the police, who rely on cooperation and compliance to enforce rules and regulations successfully, safely, and legally (Tyler, 2016). As such, this literature has formed the foundation for interaction-based police reforms at all levels of government (CCJ, 2021; McLean et al., 2020; President's Task Force on 21st Century Policing, 2015; Wood et al., 2020).

Researchers have identified both instrumental and exchange-based factors of police-civilian interactions that influence evaluations of fairness. A well-established mediation model has demonstrated that laypeople rely on voice to evaluate the fairness of a decision-making process through neutrality, trust, and respect (e.g., Fondacaro et al., 2002; Lind et al., 1997; Tyler, 2000). Specifically, that civilians perceive more fairness when the civilian has more voice and the officer is more impartial, trustworthy, and respectful (Lind et al., 1997; Mazerolle et al., 2013; Solomon, 2019; Tyler, 2017). Furthermore, much of this research has been conducted by asking laypeople to evaluate the decision-making process as described in a written vignette with one or more of the PJ components manipulated (Nivette et al., 2022; see, Braga et al., 2014, Fondacaro et al., 2006, Solomon, 2019, Trinkner & Cohn, 2014).

Voice refers to an individual's ability to present their side of the story and express their preferences about how a decision will be made and what the outcome will be (Fondacaro et al., 2002; Tyler 2000). Across study designs and decisional contexts, researchers have found that individuals evaluated decisions to be more fair when they had a meaningful exchange with the authority, including the opportunity to express their preferences and to have their preferences considered by the decision maker (Avery & Quinones, 2002; Colquitt et al., 2001; Fondacaro et al., 2006; Mazerolle et al., 2013). For example, Trinkner and Cohn (2014) operationalized voice in a vignette by manipulating whether the authority figure (a police officer or teacher) listened attentively to (voice) or cut off (no voice) an adolescent who was explaining why he wanted to violate a rule. Throughout the literature, participants rate a voice condition as significantly more fair than a no voice condition.

Neutrality is the perception that the outcome and procedure would be the same for similar others across time, place, and situation (Mazerolle et al., 2013; Tyler, 2017). Researchers have found that participants rated officers that treated them in the same way as similarly situated others as significantly more fair than when officers treated them less favorably or deferentially than similarly situated others (Solomon, 2019; Trinkner & Cohn, 2014). *Trust* refers to assessments that the decision maker has good and honest motivations toward the subordinate (Hamm et al., 2017; Solomon, 2019; Tyler, 2017). When police officers provided an explanation or justification along with their decision, they were perceived as more trustworthy and more fair than when they did not provide an explanation (Mazerolle et al., 2013; Solomon, 2019; Tyler, 2000). 2013 Finally, *respect* refers to how an individual is treated by the authority. People are very concerned with the quality of interpersonal interactions and value having their dignity as a human being recognized by authority figures (Solomon, 2019; Tyler, 2000). Neutrality and trust are considered instrumental components of interactions while voice and respect are considered treatment quality components (Solomon, 2019).

Respect has been difficult to distinguish from voice in the literature. Some researchers have distinguished the components by defining respectful treatment as comforting and affirming actions toward civilians and disrespectful treatment as belittling and degrading remarks (Dai et al., 2011; McCluskey et al., 1996; Reisig et al. 2004; Voight et al., 2017). In one of the few known studies that compared police and civilian evaluations of police-civilian interactions, Hazen and Brank (2021) found that although the statistical PJ model fit the data equally well for police officers and civilians, police officers did not rely on their perceptions of respect to evaluate fairness to the same extent that civilians did. Substantial research has examined

how civilians and other subordinate groups perceive decision-making processes relying on voice, neutrality, trust, and respect and this research has been used to develop interventions for police as well as other justice and non-justice professions. However, little research has examined how police officers or other decision-makers perceive fairness, voice, neutrality, trust, or respect. Considered within the broader PJ and social evaluation literatures, we suspected that the police officer role and social identity could explain why officers and civilians relied on respect differently to evaluate the same interaction.

Social Identity and Intergroup Relations

Social identity refers to the way people think and feel about themselves within the context of other people with whom they share characteristics and experiences (i.e., the in-group) as compared to those different from themselves (i.e., the out-group) (Abrams & Hogg, 2010; Brewer & Chen, 2007; Hogg, 2000). In contrast, p*ersonal identity* refers to how people represent and feel about the peculiarities that make them an individual as well as their relationships with others (Hogg et al., 2017). Self-categorization theory posits that when a group membership or social identity is salient, people tend to categorize themselves and others into groups based on the defining perceptions, attitudes, and behaviors of the salient group (Turner et al., 1987). Furthermore, in-group members benefit from self-protective cognitive representations, attitudes, and behaviors such as an in-group positivity bias, willingness to be vulnerable, and respectful treatment (Cruwys et al, 2021; Dovidio et al., 1998; Hogg et al., 2017; Leonardelli & Min Toh, 2011). Social groups also create and are created by differential power among groups and group members—which has been found to enhance the impact of group membership on those with relatively more social power (Guinote, 2017; Hogg, 2001).

As a result of self-categorization, people rely on group prototypes—the defining perceptions, attitudes, and behaviors—to proscribe their own and to evaluate others' behavior (Hogg et al., 2017). The accepted and active prototypes may vary by the social context, such as the location, role, activity, and the group status of other people present (Barden et al., 2004; Casper et al., 2010). People are more likely to conform their behaviors and attitudes to prototypes and to act on behalf of their group when they have a strong social identity with that group—that is when they see the group as part of themselves and themselves as part of the group (Gomez et al., 2011; Hogg, 2000; Swann et al., 2009, 2012). The greater the overlap between their personal and social identities, the more likely it is that situational factors that activated one identity (personal or social) will also activate the other identity (Swann et al., 2009, 2012). Consequently, a perceived threat to the self is also experienced as a threat to the group, and, therefore, increases the likelihood of self-protective and aggressive pro-group behaviors (Crisp et al., 2006; Gomez et al., 2011; Swann et al., 2009). These effects intensify when there is a relative power differential between groups or among group members (Guinote, 2017). Both personal- and social-identities inform how people react to social interactions, particularly when one feels vulnerable or threatened by an identity-relevant situation.

Social Identity and PJ

Social identity is both a consequence and antecedent of PJ. Across contexts, fair interactions—those that are respectful, transparent, and equitable—with representatives of an outgroup increase the extent that an individual self-categorizes with that outgroup and, thereby, increases pro-group behaviors that are usually reserved exclusively for in-group members (Blader & Tyler, 2009; Bradford, 2014; Dovidio et al., 1998; Gaertner et al., 1994; Leonardelli & Min Toh, 2011). For example, in a workplace setting, Blader and Tyler (2009) found that employees were more likely to do discretionary work to further the group's interests when they experienced procedural fairness in the workplace because procedural fairness increased their sense of identity with their work group. In the policing context, Bradford (2014) found that minority community members who did not identify with their communities and evaluated police officers as fair were more likely to cooperate with the police because the fair treatment increased their sense of belonging to the community.

Not only is self-categorization a consequence of PJ, but it is also a predictor of how people perceive decision-making processes (Braga et al., 2014; Oliveira & Murphy, 2015; Wolfe & McLean, 2021). Oliveira and Murphy (2015) found that social identity, compared to demographic variables, was a stronger predicter of evaluations of and attitudes toward the police. Participants that identified more closely with their national identity, as opposed to their ethnic identity, had more positive attitudes toward the police and evaluated the police as more fair. Together, these findings demonstrate that experiencing PJ is valuable because it increases the subordinate's sense of belonging and self-categorization with the authority; but also, that evaluations of the authority's behavior depend on the extent to which the audience considers themselves to be the same as the authority.

Social Context of Police

Extant policing scholarship has focused on important topics such as training, use of force, organizational justice, and professional well-being. Additionally, scholars widely acknowledge that police officers have a distinct culture based on solidarity to the department and the profession that informs

their expectations, perceptions, and coping-mechanisms (Brough et al., 2016; Cordner, 2017; Crank, 2004; Loftus, 2010). Police and civilians alike recognize and endorse an "us-versus-them" mentality toward policing—creating and reinforcing police as a social group and, therefore, part of the social identity that is activated in particular contexts (Brough et al., 2016; Crank, 2004; Durkin & Jeffery, 2010; Giles et al., 2004). Signals of professionalism, including uniforms, police vehicles, and badges, project unity and professionalism to officers as well as the public (Durkin & Jeffery, 2010; Giles et al., 2004). These signals draw the first boundary line between the groups and activate the police social identity (Crank, 2004). History and evidence further suggest that predispositions, socialization during police training, and field experiences render police likely to distrust and be isolated from the public (Brough et al., 2016; Cordner 2017; Cox & Kirby, 2018; Mourtgos et al., 2020).

Structural elements, such as specialized training and schedules, insulate police officers from the communities they serve (Berger, 2000; Loftus, 2010). Academy and in-service trainings, usually taught by certified or retired police officers, socialize officers through formal instruction and informal sharing about what to expect from, how to respond to, and how to interact with other officers as well as civilians (Belur et al., 2020; Cox & Kirby, 2018). This socialization process facilitates close social bonds with others that have the same common sense (Conti, 2006; Cox & Kirby, 2018; Crank, 2004). Interdisciplinary research demonstrates that officers feel alienated from and distrustful of the public; yet they rely on other officers for protection and camaraderie (Brough et al., 2016; Cox & Kirby, 2018; Loftus, 2010; Mourtgos et al., 2020). Divisions between police officers and the public develop early in the training process and intensify as the training incorporates more applied field training, even when the training occurs within a university (Conti, 2006; Cox & Kirby, 2018).

The police officer social identity is accompanied by in-group benefits and biases that could be activated during intergroup interactions. Police officers who identify more closely with their police in-group experience benefits, such as greater commitment to their organizational goals and methods (Bradford & Quinton, 2014), willingness to engage in proactive and community-based policing (Bradford & Quinton, 2014; Wolfe & Nix, 2016), and less work-related stress (Rose & Unnithan, 2015). However, police officer social identity is also accompanied by bias against out-groups, including distrust of and cynicism towards civilians (Bradford & Quinton, 2014; Mourtgos et al., 2020), disrespectful conduct toward civilians (Porter & Alpert, 2017; Silver et al., 2017), and decreased proactive policing in the face of perceived threats (Mourtagos et al., 2020; Trinkner et al., 2019; Wolfe & Nix, 2016). As previously discussed, civilians are similarly responsive to social identity in police-civilian interactions (Oliveira & Murphy, 2015). Although scholarship on police-civilian interactions has assumed that police and civilians are part of the same group (i.e., the city, town, or state), evidence suggests that police officers have a distinct social identity, making police-civilian interactions an inter-group rather than intragroup interaction. Until now, the PJ and policing literatures have neglected the impact of police officers' personal and social identities on their evaluations of and behavior during police-civilian interactions.

Current Research

Self-other categorization makes people more likely to treat interaction partners with respect and dignity. It also leads people to interpret interaction partners' behavior with grace, that it, interpreting other's conduct as aligned with their own goals and for their own benefit. However, research has focused on how social identity influences decision audiences and paid little attention to decision-makers. Scholars have found that civilians are more likely to cooperate with and support police officers when they perceive how they were treated as fair and when they see themselves as part of the same social group as the police officer (Blader & Tyler, 2009; Bradford, 2014; Oliveira & Murphy, 2015; Tyler, 2017). Furthermore, police officers rely on one another to cope with the stress of their work and engage in more proactive and fair policing tactics when they see themselves in and trust the communities they serve (Mourtagos et al., 2020; Porter & Alpert, 2017; Rose & Unnithan, 2015; Stein & Griffith, 2017). Although extensive social psychological research is dedicated to understanding how civilians perceive and experience police-civilian interactions, we know much less about how police officers perceive and experience police-civilian interactions. Hazen and Brank (2021) found that although police officers perceived fairness through mostly the same mechanisms as civilians, they did not rely on treatment-quality indicators to the same extent as civilians. The present research replicated and expanded on these findings by examining the moderating effect of self-categorization with the police on officers' and civilians' perceptions of police-civilian interactions through two research questions:

1. Through which PJ mechanisms do police officers, as compared to civilians, evaluate fairness in police-civilian interactions?

We expected to find that evaluations of fairness would be predicted by PJ condition via indirect effects through the PJ components for both police and civilians. However, we expected those indirect effects would be different for police officers than for civilians. We expected to replicate Hazen and Brank's (2021) findings that although the model global fit would suggest the groups rely on the same mechanisms to evaluate fairness, the specific direct and indirect effects

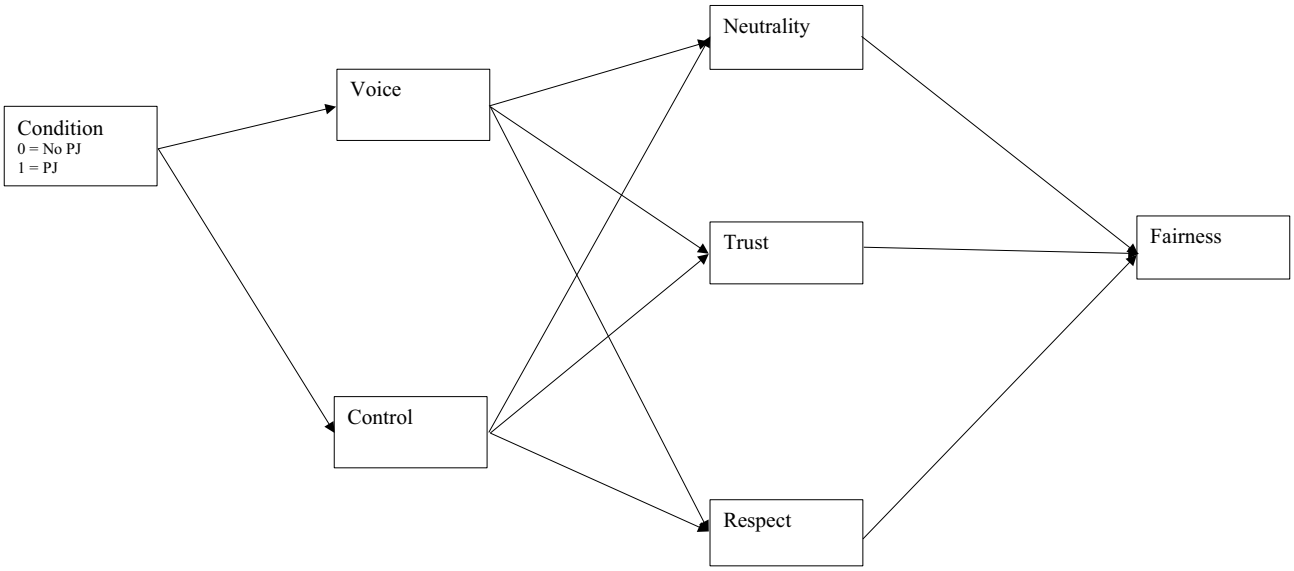

Fig. 1 Depiction of group value model tested with mediation analyses

would vary between the groups. Specifically, the data would fit the conceptual PJ model (see Fig. 1) equally well for both groups; but that specific effects among treatment-quality variables would be different across the groups. We expected that the specific indirect effect pathways through neutrality and trust would be the same for both groups because police trainings emphasize impartiality and provide clear, objective guidance for the instrumental components of interactions (Bykov, 2014; National Initiative for Building Community Trust and Justice, n.d.). However, we expected that the specific indirect effect pathways through voice and respect would be present but weaker for police officers than for civilians because indicators of treatment quality—voice and respect—are social-exchange indicators that are sensitive to slight changes in tone, demeanor, and identity (Dai et al., 2011; Lowrey et al., 2016; Oliveira & Murphy, 2015; Voight et al., 2017). Additionally, treatment quality provides the decision audience with important information about whether they are a part of the group represented by the decision maker—information police officer participants may not take away from how another officer treats the civilian but rather how the civilian treats the officer (Bradford, 2014; Porter & Alpert, 2017).

Does self-categorization with the police explain the variance between the groups?

We expected to find that differences between civilian and police officer participants would be explained by the extent of self-categorization with the police. Specifically, we expected to find that the effect of PJ condition on perceptions of civilian voice and process control in the vignette would be moderated by self-categorization with the police (i.e., how much a person identified with the police). We expected that the effect of condition on perceptions of voice, control, and respect would be weaker for participants who considered themselves to be the same as the police as compared to those who saw themselves as different. We expected this moderation because self-categorization predicts not only evaluations but also out-group treatment. Self-categorization with the community and nation predicts evaluations of PJ in police-civilian interactions (Bradford, 2014; Oliveria & Murphy, 2015). And treatment quality, including how transparent, respectful, and acknowledging the treatment is, gives decision audiences information about whether they belong to a specific group, suggesting these PJ components are also the mechanisms through which social identity predicts fairness evaluations (Blader & Tyler, 2009; Dovidio et al., 1998; Gaertner et al., 1994).

Pilot Study

Three pilot studies were conducted to create the vignettes for this study. See the supplemental materials for the first two pilot studies. These initial pilot studies focused on distinguishing the specific PJ components to ensure participants perceived or did not perceive each component independently. Both *respect* and *trust* required strong manipulations to be detected and individuated from the other PJ components. Based on the first two pilot studies, we created vignettes with two PJ conditions: procedural justice (PJ) and no procedural justice (no PJ).

Participants and Design

Fifty-one undergraduate students were recruited through the psychology department participant pool at a large midwestern university. Two participants were excluded because they resided in the European Union and two were excluded because they did not answer all the questions. Most of the participants identified as women/female ($n = 31$, 66.0%; man/male: $n = 15$, 31.9%), white/European American ($n = 38$, 80.9%; Latinx/Hispanic: $n = 3$, 6.9%; Asian American/ Pacific Islander: $n = 3$, 6.4%; Biracial/multiracial: $n = 1$, 2.1%; African American/ black: $n = 1$, 2.1%; Middle eastern: $n = 1$, 2.1%), and grew up in a small- to medium-sized city ($n = 14$, 29.8%) or a suburban area ($n = 14$, 29.8%; rural: $n = 36$, 17.7%; big city $n = 20$, 9.9%). On average, the participants were 19.8 years old ($SD = 1.2$).

Materials

Vignettes

Participants read a short story that depicted a police officer stopping a civilian on his bike. The vignette was based on a police-civilian interaction described by Gould and Mastrofski (2004). See Appendix 1 for the vignette. Participants were randomly assigned to one of two vignettes that manipulated PJ through all four PJ components and replicated the approaches used by Mazerolle et al. (2012, 2013) and MacQueen and Bradford (2015).

Across both PJ conditions, *voice* opportunity was held constant: the police officer asked the civilian a question and paused after the question. Voice behavior was manipulated by having the civilian respond to the police officer's question by not consenting to the search of his bag in the PJ and not responding in the no PJ condition.

Trust was manipulated by having the officer explain his motivations for stopping the civilian with or without details about the police department's efforts to prevent drug overdoses. In the PJ condition, the officer explained that the department was concerned about drugs because 27 people overdosed and died each week and that new federal money was being used to improve the department's response to drug overdoses (based on the number of overdose deaths in the USA in 2017 (National Institute on Drug Abuse, 2019)). The officer then explained that the civilian was stopped because the department received a report that someone on a bike was dealing drugs in the neighborhood. In the no PJ condition, the officer simply stated that the department received a report of someone on a bike dealing drugs in the neighborhood without any background information about federal funding or overdoses.

Neutrality was manipulated by adding references to other cyclists who had either been stopped by the police or not stopped by the police. In the PJ condition, the civilian noticed the police stopped other cyclists before and after he was stopped. In the no PJ condition, the civilian noticed there were other cyclists in the area but that the police did not stop anyone else. Finally, *respect* was manipulated through explicit language that signaled regard for the civilian and his time. In the PJ condition, the officer began the encounter with a polite greeting and by introducing himself. He ended the encounter by thanking the civilian for his time and with well wishes. In the no PJ condition, the officer did not greet the civilian and called him a "jack ass" at the end of the encounter. Additionally, the officer sent the civilian off with a warning that he would try to find a reason to hold the civilian longer.

In both PJ conditions, the officer searched the civilian's backpack and found snacks and clothes, but no drugs.

Manipulation Checks

Participants responded to eight yes-or-no questions to evaluate the manipulations, including two questions for each PJ component. One question asked about the participants' perceptions of the PJ component and the other asked about the facts that were used to manipulate the component, respectively: "Did John respond to the officer's questions," "Did John engage in voice behavior," "Did the officer treat John the same as other people on the bike trail," "Did the officer make an impartial decision to search John," "Did the officer have good intentions toward John," "Did the officer explain the department is concerned about overdoses," "Did the officer treat John with respect," and "Did the officer thank John for his time?".

Procedural Justice Scale

Perceptions of PJ were measured with an altered version of the Family Justice Inventory (Fondacaro et al., 2002). Participants rated their agreement with 36 items on a 5-point scale, 1 (*strongly disagree*) to 5 (*strongly agree*). The *Control*, *Voice*, *Neutrality*, *Dignity/Respect*, *Trust*, and *Global Fairness* subscales were included (See Table 5S for items). A mean scale score was calculated for each subscale and reliability was good (control: $\propto = 0.90$; voice: $\propto = 0.66$; neutrality: $\propto = 0.63$; dignity/respect: $\propto = 0.66$; trust: $\propto = 0.78$; global fairness: $\propto = 0.95$).

Results and Discussion

Manipulation Checks

Descriptive statistics and chi-square analyses were conducted to examine the efficacy of the PJ conditions. See Table 1 for frequencies and chi-square analyses. Chi-square analyses revealed a significant pattern of results consistent with the PJ conditions for six of the eight manipulation-check questions. These findings confirmed that participants understood the facts included in the voice and trust manipulations and those

Table 1 Frequencies and chi-squares for manipulations checks

		Pilot				*Study*			
Attention checks		*n*	Yes	No	X^2 (*df*)	*n*	Yes	No	X^2 (*df*)
Did the officer search John's bag?	PJ					140	140	0	1.03 (1)
	No PJ					137	136	1	
Did John consent to be searched by the officer?	PJ					140	137	3	227.99 (1)***
	No PJ					137	10	127	
Voice manipulation checks			Yes	No			Yes	No	
Did John respond to the officer's questions?	PJ	24	22	2	33.33 (1)***	140	137	3	224.54 (1)***
	No PJ	24	2	22		137	11	126	
Did John engage in voice behavior?	PJ	24	11	13	6.45 (1)**	138	88	50	107.78 (1)***
	No PJ	24	3	21		137	6	131	
Neutrality manipulation checks			Yes	No			Yes	No	
Did the officer treat John the same as other people on the bike trail?	PJ	24	20	4	27.19 (1)***	140	125	15	189.70 (1)***
	No PJ	24	2	22		137	9	128	
Did the officer make an impartial decision to search John?	PJ	24	17	7	1.06 (1)	139	108	31	78.56 (1)***
	No PJ	24	20	4		136	33	103	
Trust manipulation checks			Yes	No					
Did the officer explain the department is concerned about overdoses?	PJ	24	23	1	40.33 (1)***	140	137	3	249.72 (1)***
	No PJ	24	1	23		137	4	133	
Did the officer have good intentions toward John?	PJ	24	15	9	8.08 (1)**	137	107	30	136.33 (1)***
	No PJ	24	1	23		136	11	125	
Respect manipulation checks			Yes	No			Yes	No	
Did the Officer thank John for his time?	PJ	24	17	7	22.76 (1)***	140	114	26	181.92 (1)***
	No PJ	24	1	23		137	2	135	
Did the officer treat John with respect?	PJ	24	4	20	2.01 (1)	139	125	14	213.58(1)***
	No PJ	24	1	23		137	3	134	

*$p < .05$; **$p < .01$; ***$p < .001$

facts represented the theoretical constructs of the manipulations. Although participants correctly remembered the neutrality and respect facts, the patterns of results suggested that they did not perceive the officer as neutral or respectful in either condition, which indicated that the respect and neutrality manipulations were not sufficiently individuated or clear.

PJ Scales

Analysis of variance tested mean differences between the PJ conditions on the scale scores. See Table 2 for the descriptive statistics and significance tests. Mean scores were significantly higher for the PJ than no PJ condition for the voice, neutrality, respect, and trust subscales. However, the mean scale scores were not significantly different for the control subscale or the global fairness subscale. The mean difference between evaluations of fairness in the PJ ($M = 1.93$, $SD = 1.03$) and no PJ condition ($M = 1.46$, $SD = 0.60$) was marginally significant, $F(43) = 3.62$, $MSE = 0.69$, $p = 0.06$, $\eta^2 = .08$.

The results of this pilot indicated that although some of the PJ manipulations used in these vignettes successfully manipulated the PJ components, the participants evaluated both vignettes as unfair. Therefore, we eliminated the unconstitutional search from the vignettes and described a simplified police-civilian interaction. As described below, this change was enough to distinguish the PJ and no PJ conditions on fairness and the facts used to manipulate respect and neutrality.

Methods

Find the pre-registered methods on OSF. https://doi.org/10.17605/OSF.IO/HBSY7

Participants and Design

This study was a 2 (sample: police officer, civilians) × 2 (PJ condition: procedural justice (PJ), no procedural justice (no PJ)) between-subject quasi-experimental design with 328 participants, half ($n = 173$, 52.7%) were civilians and half ($n = 155$, 47.3%) were police officers. Civilians were recruited through Amazon's Mechanical Turk between May 3 and May 16, 2020. Police officers were recruited through two local law enforcement agencies, in

Table 2 Descriptive statistics and mean differences tests for PJ subscales

		Pilot				Study			
	Condition	*n*	*M*(*SD*)	*F*(*df*)	η^2	*n*	*M*(*SD*)	*F*(*df*)	η^2
Control	PJ	23	2.41 (.96)	.93 (45)	.02	137	3.56 (1.07)	127.85 (271)***	.32
	No PJ	24	2.13 (1.10)			136	2.09 (1.09)		
Voice	PJ	23	2.43 (.66)	3.55 (45)***	.22	140	3.37 (1.00)	148.09 (274)***	.35
	No PJ	24	1.73 (.70)			136	2.00 (.85)		
Neutrality	PJ	23	2.36 (.69)	3.51 (45)**	.22	138	3.49 (.98)	239.13 (271)***	.47
	No PJ	24	1.74 (.49)			135	1.82 (.79)		
Respect	PJ	22	2.36 (.80)	3.02 (44)**	.17	138	3.95 (.84)	708.00 (272)***	.72
	No PJ	24	1.81 (.39)			136	1.53 (.65)		
Trust	PJ	23	2.63 (.75)	3.63 (45)***	.23	138	3.63 (.88)	285.13 (272)***	.51
	No PJ	24	1.90 (.62)			136	2.04 (.66)		
Fairness	PJ	21	1.93 (1.03)	1.90 (43)	.08	140	3.76 (1.15)	284.55 (275)***	.51
	No PJ	24	1.46 (.60)			137	1.70 (.86)		

**$p < .01$; ***$p < .001$

two midwestern urban population centers. Data collection from one agency occurred between May 3 and June 9, 2020, and from the second agency between July 9 and July 20, 2020.

Participants were excluded because they were currently located in the European Union ($n = 14$, 4.3%) or exited the survey after five questions ($n = 25$, 7.6%). Five (1.5%) participants were excluded from analyses because they responded incorrectly to both attention-check questions. The final sample included 284 participants (civilians: $n = 159$, 56%; police officers: $n = 125$, 44%).

See Table 3 for a summary of the demographic information for the entire sample and for the civilian and police officer subsamples. The participants identified as mostly white/European American ($n = 247$, 87%), men/male ($n = 179$, 63.0%), and heterosexual/straight ($n = 261$, 91.9%). The greatest proportion of participants grew up in a suburban area ($n = 92$, 32.4%). Finally, 88 (31.8%) participants reported that their household earned less than $60,000 a year. A significant pattern of results emerged that indicated police officers were more likely than civilians to identify as white and as male, to have a household annual income over $90,000, and to have grown-up in a small- to medium-sized city.

A priori power analyses conducted with G*Power (Faul et al., 2007; 2009) suggested that 109 participants should be included in each vignette condition for a 90% chance of accurately detecting a significant effect of 0.30 for the mean difference between the PJ and no PJ conditions (Cohen, 1988). Based on these power analyses, we had sufficient power to compare the PJ conditions.

Materials

Attitudes Toward the Police

Perceptions of police legitimacy and institutional trust were measured with the attitudes toward police legitimacy scale to control for pre-existing attitudes toward the police (APLS; Reynolds et al., 2018). Participants rated their agreement with 34 items on a 7-point Likert-type agreement scale (1 = *strongly disagree*, 7 = *strongly agree*). Higher scores indicated more positive attitudes toward police. Participants were asked to rate their agreement with statements such as, "Police officers usually make fair decisions when enforcing laws," and "Police officers are held to higher standards than regular citizens." The reliability for APLS was excellent (full sample: Cronbach's $\alpha = 0.99$, civilians: $\alpha = 0.99$; police officers: $\alpha = 0.96$).

Self-categorization

Participants indicated the extent of overlap between their personal and social identities to measure self-categorization with their local police department and police in general. Participants used five overlapping circles that were interpreted on a 5-point scale to indicate their self-categorization (Swann et al., 2009; 1 = *no overlap*, 5 = *complete overlap*). See Appendix DS for the graphic. The two items were averaged to create a police self-categorization score. Higher scores indicated a greater extent of self-categorization with the police. The two items together had excellent reliability

Table 3 Demographic information for the full sample ($n = 284$), civilian ($n = 159$), and police officer ($n = 125$) samples

	All	Civilian	Police	X^2 (*df*)
Sample size	$N = 284$	$n = 159$	$n = 125$	
Racial/ethnic identity (select multiple)				
African American/Black	12 (4.2%)	11 (6.9%)	1 (.8%)	
Asian/Asian American/Pacific Islander	11 (3.9%)	10 (6.3%)	1 (.8%)	
Latina/o/x or Hispanic	10 (3.5%)	8 (5.0%)	2 (1.6%)	
Middle Eastern/Arab/ Turkish/Iranian	2 (.7%)	2 (1.3%)	0 (0.0%)	
Native American/American Indian/ Indigenous	1 (.4%)	1 (.6%)	0 (0.0%)	
White/European American	247 (87%)	130 (81.8%)	117 (93.6%)	
Biracial/multiracial	2 (.7%)	1 (.6%)	1 (.8%)	
Gender identity				20.21 (3) ***
Man/male	179 (63%)	80 (50.3%)	95 (76.0%)	
Woman/female	94 (33.1%)	69 (43.4%)	25 (20.0%)	
Genderqueer/gender non-conforming/Non-binary	2 (.7%)	1 (.6%)	1 (.8%)	
Missing	12 (4.2%)	9 (5.7%)	3 (2.4%)	
Sexual orientation				4.81 (5)
Heterosexual/straight	261 (91.9%)	144 (90.6%)	117 (93.6%)	
Homosexual/gay/lesbian	6 (2.1%)	3 (1.9%)	3 (2.4%)	
Bisexual	6 (2.1%)	5 (3.1%)	1 (.8%)	
Pansexual	2 (.7%)	2 (1.2%)	0 (0.0%)	
Missing	9 (3.2%)	5 (3.1%)	3 (2.4%)	
Grew up in what kind of area?				29.44 (4)***
Rural	70 (24.7%)	33 (20.8%)	35 (28.0%)	
Suburban	92 (32.4%)	68 (42.8%)	24 (19.2%)	
Urban–small to medium city	73 (25.7%)	25 (15.7%)	48 (38.4%)	
Urban–big city	40 (14.1%)	26 (16.4%)	14 (11.2%)	
Missing	9 (3.2%)	4 (2.5%)	3 (2.4%)	
Household annual income				81.68 (10)***
$0–10,000	3 (1.1%)	3 (1.9%)	0 (0.0%)	
$10,001–20,000	12 (4.2%)	12 (7.5%)	0 (0.0%)	
$20,001–30,000	13 (4.6%)	12 (7.5%)	1 (.8%)	
$30,001–40,000	26 (9.2%)	26 (16.4%)	0 (0.0%)	
$40,001–50,000	14 (4.9%)	12 (7.5%)	2 (1.6%)	
$50,001–60,000	20 (7.0%)	14 (8.8%)	6 (4.8%)	
$60,001–70,000	31 (10.9%)	22 (13.8%)	9 (7.2%)	
$70,001–80,000	21 (7.4%)	10 (6.3%)	11 (8.8%)	
$80,001–90,000	14 (4.9%)	6 (3.8%)	8 (6.4%)	
$90,001–100,000	21 (7.4%)	7 (4.4%)	14 (11.2%)	
More than $100,000	102 (35.9%)	31 (19.5%)	71 (56.8%)	
Missing	7 (2.5%)	4 (2.5%)	3 (2.4%)	

*$p < .05$; **$p < .01$; ***$p < .001$

for civilians and acceptable reliability for police officers (all: $\alpha = 0.87$; civilian: $\alpha = 0.92$; police officer: $\alpha = 0.59$).

Demographic Variables

Participants were asked to report general demographic information, including race, gender identity, education level, household income, where they grew up, and career.

Vignettes

Participants read edited versions of the vignettes used in the pilot study. Given the results of the three pilot studies (see Supplemental Materials for Pilots 1 and 2), the vignette was edited to include the civilian's consent to the search request in the PJ condition. See Appendix 2 for the final vignettes. Participants were randomly assigned to one of two

conditions: procedural justice (PJ = 1) and no procedural justice (no PJ = 0). The four PJ components were manipulated in each condition (MacQueen & Bradford, 2015; Mazerolle et al., 2012, 2013). For clarity and readability throughout this paper, the vignette officer was referred to by the character's name, Officer Jones, and the vignette civilian was referred to by the character's name, John.

Manipulation Checks

Participants responded to ten yes-or-no questions to evaluate the manipulations. In addition to the eight questions used in the pilot study, participants responded to two attention check-questions, "Did the officer search John's bag," and "Did John consent to be searched by the officer?".

Perceptions of Vignettes

Perceptions of PJ were measured with a modified version of the Family Justice Inventory (Fondacaro et al., 2002). Participants were asked to rate their agreement with 36 items on a 5-point scale, 1 (*strongly disagree*) to 5 (*strongly agree*). A mean scale score was calculated for the *Control*, *Voice*, *Neutrality*, *Dignity/Respect*, *Trust*, and *Global fairness* subscales (See Table 5S). The *Global fairness* subscale served as the dependent variable and the other subscales were used as mediators of the relation between condition and *Global fairness*. The reliability for the *Control* (all: $\alpha = 0.96$; civilian: $\alpha = 0.96$; police officer: $\alpha = 0.96$), *Voice* (all: $\alpha = 0.91$; civilian: $\alpha = 0.91$; police officer: $\alpha = 0.91$), *Neutrality* (all: $\alpha = 0.94$; civilian: $\alpha = 0.93$; police officer: $\alpha = 0.94$), *Dignity/Respect* (all: $\alpha = 0.98$; civilian: $\alpha = 0.97$; police officer: $\alpha = 0.98$), *Trust* (all: $\alpha = 0.92$; civilian: $\alpha = 0.92$; police officer: $\alpha = 0.92$), and *Global fairness* (all: $\alpha = 0.99$; civilian: $\alpha = 0.99$; police officer: $\alpha = 0.99$) subscales was excellent for both samples. See Table 5S for the item descriptive statistics.

Additionally, participants responded to nine questions about the vignettes. They were asked to evaluate both vignette characters (i.e., officer Jones and John) on a 5-point Likert-type scale. Those items included: "Officer Jones should be punished for his conduct during the stop," "John should be punished for his conduct during the stop," "officer Jones deserves to be punished for his conduct during the stop," "John deserves to be punished for his conduct during the stop," "officer Jones had good reason for stopping John," "officer Jones broke the law," and "John broke the law." Participants also indicated how they think of themselves in relation to the characters on a series of items using five circles that overlap to measure self-categorization with the characters (Swann et al., 2009). Finally, participants reported which race and gender they believed each character in the vignette to be.

Procedures

Civilian participants were recruited through Amazon's Mechanical Turk and police officer participants were recruited through emails sent to each law enforcement department's listserv by the community outreach officer. Participants followed the link to the survey, provided informed consent, completed the APLS, and the policing identity items. Next, participants read one randomly assigned vignette and responded to the PJ Scale, the manipulation checks, and character perceptions questions. Finally, participants completed the demographic items. Civilian participants were compensated $2.50 through MTurk and police officers were compensated with a $10.00 Amazon gift card. All procedures were approved by the University of Nebraska-Lincoln Institutional Review Board.

Analysis

Data were analyzed in SPSS 27 and Mplus 8.5 software (Muthén & Muthén, 2020) with robust maximum likelihood estimation for structural equation modeling techniques.

Data analyses were conducted in five phases. First, items were aggregated and averaged to create scale scores where appropriate. Second, preliminary analyses, including descriptive statistics, analysis of variance, and correlations, were conducted to determine whether the manipulations were successful, to examine the trends in the data, and to determine whether the data met assumptions of normality. Additionally, scale scores were mean-centered and categorical data were dummy coded for analyses. Third, bootstrapped mediation analysis with 10,000 draws was used to test the global model fit as well as the direct and indirect effects of PJ condition on evaluations of fairness through perceptions of voice, control, neutrality, trust, and respect when controlling for race, gender, and attitudes determined to be related to fairness in preliminary analyses (See Fig. 1 for the basic theoretical model). Nonparametric resampling methods were used to derive 95% CI's for the modeled indirect effects of the PJ condition on evaluations of global fairness through voice, control, respect, neutrality, and trust (Shrout & Bolger, 2002).

Fourth, we conducted multiple-group analyses in three models to examine whether the direct and indirect effects varied by sample, and therefore, whether the mechanisms through which participants evaluated fairness varied by sample. The three models compared between the samples were the basic PJ model, an identity model, and an identity-moderation model. Each model was over-identified and, therefore, had sufficient degrees of freedom to converge. Fifth, we conducted exploratory, non-preregistered analyses to determine which direct pathways were responsible for the differences between the sample models by examining the

model fit chi-square difference tests when each direct effect pathway was constrained to be the same between the police officer and civilian samples.

Results

Manipulation Checks

See Tables 1 and 2 for the tests of the manipulations. Half of the participants were randomly assigned to the PJ condition ($n = 143$, 50.4%) and half to the no PJ condition ($n = 141$, 49.6%). Analysis of variance demonstrated that the PJ manipulation was effective. The PJ condition was evaluated as representing significantly more control, voice, neutrality, respect, trust, and fairness than the no PJ condition. Chi-square tests of independence also revealed that the participants correctly answered the factual and theoretical manipulation check questions about the vignettes for their assigned condition.

General Perceptions of Vignettes

ANOVAs and chi-square tests of independence revealed significant mean differences and patterns of results between the PJ and no PJ conditions. See Table 4. Participants in the PJ condition disagreed more strongly than those in the no PJ condition that the officer in the vignette should be or deserved to be punished for his conduct during the stop, that the civilian should be or deserved to be punished, and that either the

Table 4 Descriptive statistics, ANOVAs, and chi-square tests for perceptions of the characters in the vignettes

	Condition				Sample			
	PJ	No PJ			Police	Civilian		
	M(*SD*)	*M*(*SD*)	*F*(*df*)	η^2	*M*(*SD*)	*M*(*SD*)	*F*(*df*)	η^2
Officer should be	1.63 (.88)	3.84 (1.01)	379.60 (274)***	.58	2.70 (1.48)	2.73 (1.43)	.02 (274)	.00
John should be	1.23 (.54)	1.51 (.79)	12.42 (274)***	.04	1.34 (.56)	1.39 (.78)	.43 (274)	.00
Officer deserves	1.65 (.92)	3.79 (1.01)	324.14 (274)***	.54	2.67 (1.47)	2.74 (1.46)	.14 (274)	.00
John deserves	1.23 (.55)	1.65 (1.01)	18.89 (274)***	.06	1.40 (.70)	1.46 (.94)	.34 (274)	.00
Good reason to stop	3.37 (1.21)	2.63 (1.19)	26.69 (274)***	.09	3.30 (1.14)	2.77 (1.30)	12.31 (274)**	.04
Officer broke law	1.66 (1.00)	3.24 (1.28)	130.76 (274)***	.32	2.39 (1.49)	2.47 (1.32)	.46 (274)	.00
John broke law	1.22 (.57)	1.50 (.78)	11.51 (272)**	.04	1.40 (.64)	1.32 (.74)	.81 (272)	.00
ID John	2.14 (1.18)	2.13 (1.12)	.00 (274)	.00	1.94 (1.21)	2.28 (1.08)	6.11 (274)*	.02
ID Officer	2.34 (1.34)	1.34 (.64)	69.21 (275)***	.19	2.19 (1.39)	1.58 (.87)	19.91 (275)***	.07
Civilian race[a]			30.47 (4)***				69.20 (4)***	
Latina/o/x	0 (0.0%)	3 (2.2%)			0 (0.0%)	3 (1.9%)		
Black	3 (2.1%)	21 (15.4%)			2 (1.7%)	22 (14.2%)		
Indigenous	1 (0.7%)	0 (0.0%)			0 (0.0%)	1 (0.6%)		
White	39 (27.9%)	13 (9.6%)			2 (1.7%)	50 (32.3%)		
I do not know	97 (69.3%)	99 (72.8%)			117 (96.7%)	79 (51.0%)		
Officer race[a]			4.22 (3)				76.46 (3)***	
Black	3 (2.1%)	0 (0.0%)			0 (0.0%)	3 (1.9%)		
Indigenous	1 (0.7%)	0 (0.0%)			0 (0.0%)	1 (0.6%)		
White	40 (28.6%)	44 (32.4%)			5 (2.3%)	70 (45.2%)		
I do not know	96 (68.6%)	92 (67.6%)			116 (95.9%)	72 (46.5%)		
Civilian gender			1.07 (2)				52.25 (2)***	
Male	117 (83.6%)	114 (83.8%)			80 (66.1%)	151 (97.4%)		
Female	0 (0.0%)	1 (0.7%)			0 (0.0%)	1 (0.6%)		
I do not know	23 (16.4%)	21 (15.4%)			41 (33.9%)	3 (1.9%)		
Officer gender			.87 (1)				63.75 (1)***	
Male	52 (37.1%)	58 (42.6%)			16 (13.2%)	94 (60.6%)		
Female	0 (0.0%)	0 (0.0%)			0 (0.0%)	0 (0.0%)		
I do not know	88 (62.9%)	78 (57.4%)			105 (86.8%)	61 (39.4%)		

*$p < .05$; **$p < .01$; ***$p < .001$

[a]Response options that were not selected by any participants were excluded from this table and also included Middle eastern, Asian, and multiracial

officer or the civilian broke the law during the stop. Participants in the PJ condition agreed more strongly than those in the no PJ condition that the officer had a good reason to stop the civilian. A significant pattern of results revealed that a greater proportion of participants in the no PJ condition believed the civilian was African American/Black than participants in the PJ condition, who were more likely to believe the civilian was European American/White. However, the greatest proportion of participants in both conditions indicated that they did not know the civilian's race or ethnicity. No significant pattern of results was present for participant's beliefs about officer race, civilian gender, or officer gender.

ANOVAs and chi-squares revealed one significant mean difference and four significant patterns of results between police officer and civilian participants' evaluations of the characters in the vignette. See Table 4. Police officer participants agreed significantly more strongly than civilian participants that the officer had a good reason to stop the civilian. Police and civilian participants equally disagreed that the officer should be or deserved to be punished, strongly disagreed that the civilian should be or deserved to be punished, and disagreed that the officer or the civilian broke the law. Chi-square tests revealed significant patterns of results between police officer and civilian participants' beliefs about the vignette characters' racial and gender identities. Police officer participants were significantly more likely to report that they did not know the civilian's race, the officer's race, the civilian's gender, or the officer's gender than were civilian participants.

ANOVA also revealed significant mean differences between which sample identified with which vignette character and a significant mean difference between the conditions for which participants identified with the vignette officer, but not with the vignette civilian. See Table 4. Police officer participants identified significantly more strongly with the officer ($M = 2.19$, $SD = 1.39$) than civilians did ($M = 1.58$, $SD = 0.87$, $F\,(275) = 19.91$, $MSE = 1.27$, $p < 0.001$, $\eta^2 = .07$) and civilians identified significantly more strongly with the vignette civilian ($M = 2.28$, $SD = 1.08$) than the police officer participants, $M = 1.94$, $SD = 1.21$, $F\,(274) = 6.11$, $MSE = 1.30$, $p = 0.01$, and $\eta^2 = .02$. Additionally, participants in the PJ condition identified significantly more with the officer ($M = 2.34$, $SD = 1.34$) than those in the no PJ condition, $M = 1.34$, $SD = 0.64$, $F\,(275) = 69.21$, $MSE = 1.11$, $p < 0.001$, and $\eta^2 = .19$. Participants in the PJ condition identified with the civilian to the same extent as the participants in the no PJ condition, suggesting that how the officer treated the civilian did influence how much the participants identified with the vignette officer but not how much they identified with the vignette civilian.

Basic Descriptive Statistics and Correlations

See Table 5 for the descriptive statistics and correlations. As expected, the participant sample, but not the PJ condition, was significantly correlated with APLS. The six PJ scales were positively and significantly correlated with each other (rs > 0.78, $p < 0.001$), with self-categorization with the police generally (rs < 0.22, ps < 0.05), and with self-categorization with the vignette officer ($r < 0.56$, $p < 0.001$). The correlations and descriptive statistics suggested that the data were normally distributed and that APLS and self-categorization with police officers and civilians were consistent with social identity theory and predicted evaluations of PJ.

Table 5 Descriptive statistics and correlations

	n	*M*(*SD*)	1	2	3	4	5	6	7	8	9	10	11
1. Sample[a]	284	.44 (.50)											
2. Condition[b]	284	.50 (.50)	.00										
3. APLS	277	5.44 (1.25)	.49***	.01									
4.Control	273	2.83 (1.31)	.15*	.57***	.34***								
5.Voice	276	2.70 (1.16)	.11	.59***	.32***	.89***							
6.Neutral	273	2.67 (1.22)	.06	.69***	.30***	.83***	.89***						
7. Respect	274	2.75 (1.43)	.08	.85***	.22***	.78***	.83***	.89***					
8. Trust	274	2.84 (1.11)	.07	.72***	.31***	.80***	.84***	.91***	.90***				
9. Fairness	277	2.74 (1.45)	.05	.71***	.28***	.81***	.84***	.93***	.90***	.93***			
10. ID Pol	282	2.87 (1.33)	.66***	−.01	.66***	.22***	.19**	.16**	.14*	.16**	.15*		
11. ID John	276	2.13 (1.51)	−.15*	.00	−.17**	−.09	−.10	−.08	−.04	−.08	−.05	.03	
12. ID officer	277	1.85 (1.16)	.26***	.43***	.29***	.48***	.50***	.53***	.54***	.54***	.56***	.41***	.23***

APLS attitudes toward police legitimacy scale, *Pol* police officers, *ID* self-categorization scale

*$p < .05$; **$p < .01$; ***$p < .001$

[a]civilian = 0, police officers = 1

[b]no PJ = 0, PJ = 1

Basic PJ Model: Condition Predicting Fairness via Perceptions of Voice, Control, Neutrality, Trust, and Respect

The basic PJ model was estimated to determine whether the data fit the theoretical model of procedural justice when controlling for race, gender, and APLS. The global fit was good (RMSEA = 0.12 (90% CI [0.09, 0.14]), SRMR = 0.10, CFI = 0.98, TLI = 0.95, $X^2(15) = 68.36$, $p < 0.01$). The tested model explained 91.4% of the variance of fairness, 35.0% of voice, 31.8% of control, 83.8% of neutrality, 79.3% of trust, and 88.4% of respect. See Fig. 2 for the unstandardized coefficients and Tables 6S and 7S for the standardized coefficients. The direct effects replicated most of what we expected. Contrary to our predictions, fairness was negatively predicted by perceptions of voice. The indirect effects revealed that the PJ condition increased perceptions of fairness because the officer in the vignette was perceived as giving more control, more neutrality, more trust, and more respect to the civilian than the no PJ condition. Again, the indirect effect of condition on fairness through voice was present and negative, suggesting that participants in the PJ condition perceived the vignette as less fair because they perceived the vignette officer relied on the vignette civilian's preferences (β = −0.08, *SE* = 0.03, 95% CI [−0.143, −0.010]).

Multiple-group Analyses: Examining Civilian and Police Officer Mediation Models Separately

To test our research hypotheses that police officers and civilians would rely on different mechanisms to evaluate PJ in police-civilian encounters and that self-categorization with police would moderate those mechanisms, we compared police officer and civilian evaluations with multiple-group analysis. We examined and compared the global fit of the constrained and free models and used chi-square difference tests to determine whether the global fit was improved when the samples were allowed to evaluate fairness through different mechanisms. See Table 6S for the standardized direct path coefficients and Table 7S for the indirect path coefficients for the basic PJ and identity-moderation models.

Basic PJ Models

The model fit for both the constrained and free models was excellent, Constrained: X^2 (50) = 105.17, $p < 0.001$, CFI = 0.981, TLI = 0.970, RMSEA = 0.091 (90% CIs: 0.066, 0.115), SRMR = 0.103; Free: X^2 (30) = 73.69, $p < 0.001$, CFI = 0.985, TLI = 0.960, RMSEA = 0.104 (90% CIs: 0.074, 0.134), SRMR = 0.100. The chi-square difference was greater than the critical value and, therefore, we retained the free model, $X^2\Delta$ (20) = 31.48, $p < 0.05$; critical X^2 = 31.41 (Burnham & Anderson, 2002). Contrary to our initial hypothesis that the global fit of the models would be best when the mechanisms were not allowed to vary by sample, the data fit the models best when police officers and civilians were allowed to evaluate fairness through different mechanisms.

The free model accounted for a significant proportion of the variance for both civilians and police officers. For civilians, the model accounted for 92.6% of the variance of fairness, 29.2% of control, 27.8% of voice, 82.8% of neutrality, 76.9% of trust, and 87.1% of respect. For police officers, the model accounted for 90.5% of the variance of fairness,

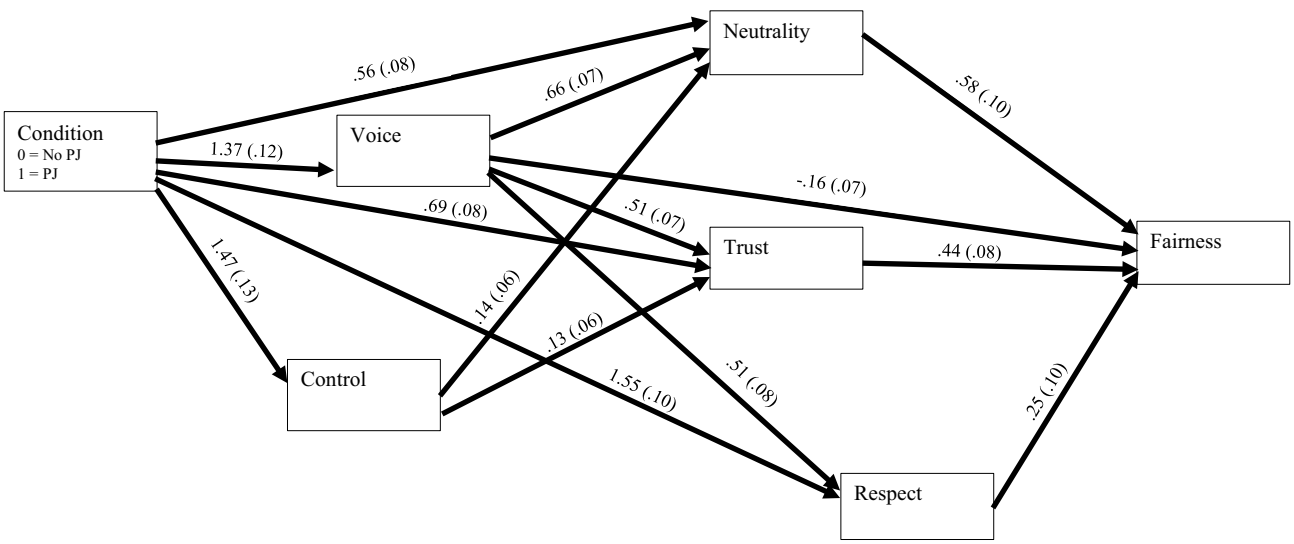

Fig. 2 The basic procedural justice model testing the effect of condition on fairness through voice, control, neutrality, trust, and respect controlling for face, gender, and APLS. Non-significant pathways were excluded for simplicity, significant direct pathways (CI 95%) are represented with solid lines, and significant indirect pathways (CI 95%) are indicated with bolded lines

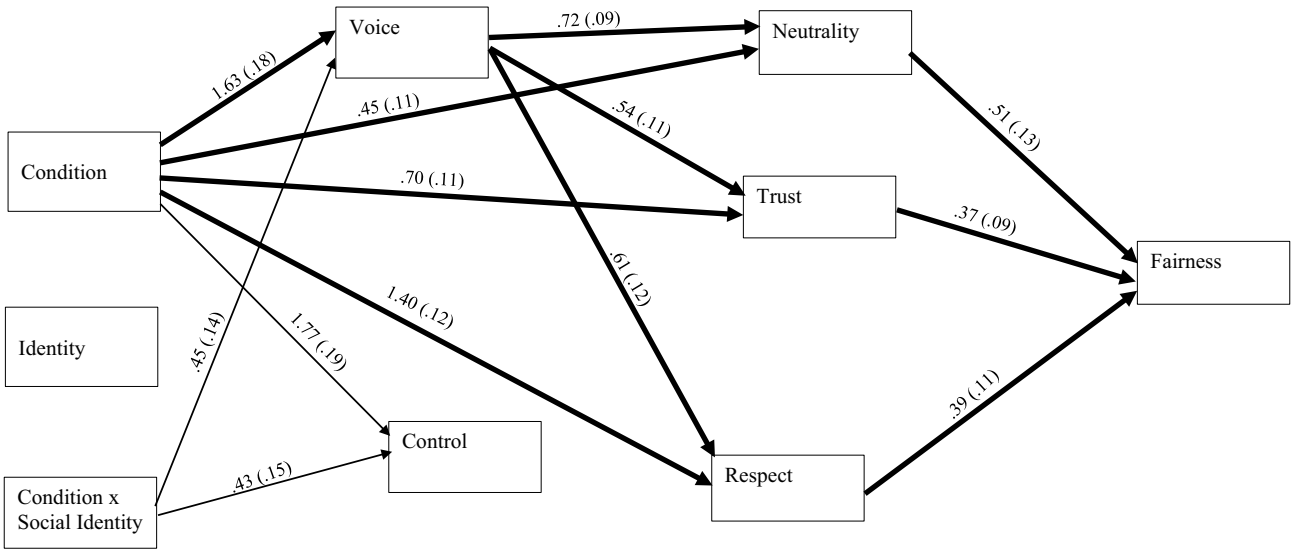

Fig. 3 The self-categorization model for civilians testing effect of condition, moderated by self-categorization, on fairness through voice, control, neutrality, trust, and respect controlling for race, gender, and APLS. Non-significant pathways were excluded for simplicity, significant direct pathways (CI 95%) are represented with solid lines, and significant indirect pathways (CI 95%) are indicated with bolded lines

36.1% of control, 46.3% of voice, 85.8% of neutrality, 83.2% of trust, and 90.6% of respect. See Tables 6S and 7S for the standardized coefficients for the direct and indirect effects, respectively.

Identity Models

Next, we examined whether self-categorization with the police predicted evaluations of PJ for civilians and for police officers. The model fit for both the constrained and free models was excellent, Constrained: X^2 (59) = 103.33, $p < 0.01$, CFI = 0.985, TLI = 0.976, RMSEA = 0.075 (90% CIs: 0.050, 0.098), SRMR = 0.080; Free: X^2 (36) = 68.83, $p < 0.001$, CFI = 0.989, TLI = 0.971, RMSEA = 0.082 (90% CIs: 0.052, 0.112), SRMR = 0.068. The chi-square difference was less than the critical value. Therefore, we retained the constrained model, $X^2\Delta(23) = 34.50$, $p < 0.10$; critical $X^2 = 35.17$ (Burnham & Anderson, 2002). The data fit the

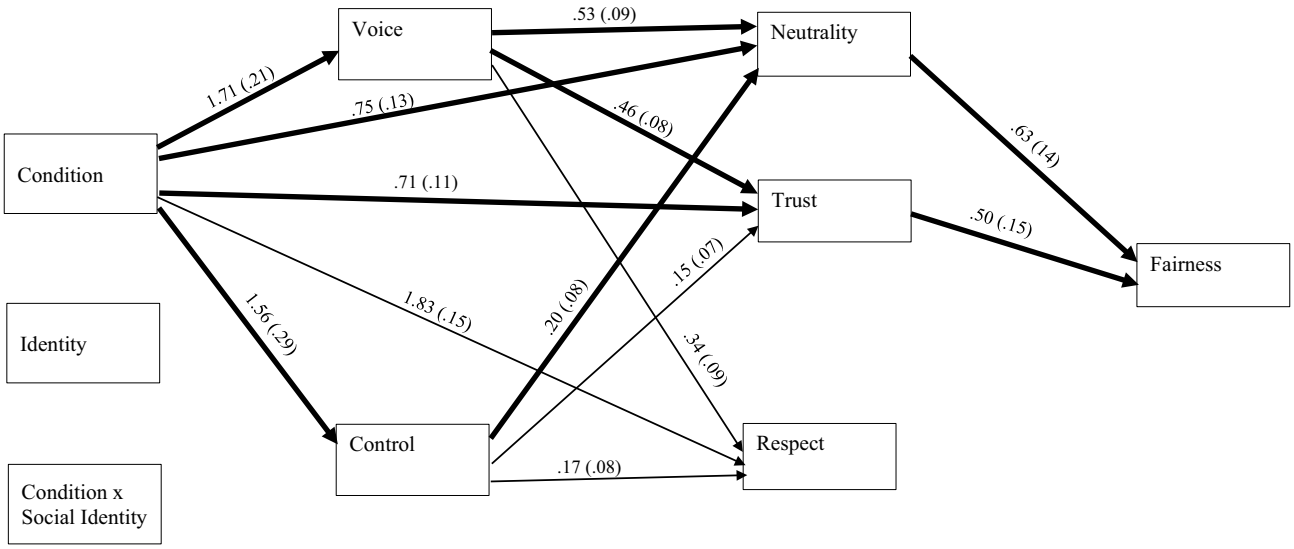

Fig. 4 The self-categorization model for police officers testing effect of condition, moderated by self-categorization, on fairness through voice, control, neutrality, trust, and respect controlling for race, gender, and APLS. Non-significant pathways were excluded for simplicity, significant direct pathways (CI 95%) are represented with solid lines, and significant indirect pathways (CI 95%) are indicated with bolded lines

models best when civilians and police officers were required to evaluate fairness through the same mechanisms. By adding self-categorization with the police to the models we were able to explain why the samples perceived fairness through different mechanisms.

Identity-moderation Models

Finally, we added the interaction between PJ condition and self-categorization with the police. The model fit for both the constrained and free models was excellent, Constrained: X^2 (69) = 140.05, $p < 0.01$, CFI = 0.975, TLI = 0.964, RMSEA = 0.087 (90% CIs: 0.067, 0.108), SRMR = 0.094; Free: X^2 (42) = 78.48, $p < 0.001$, CFI = 0.987, TLI = 0.969, RMSEA = 0.080 (90% CIs: 0.052, 0.108), SRMR = 0.066. The chi-square difference was greater than the critical value. Therefore, we retained the free model, $X^2\Delta$ (27) = 61.57, $p < 0.01$; critical X^2 = 46.96 (Burnham & Anderson, 2002). The data fit the models best when civilians and police officers were allowed to evaluate fairness through different mechanisms. This finding suggested that there was a three-way interaction between condition, self-categorization, and sample. The free model accounted for a significant proportion of the variance for both civilians and police officers. For civilians, the model accounted for 92.7% of the variance of fairness, 37.4% of control, 37.1% of voice, 82.8% of neutrality, 87.1% of respect, and 76.9% of trust. For police officers, the model accounted for 90.6% of the variance of fairness, 37.5% of control, 47.8% of voice, 85.8% of neutrality, 90.6% of respect, and 83.2% of trust. For the unstandardized direct path, coefficients see Fig. 3 for civilians and Fig. 4 for police officers.

Exploratory Model Examining the Significantly Different Pathways for Civilians and Police Officers

The identity and identity-moderation models suggested that the differences between civilians and police officers should be probed more closely to better understand how each group evaluated PJ in police-civilian interactions. For the final phase of analyses, we examined the change in overall model fit when each direct pathway was constrained to be the same for civilian and police officer participants. These analyses identified the most parsimonious model by freeing only those direct effects that were significantly different between the samples. Global fit indices suggested that the final model fit was excellent: X^2 (63) = 101.05, $p < 0.01$, CFI = 0.987, TLI = 0.979, RMSEA = 0.067 (90% CIs: 0.041, 0.091), SRMR = 0.078. Furthermore, the chi-square difference between the final model and the free model was less than the chi-square critical value. Therefore, the more parsimonious, final model fit the data better than the free model ($X^2\Delta$ (21) = 22.57, $p > 0.05$; critical X^2 = 32.67). See Table 6 for the standardized direct effects, and Fig. 5 for the unstandardized effects for civilians, and Fig. 6 for the unstandardized effects for police officers. For civilians, the model accounted for 91.9% of the variance of fairness, 34.2% of control, 36.6% of voice, 80.6% of neutrality, 86.3% of respect, and 74.6% of trust. For police officers, the model accounted for 90.9% of the variance of fairness, 39.2%

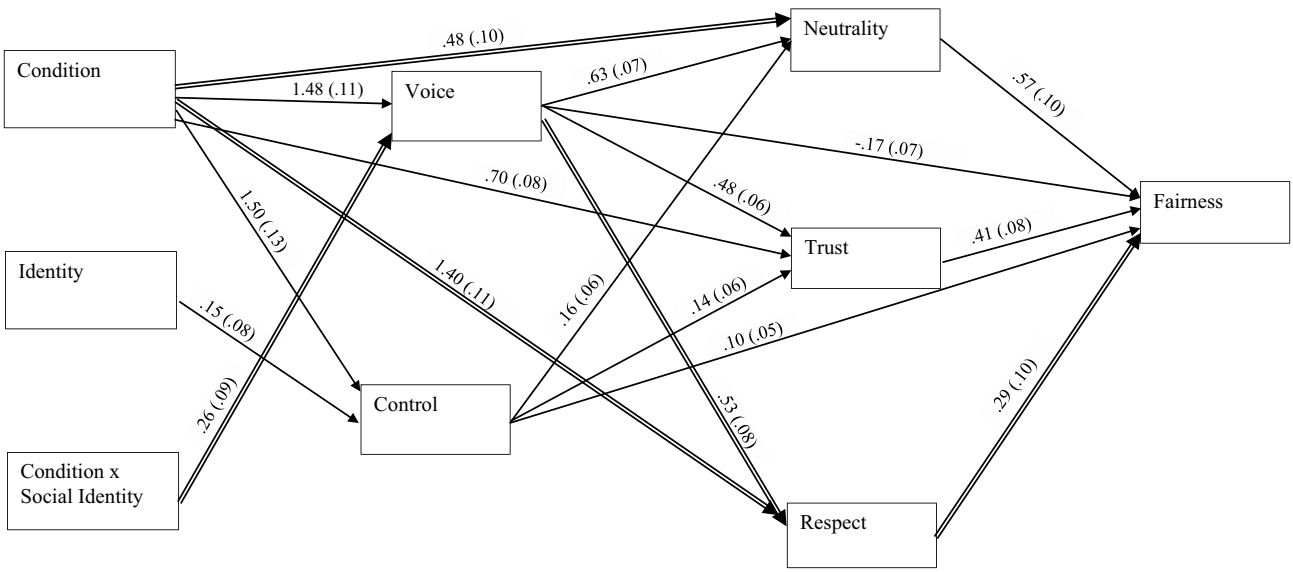

Fig. 5 Final civilian model testing effect of condition, identity, and their interaction on fairness through voice, control, neutrality, trust, and respect controlling for race, gender, and attitudes toward police. The following double-lined direct effects were free to vary from police. Non-significant pathways were excluded and significant direct pathways (CI 95%) were represented with solid lines

Table 6 Model fit chi-square and chi-square differences test and the standardized coefficients for the final mediation models ($N = 275$) representing each direct effect pathway between condition and perceptions of fairness through perceptions of voice, control, trust, neutrality, and respect controlling for race, gender, and attitudes toward the police

			Police officers ($n = 119$)		Civilians ($n = 150$)	
	X^2(df)	$X^2\Delta$ (df)	β(ΣE)	95% CIs	β(ΣE)	95% CIs
Free int. model	78.48 (42)	-				
Constrained int. model	140.05 (69)	61.57(47)*				
Final model	101.05 (63)	22.57 (21)				
Fairness						
Condition	78.94 (43)	.46 (1)	− .04 (.04)	[− .115, .052]	− .04 (.04)	[− .118, .047]
Voice	78.48 (43)	0.0 (1)	**− .13 (.06)***	**[− .248, − .017]**	**− .13 (.06)***	**[− .253, − .022]**
Control	78.49 (43)	.01 (1)	**.10 (.05)***	**[.009, .188]**	**.09 (.04)***	**[.005, .173]**
Neutrality	79.26 (43)	.78 (1)	**.49 (.09)***	**[.321, .658]**	**.47 (.08)***	**[.317, .633]**
Trust	79.38 (43)	.9 (1)	**.31 (.06)***	**[.188, .431]**	**.32 (.06)***	**[.203, .633]**
Respect	**82.80 (43)**	**4.34 (1)***	**.25 (.11)***	**[.021, .439]**	**.28 (.10)***	**[.074, .460]**
Race	78.51 (43)	.03 (1)	− .002 (.02)	[− .039, .039]	− .004 (.02)	[− .043, .034]
Gender	**86.30 (43)**	**7.82 (1)***	.06 (.04)	[− .028, .112]	**− .05 (.02)***	**[− .094, − .002]**
APLS	78.50 (43)	.02 (1)	.01 (.03)	[− .057, .059]	.01 (.03)	[− .043, .073]
Social ID	79.00 (43)	.52 (1)	− .02 (.03)	[− .080, .051]	− .02 (.03)	[− .081, .047]
Cond*ID	80.85 (43)	2.37 (1)	.02 (.03)	[− .039, .081]	.02 (.03)	[− .041, .075]
Neutrality						
Condition	**82.32 (43)**	**3.84 (1)***	**.26 (.04)***	**[.169, .334]**	**.20 (.04)***	**[.125, .279]**
Voice	81.24 (43)	2.76 (1)	**.58 (.06)***	**[.462, .694]**	**.62 (.06)***	**[.496, .739]**
Control	79.22 (43)	.74 (1)	**.17 (.06)***	**[.049, .294]**	**.17 (.06)***	**[.037, .283]**
Trust						
Condition	78.49 (43)	.01 (1)	**.32 (.04)***	**[.234, .384]**	**.32 (.04)***	**[.244, .632]**
Voice	78.94 (43)	.46 (1)	**.51 (.07)***	**[.383, .644]**	**.50 (.07)***	**[.379, .632]**
Control	78.53 (43)	.05 (1)	**.18 (.07)***	**[.046, .315]**	**.16 (.06)***	**[.032, .277]**
Respect						
Condition	**86.57 (43)**	**8.09 (1)***	**.62 (.05)***	**[.507, .697]**	**.51 (.04)***	**[.429, .384]**
Voice	**84.38 (43)**	**5.90 (1)***	**.32 (.07)***	**[.180, .451]**	**.44 (.07)***	**[.316, 576]**
Control	79.74 (43)	1.26 (1)	**.11 (.06)***	**[.001, .231]**	.11 (.06)	[− .011, .218]
Voice						
Condition	78.56 (43)	.08 (1)	**.64 (.04)***	**[.531, .690]**	**.65 (.04)***	**[.566, .726]**
Social ID	79.91 (43)	1.43 (1)	.09 (.06)	[− .045, .193]	.10 (.06)	[− .023, .209]
Cond*ID	**87.35 (43)**	**8.87 (1)***	.04 (.07)	[− .090, .188]	**.20 (.07)***	**[.058, .345]**
Control						
Condition	78.85 (43)	.37 (1)	**.54 (.05)***	**[.402, .594]**	**.61 (.05)***	**[.513, .695]**
Social ID	78.79 (43)	.31 (1)	.11 (.06)	[− .033, .204]	**.13 (.06)***	**[.002, .244]**
Cond*ID	81.54 (43)	3.06 (1)	.11 (.06)	[− .010, .241]	.11 (.07)	[− .009, .254]

Table 6 (continued)

	X^2(df)	$X^2\Delta$ (df)	Police officers ($n = 119$) β(ΣE)	95% CIs	Civilians ($n = 150$) β(ΣE)	95% CIs
Neutrality with						
Trust	**88.27 (43)**	**9.79 (1)***	**.39 (.10)***	**[.168, .567]**	**.62 (.06)***	**[.498, .719]**
Respect	**84.53 (43)**	**6.05 (1)***	.27 (.13)*	[−.015, .505]	**.49 (.08)***	**[.324, .630]**
Respect with						
Trust	**87.11 (43)**	**8.63 (1)***	**.36 (.09)***	**[.153, .517]**	**.57 (.06)***	**[.435, .675]**
Voice with						
Control	80.11 (43)	1.63 (1)	**.81 (.03)***	**[.745, .859]**	**.83 (.03)***	**[.752, .878]**

*chi-square difference is greater than the critical value for the degrees of freedom (3.84 when $df = 1$), therefore suggesting the pathway should be free to vary between the groups. *Sobel test $p < .05$. Bolded pathways that significantly differed between the groups and 95% CIs that do not include zero

of control, 44.8% of voice, 87.1% of neutrality, 90.9% of respect, and 84.6% of trust.

As illustrated in Table 6, chi-square difference tests revealed that the direct effects of respect and participant gender on fairness, PJ condition on neutrality, PJ condition and voice on respect, the interaction term on voice, and the covariances between trust, neutrality, and respect fit the models best when they were free to be different for civilians and police officers. Therefore, in the final model, those pathways were left free to vary between the groups, and the remaining direct effects were constrained to be the same for the groups.

Direct Effects on Fairness

We found that the direct effects of control, voice, neutrality, and trust on fairness were present and equal for both samples. The direct effects of PJ condition, self-categorization with the police, and the interaction on fairness were absent for both samples. We found that although respect significantly and positively predicted fairness for both groups, the effect was significantly stronger for civilians (β = 0.28, $SE = 0.10$, 95% CI [0.074, 0.406]) than for police officers (β = 0.25, $SE = 0.11$, 95% CI [0.021, 0.439]; $X^2\ \Delta(1) = 4.34$, $p < 0.05$).

Direct Effects on Neutrality, Trust, and Respect

The direct effects of PJ condition, voice, and control on trust, of voice and control on neutrality, and of control on respect were all present and equal for both samples. The direct effect of PJ condition on neutrality was present for both samples but the effect of PJ condition on neutrality was significantly stronger for civilians (β = 0.20, $SE = 0.04$, 95% CI [0.125, 0.279]) than for police officers (β = 0.26, $SE = 0.04$, 95% CI [0.169, 0.334]; $X^2\ \Delta(1) = 3.84$, $p < 0.05$).

The direct effect of PJ condition on respect was present and positive in both samples but was significantly stronger for police (β = 0.62, $SE = 0.05$, 95% CI [0.507, 0.697]) than for civilians (β = 0.51, $SE = 0.04$, 95% CI [0.429, 0.384]; $X^2\ \Delta(1) = 8.09$, $p < 0.05$). Although both police officers and civilians evaluated officer Jones in the PJ condition as treating John consistently with their values, police officers evaluated the PJ condition as more respectful than did civilians. Additionally, although the direct effect of voice on respect was present and positive for both samples, the effect was significantly stronger for civilians (β = 0.44, $SE = 0.07$, 95% CI [0.316, 0.576]) than for police (β = 0.32, $SE = 0.07$, 95% CI [0.180, 0.451]; $X^2\ \Delta(1) = 5.90$, $p < 0.05$). Therefore, for both civilian and police officer participants, their evaluation that officer Jones' decision reflected John's preferences (*voice*) predicted participants' perceptions that officer Jones was acting consistently with John's values (*respect*). But that effect was significantly stronger for civilian participants than it was for police officer participants.

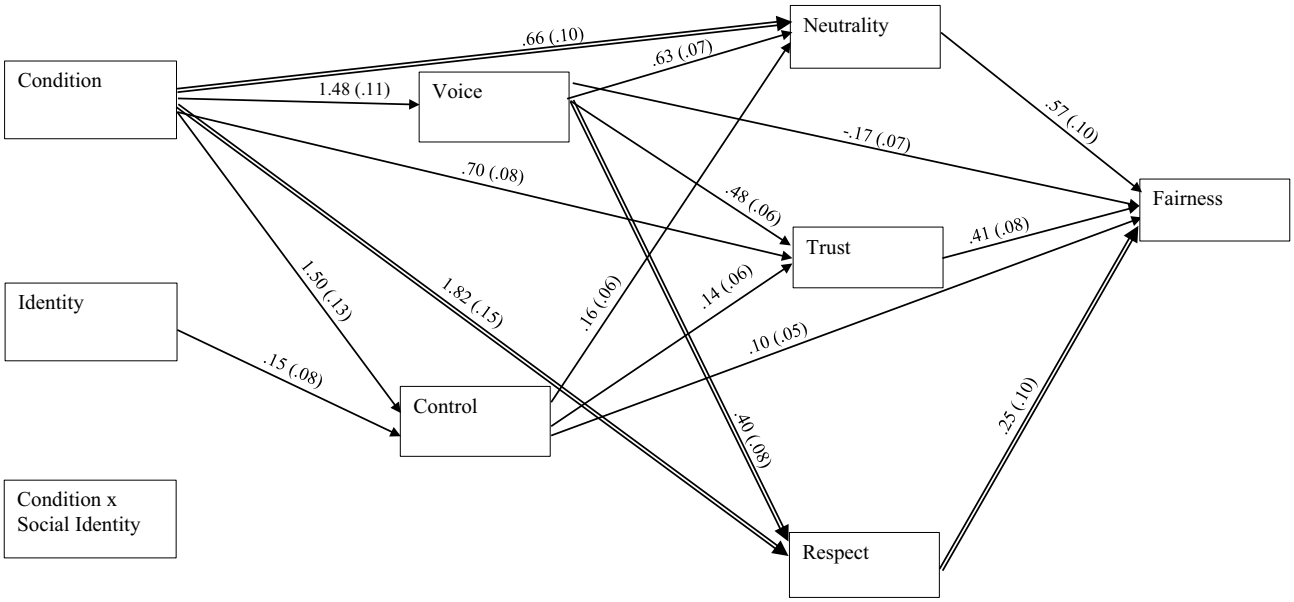

Fig. 6 Final police model testing effect of condition, identity, and their interaction on fairness through voice, control, neutrality, trust, and respect controlling for race, gender, and APLS. The following double-lined direct effects were free to vary from civilians. Non-significant pathways were excluded and significant direct pathways (CI 95%) are represented with solid lines

Direct Effects on Voice and Control

The direct effect of PJ condition on voice and control was present and equal for both samples. The constrained direct effect of self-categorization with police on voice was not present. The constrained direct effect of self-categorization on control was present for civilians but was not present for police officers. The constrained direct effect of the interaction between self-categorization and PJ condition on control was not present. Finally, the direct effect of the interaction between self-categorization with the police and PJ condition on voice was present for civilians (β = 0.20, $SE = 0.07$, 95% CI [0.058, 0.345]), but not present for police officers (β = 0.04, $SE = 0.07$, 95% CI [−0.090, 0.188]; $X^2\ \Delta(1) = 8.87$, $p < 0.05$). The effect of self-categorization on voice was stronger for civilian participants in the PJ condition than for civilians in the no PJ condition. Civilian participants who identified more strongly with police evaluated the PJ condition as providing more voice than civilians who identified less closely with police.

Exploratory Three-way Interaction Between Sample, PJ Condition, and Self-categorization on Perceptions of Voice

We examined the details of the three-way interaction with general linear modeling in SPSS 27. The results of these analyses were limited because they did not control for the covariance between perceptions of voice and control and should be interpreted for the limited purpose of understanding the pattern of results associated with the moderation. Self-categorization with the police was mean-split ($M = 2.87$, $SD = 1.33$) and dummy coded (above the mean = 1; below

Table 7 Main effects for the three-way interaction between condition, sample, and self-categorization on voice

	n	*M*(*SD*)	*F* (*df*)	*MSE*	*p*-value	η^2
Sample						
Civilians	154	2.59 (1.18)	.02 (1, 268)	.81	.896	.00
Police Officers	122	2.83 (1.11)				
Self-categorization						
High	155	2.85 (1.19)	7.25 (1, 268)	.81	< .001	.03
Low	121	2.50 (1.08)				
Condition						
PJ	140	3.37 (1.00)	106.05 (1, 268)	.81	< .001	.28
No PJ	136	2.00 (.86)				

Interaction: F (1, 268) = 3.11, MSE = .81, p = .079, η^2 = .01.

Fig. 7 Graphical depiction of the emerging three-way interaction between condition, sample, and self-categorization on perceptions of voice

the mean = 0) to create eight comparison groups. Generalized linear modeling revealed two significant main effects as well as a three-way interaction that approached significance. See Table 7 for main effects of PJ condition and self-categorization.

We examined the marginal three-way interaction between PJ condition, sample, and self-categorization with the police on voice. See Fig. 7 for a graphical representation. The three-way interaction was marginally significant, F (1, 268) = 3.11, MSE = 0.81, p = 0.079, η^2 = .01. Least-mean difference follow-up analyses revealed that, on average, all participants in the PJ condition evaluated Officer Jones as providing more voice than any of the no PJ conditions. Low-identified civilians in the PJ condition (n = 54, M = 2.91, SD = 1.08) evaluated the vignette police officer as providing significantly less voice to John than did high-identified civilians in the PJ condition (n = 23, M = 3.92, SD = 0.82) and less than high-identified police officers in the PJ condition (n = 52, M = 3.61, SD = 0.83), who were not significantly different from one another or from low-identified police officers in the PJ condition (n = 11, M = 3.32, SD = 0.77). There were no significant simple effects for participants in the no PJ condition.

Discussion

Over the course of the last decade, researchers, policy makers, and reformers have agreed that police-community relations are characterized by mutual distrust with devasting consequences. To address these concerns, police trainings have been developed based on the theory of procedural justice (PJ) to improve those relations one-interaction at a time. However, little research has examined how police officers interpret police-civilian interactions or through which mechanisms they evaluate the fairness of those interactions (see, Hazen & Brank, 2021; Mourtgos et al., 2020). The current research replicated and expanded on past research finding the PJ framework explained how both civilians and police officers evaluated fairness. Civilian participants relied on whether a described police officer gave a civilian voice to evaluate respect and police officer participants relied directly on the details of the interaction described in the vignette to evaluate respect (see, Hazen & Brank, 2021). We expanded these findings and replicated past research by demonstrating that social identity explained the differences between how police officers and civilians evaluate PJ. Our findings have theoretical implications about the value of interpersonal treatment and practical implications for police training and practice.

Through Which PJ Mechanisms do Police Officers, as Compared to Civilians, Evaluate Fairness in Police-civilian Interactions?

Our results replicated past research and partially supported our first set of hypotheses. As we predicted, the PJ condition was perceived as more fair than the no PJ condition, replicating PJ theory (Fondacaro et al., 2002; Solomon, 2019; Tyler, 2017). We found partial support for our hypothesis that police officers and civilians would view fairness through the same basic framework, but that police officers would rely on the exchange-based indicators—voice and respect—to a lesser extent than civilians. Indeed, civilian participants saw the PJ condition as significantly more fair because they perceived that the vignette officer (officer Jones) had good intentions toward the vignette civilian (John), made the same decisions about John as he would about any other civilian, and treated John consistently with John's values because

they perceived that officer Jones made decisions based on John's preferences. In contrast, police officers saw the PJ condition as more fair because they perceived that officer Jones had good intentions toward John and that Officer Jones treated John as he would any other civilian because they perceived that Officer Jones' decision reflected John's preferences. Unlike civilians, police officers' perceptions that the interaction was consistent with John's values did not explain police officers' perceptions of fairness. Police officers' perceptions of how respectful the vignette officer was, although predicted by PJ condition, did not predict officer participants' overall evaluations of the interaction. These findings were consistent with Hazen and Brank (2021) and supported our hypothesis about differences between civilian and police officer perceptions of police-civilian interactions.

By probing each direct effect for differences between the samples, we found that a few pathways were responsible for the differences between civilians and police officers: respect on fairness, condition on neutrality and respect, voice on respect, and the interaction between condition and self-categorization on voice (discussed further below). These findings highlight a critical disconnect between police officers and civilians and suggest rich areas for future research. To understand the difference between how civilians and police officers evaluated respect, we first considered the facts of the vignette and their implications for PJ theory and voice. In both PJ conditions, officer Jones asked John whether he had any drugs, whether officer Jones could search John's bag and a statement that the officer searched John's bag. In the PJ condition, John clearly denied that he had drugs and then hesitantly consented to the search. In the no PJ condition, John did not respond to either of the officer's questions and officer Jones searched his bag. Both civilians and police officers perceived the PJ condition to provide significantly more voice and respect than the no PJ condition. However, civilians relied more strongly on their perceptions of voice to form their perceptions of respect than did police officer participants, even in the PJ condition. Considering voice theory and that we found a unique negative effect of voice on fairness, civilians may have been responding more so to disregarded voice (expressed by unused preferences) than officers (Avery & Quinones, 2002; de Vries et al., 2012). Officer Jones disregarded John's denial of drug possession and, thereby, acted inconsistently with his values that he should receive the benefit of the doubt. Voice disregard has been found to predict less willingness to engage in the voice behavior in the future (Avery & Quinones, 2002; de Vries et al, 2012). Our findings contribute to this literature by illustrating the value of examining not only voice opportunity and behavior but also voice instrumentality (giving weight to the civilian's expressed preferences) in police-civilian interactions. Brank and Groscup (2018) demonstrated that civilians expect that an officer who has requested consent to search their belongings will search their property whether they consent or not, a pattern that undermines the strength of fourth amendment protections as well as perceptions of police legitimacy (Trinkner et al, 2018). Future research should continue to explore the varied impacts on cognitions, attitudes, and behavior of acknowledging what civilians say to police and how police respond to civilian preferences.

Furthermore, respect, the extent to which the officer acted consistently with the civilian's values, was a stronger predictor of fairness for civilians than it was for police officers. This finding suggested that when police officers view or reflect on fairness in a police-civilian interaction, they do not focus as much as civilians do on how they or another officer treated the civilian—demonstrating one of the social perceptual gaps between police and civilians. Furthermore, different aspects of the vignettes predicted evaluations of respect for civilians as compared to police officers. Civilians' respect evaluations were more strongly predicted by voice—that is whether officer Jones used John's preferences and opinions to make his decisions. This finding is consistent with the previous findings that acknowledging a subordinate's preferences and contributions improves organizational justice and engagement (Avery & Quinones, 2002; Colquitt et al., 2001; de Vries et al., 2012; Simon, 2007). However, police officer's respect evaluations were more strongly predicted by PJ condition, which suggested that officers relied more so on whether officer Jones was polite, introduced himself, and thanked the civilian for his time to determine if the officer was respectful. While civilians relied on exchange-based cues to evaluate respect, officers focused on the superficial interaction cues that are established indicators of respect.

Respectful treatment is a vital and early predictor of disparate policing practices as well as an important tool for explaining and improving intergroup relations. Deference exchange and stereotype threat theories, respectively, suggest that police-civilian interactions escalate from unmet behavioral expectations or perceived slights of either the officer or the civilian to reactively disrespectful responses (Najdowski et al., 2015; Sykes & Clark, 1975). Furthermore, the greatest differences in how officers treat white and non-white civilians when controlling for interaction level variables is in the lesser uses of force as compared to lethal force (Fryer, 2019). That is, while Black and Hispanic civilians were marginally more likely than white civilians to be killed by the police, Black and Hispanic civilians were 50% more likely than white civilians to experience lesser uses of force – such as investigative stops, questioning, arrests, and use of baton (Fryer, 2019). We found that civilian participants were more likely to believe that John was Black in the no PJ than in the PJ condition, which suggested that civilians assume that when police treat a civilian unfairly that civilian

is Black, even without race-specific information. Our findings that police officers and civilians both evaluate and rely on perceptions of respect differently, fit well into this landscape of police scholarship. Our findings demonstrated that social perception gaps between police and civilians begin with what behaviors each group evaluates as respectful—police officers focused on superficial interaction cues (i.e., officer politeness) and civilians focused on exchanged-based cues (i.e., acknowledged preferences). From there, misunderstandings about intentions and reactions to perceived threats predictably escalate into unnecessarily forceful and potentially deadly incidents. Future research should continue to explore how police officers and civilians experience respectful treatment, particularly by manipulating civilian race.

Finally, the pattern of results can be understood through a social power framework. Although perceived social power was not measured in this study, police officers are in positions of social power during police-civilian interactions because they are plainly able to influence civilians' behaviors (Guintoe, 2017). Police rely on status-based respect within their organizations, and our findings suggest they expect and rely on status-based respect during civilian-interactions. That is, they comply with demands within their department because of the hierarchical command structure they are socialized to respect (Guinote, 2017; Simon, 2007). Although it is important to note Trinkner et al. (2016) found evidence that officers are also more satisfied with their jobs when they perceived more justice within their departments. Our findings that officer participants relied on cues of politeness to evaluate respect suggested that they also expect status-based respect to translate to civilians and, because they are in a position of relative power, result in cooperation. However, we found that civilians evaluated respect consistently with equity-based respect that derives from considering their preferences and that demonstrates shared democratic values (Guinote, 2017; Simon, 2007). Future research could build on these findings by measuring perceptions of social power in police-civilian interactions.

Does Self-categorization with the Police Explain the Different Mechanisms Relied on by Police Officers as Compared to Civilians?

Finally, we tested and found support for our hypothesis that self-categorization with the police would reduce the differences in evaluations of PJ between the civilian and police officer samples. Self-categorization with the police eliminated PJ mechanism sample differences and explained why the police and civilian models fit better when they were allowed to have different mechanisms for evaluating fairness. The model fit was again improved by allowing the samples to rely on different mechanisms when we added self-categorization as a moderator of the effect of PJ condition on voice and control. The effect of the PJ condition on perceptions of both voice and control was stronger when civilians self-categorized more than average with the police. However, self-categorization with the police did not change the relation between PJ and perceptions of voice or control for police officers. These findings were consistent with previous literature on social identity and PJ—subordinates who self-categorize more closely with an authority or the group they represent evaluate authorities as significantly more fair (Bradford, 2014; Leonardelli & Min Toh, 2011; Oliveira & Murphy, 2015).

Whether the civilian viewing the interaction thinks of themselves as "the same as" or "a part of" the police predicted their evaluations that the vignette officer provided the vignette civilian voice and used that voice. When we consider this pattern with the findings that civilian participants relied more strongly on voice to evaluate respect, the patterns of results provided novel insights into police-civilian interactions—both those that do and do not escalate beyond exchanging words—and further suggested that the "one-interaction-at-a-time" approach is an insufficient intervention without also addressing the police social identity. These findings expanded our understanding of how self-categorization theory and the interventions suggested by said theory can be used in police research and training. For example, future research should explore how shifting police officers' self-representations to include the civilians with whom they interact impacts their interpretations of exchange-based cues—especially respect. Self-categorization theory suggests that not only does self-other overlap predict respectful treatment of others but also our trust in their intentions toward us (Cruways et al., 2021; Kteily et al., 2016; Mourtgos et al., 2020). Future research could better distinguish social identity with the police from the social power of the police to understand whether and how the police use social power to enhance self-police categorization, who both police and civilians perceive to be subject to police power (see, Subašić et al., 2011), and how police-civilian interactions make power salient for both groups.

Furthermore, our findings are consistent with many trends that have emerged in policing scholarship and training—including changing the content of the police identity to include peer accountability and actively protecting civil liberties (Active Bystandership for Law Enforcement (ABLE) Project, n.d.) and emerging training programs that integrate police academy training with traditional undergraduate education during critical identity development years (Cox & Kirby, 2018; Fitchburg State University, 2022). Furthermore, PJ-based interaction trainings should incorporate strategies to increase and consider self-categorization with civilians to emphasize strategies that acknowledge and incorporate civilian preferences. Further research is needed to develop and

understand the effects of such programing on police officers and their interactions with civilians.

Limitations and Future Directions

The current research contributed new knowledge about the relationships among process-based policing, role, and social identity, but the study is not without limitations. First, the implications of this research were limited by the boarder social context and shifting discussions about policing in America since 2020. As noted previously, 2020 was not only defined by the COVID-19 pandemic but also what some considered a contemporary civil rights movement for Black liberation that focused on policing. On May 25, 2020, George Floyd, a Black man, was murdered by police in Minneapolis, MN. A video of the deadly interaction was posted on social media and shared widely. In the days that followed, protests and demonstrations across the USA called for the involved officers to be arrested and charged and that cities defund their police broke. Those protests prompted many to consider, some for the first time, the role of policing in racial oppression throughout American history. Additionally, the protests triggered many to reconsider the role for police in modern America and to reconsider how public services are funded to appropriately meet peoples' needs (Donnella, 2020; Friedman, 2020; Vitale, 2017).

Although data collection from civilian participants was finished before George Floyd was murdered and protests erupted, data collection from police officer participants continued during and after local protests. Locally, protests began on Friday, May 29 and continued intermittently and with varying intensity throughout the summer. Officers from both of the recruited departments were involved in crowd control in response to these protests. Therefore, the findings should be interpreted with caution and future research should examine these questions again to understand the consequences of recent events (e.g., Nix & Wolfe, 2017). Additionally, and particularly in this context, our findings are limited because we did not manipulate the race of the civilian or the officer in the vignette. A replication of this study that includes a manipulation of race would further our understanding of how police officers and civilian perceive these interactions.

Additionally, our sample included two convenience samples: Mturk for civilians and police officers from local departments. The MTurk sample was drawn from across the US but did not represent the US population in 2020. Our sample included a larger proportion of white respondents and a lesser proportion of Black respondents than the general US population (United States Census Bureau, 2021). This lack of representation of Black respondents is particularly important because Black Americans tend to have less favorable perceptions of the police than white Americans (Cao & Wu, 2019; Lai & Zhao, 2010). Therefore, although we controlled for attitudes toward the police and demographic factors in our models, it is possible that our findings underestimate the differences between police officer and civilian perceptions of police-civilian interactions. The next step in this research is to engage in purposive sampling that recruits a representative proportion of Black, Latin American, Hispanic, and Asian respondents. The police officer sample is representative of the departments from which officers were recruited and generalization from that sample should be done cautiously. Our findings should be replicated and expanded with more representative samples.

Additionally, participants in this study, consistent with the research on which it was developed, read vignettes of police-civilian interactions (Nivette et al., 2022). And although this method has been widely used, it is not without limitations. Scholars have begun creating videos or relied on videos of past interactions, which enhance ecological validity given that most people do not read police reports or even descriptions of the police-civilian interactions in the newspaper (see, Braga et al., 2014). However, videos are costly to create, and past interactions may contain confounding details that cannot be manipulated and compared. Vignettes allow the scholars to control the facts of the interaction and introduce or remove the PJ components all at once, as we did in this study. Future research could address these limitations by creating live or animated videos of the interactions.

Additionally, we were unable to examine the indirect effects of the most parsimonious, final model. Although there are some online tools available to calculate indirect effects through a single mediator; they do not calculate the indirect effects of serial pathways with more than one mediator (Preacher & Selig, 2010). Therefore, the conclusions about the unique pathways through which police officers and civilians evaluate fairness are limited in their specificity and can only be based on the self-categorization model that allowed all the pathways to vary. However, the pattern of differences between these models and the final models were similar and suggested that the indirect effects of the final model would be very similar to those of the self-categorization moderation model. Future research should seek to specify these indirect effects.

Finally, the three-way interaction supported by the final models was only approaching significance in the follow-up analyses. Therefore, these finding should be interpreted with caution. Only 17 police officers self-categorized with the police less than the average (11 in the PJ condition and six in the no PJ condition). Therefore, the simple effects comparing those officers with those who identified more closely with the police and with civilians were underpowered. These findings could be replicated with a larger sample that includes more police officers who self-categorize less with police. Unfortunately, such a sample is likely to be difficult to find.

Conclusion

The current research expanded and replicated our understanding of how police officers and civilians evaluate PJ in police-civilian interactions and the moderating effect of self-categorization. The results revealed that police officers and civilians evaluated PJ through similar mechanisms. But, while police officers relied more heavily on the superficial cues to evaluate respect, civilians in evaluating respect relied more heavily on whether the officer in the vignette used the civilian's preferences. Furthermore, this research expanded on the current knowledge of the effect of social identity on police officer and civilian PJ evaluations by demonstrating that civilians who self-categorize more closely with police perceived that process-based policing provides the same amount of voice as police officers. Future research should continue to explore this moderating effect of self-categorization on perceptions of PJ and expand on this work by using social identity theory interventions to bridge the respect gap between police officers and civilians.

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Data Availability The methods and research hypotheses described in this paper were pre-registered through the Open Science Framework (OSF) (10.17605/OSF.IO/HBSY7).

Datasets and outputs generated during or analyzed during the current study are not publicly available due to IRB requirements but are available from the corresponding author on request.

Declarations

Ethical Approval All of the methods and analyses presented in this study were conducted in accordance with the ethical standards of our institution, national research guidelines, and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent Informed consent was obtained from all individual participants included in the study.

Conflict of Interest The authors declare no competing interests.

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