

Extending the Procedural Justice Theory to the Chinese Context: The Role of Collective Efficacy

Guangzhen Wu and Jianhong Liu*

*Guangzhen Wu, Department of Sociology, University of Utah, Salt Lake City, UT, USA; Jianhong Liu, Faculty of Law, University of Macau, E32-3005, Avenida da Universidade, Taipa, Macau, China; jliu@um.edu.mo

Recognizing that prior research has paid limited attention to the relevance of neighbourhood context to the procedural justice model of regulation, this study, based on data collected from a recent survey of 2,245 residents in a southeast city in China, examined the relationship between procedural fairness, collective efficacy and citizens' willingness to cooperate with the police, with a special focus on the role of collective efficacy in the function of the procedural justice theoretical framework. The results of this study revealed that the association between perceived collective efficacy and willingness to cooperate with the police was stronger than that between procedural fairness and the outcome variable. Additionally, this study demonstrated a moderating role of perceived collective efficacy on the relationship between procedural fairness and cooperation (the link between procedural fairness and cooperation was stronger for those with a low level of perceived collective efficacy), further highlighting the relevance of citizens' perceptions of neighbourhood context to their attitudinal behaviours towards the police. These findings have important implications for the direction of efforts to foster citizens' support and cooperation.

Key Words: collective efficacy, procedural justice model, cooperation with the police, police legitimacy, China

INTRODUCTION

In the past two decades, there have been considerable scholarly efforts examining the procedural justice model of policing, as developed by Tyler (1990), across the globe, with an emphasis on the antecedents and consequences of police legitimacy. Built upon these efforts, scholars have noted that sources of police legitimacy (the belief that the legal authority of the police is appropriate, proper and just; see Tyler 2006: 376) are complex and multidimensional, and could be shaped by such neighbourhood dynamics as levels of collective efficacy (Bradford and Jackson 2011) and crime and disorder (Reisig *et al.* 2021), in addition to procedural justice judgement. Despite this recognition, scholarly efforts that empirically examine the implications of community context for the function of the procedural justice model remain very limited (e.g. see Bradford and Jackson 2011; Reisig *et al.* 2021).

Indeed, as Jackson *et al.* (2012) reasoned, the police, as an institutionalized organization, 'are located and work within the field of social activity concerned with and directed toward social control'; the police are essentially the 'physical embodiment of social control activity,' and as such, they gain legitimacy when this activity is shown to be successful and lose it when 'social control mechanisms are seen to be failing' (p. 15). Said another way, the legitimacy of the police may rest in part in people's assessment of the strength of informal processes of social control (Jackson *et al.* 2012). This reasoning suggests that collective efficacy, which reflects the informal process of social control in the community, is theoretically important for understanding the legitimizing nature of citizens' cooperation and compliance.

China is an ideal research site to explore the relevance of collective efficacy to the procedural justice model, in that it has a strong collectivist culture and has long relied upon informal forms of social control to keep social order (Shaw 1996; Jiang *et al.* 2007). Although the reform era has seen an increasing role of formal social control in shaping public safety in China (Liu *et al.* 2001; Liu, 2007), China's reliance on informal control remains strong (Zhang *et al.* 1996; Jiang *et al.* 2007). The emphasis on informal control in the Chinese context shapes Chinese people's thinking and behaviour related to public safety and would arguably affect their attitudinal behaviour towards legal authorities, including the police.

This study contributes to a growing literature on procedural justice and police legitimacy. To explore the dynamics of cooperation, this study examines if citizens' willing cooperation with the police is a function of their perceptions of collective efficacy. Related to the distinct socio-cultural context in China with an emphasis on informal control, we further assess if perceived collective efficacy has a stronger association with citizens' willingness to cooperate with the police than does procedural fairness judgement. We also extend the procedural justice model of policing by exploring how the strength of the relationship between procedural fairness and cooperation may change across groups with different levels of perceived collective efficacy. This exploration speaks to the *invariance* hypothesis stating that the positive effects of procedural fairness judgements are consistently robust across various personal, situational, and environmental contexts (see Reisig *et al.* 2021). Using survey data from a large sample containing 2,245 responses from citizens living in a city in southeast China, this study offers empirical findings that can inform discussions of procedural justice theory and urban police practice.

CITIZENS' COOPERATION WITH THE POLICE: THE PROCEDURAL JUSTICE MODEL

Citizens' cooperation with the police is critical for effective policing. As Skogan (1984) noted, citizens are essentially the coproducers of police services. The police rely upon citizens to report crime and to request assistance in dealing with disorder, and their decisions to make arrests are affected by citizens' expressed preference for arrests. Indeed, research has demonstrated that citizens' provision of information to help identify a suspect is one of the most important factors determining the chance of solving a crime (Eck 1983). As Bradford and Jackson (2011) noted, citizens' cooperation, manifested in such behaviours as summoning officers, reporting crime and providing crime-solving information, essentially 'bridge[s] formal and informal mechanisms of social control, engaging both citizens and police officer in the activity of policing and regulation' (p. 2). These cooperative behaviours reflect the 'expressed consent' of the governed, and as such legitimate the police.

As an important model for understanding police-community relations, Tyler's procedural justice framework offers that the police can promote citizens' legal compliance and cooperation by treating citizens in a procedurally just manner when they exercise their authority (Sunshine and Tyler 2003). Procedural justice scholars have identified two primary ways in which

procedural justice influences cooperation and compliance. One is related to the function of police *legitimacy*. It was argued that citizens are more likely to cooperate with the police and comply with the law if they perceive the police to be legitimate, and the perception of legitimacy is further shaped by citizens' perceptions of procedural justice (Tyler 1990). Scholars further reasoned that people who are treated by the police in a procedurally just way tend to develop social norms and values in line with the concept of legitimacy, such as a sense of obligation to obey in their interactions with the police (Tyler 2003; Jackson *et al.* 2013). These normative values and attitudes aligning with the concept of legitimacy would guide individuals' behaviour and promote their willingness to cooperate with the police.

The other mechanism points to the development of *social identity* associated with experience of procedurally just treatment by the police. Specifically, when the police interact with individuals in a procedurally fair manner, it communicates to those individuals that they are valued members of the group the police represent. Said another way, procedural justice serves as a signalling device to recognize and affirm an individual's membership in a positive social group—the law-abiding majority (Bradford 2014). According to procedural justice scholars (Tyler and Blader 2003; Trinkner 2019), group identification is important in linking procedural justice and cooperation, in that it encourages the internalization of group norms and values, and consequently promotes individuals' positive behavioural orientations towards group authorities. Here, we can see that both mechanisms (via the function of *legitimacy* and *social identity*) involve internalization of group goals, values, attitudes and norms.

The identity dynamic of procedural justice theory is of relevance to the current study, as collective efficacy—a focal point of this study—is related to social bonding and cohesion, which are tied to group identification. In the past decade, there has been an increasing scholarly effort to examine the implications of social identity for the procedural justice framework (Bradford *et al.* 2015; Murphy *et al.* 2015). These studies generally demonstrated that social identity, such as identification with the social categories the police represent, matters in shaping public compliance and cooperative behaviour. For example, Bradford *et al.* (2015) found that social identity mediated the relationship between procedural fairness and compliance, though such an effect was not detected for legitimacy. In a recent study, Kyprianides *et al.* (2021) found that for marginalized groups like homeless people, the influence of police procedural justice on cooperation is largely based on the extent to which they identify with the groups that the police represent.

THE RELEVANCE OF COLLECTIVE EFFICACY TO THE PROCEDURAL JUSTICE THEORY

The procedural justice theory highlights the importance of citizens' perceptions of procedural fairness in shaping their police legitimacy judgement, as well as their legal compliance and cooperation. However, scholars examining the antecedents of police legitimacy have noted that they are complex and multidimensional, going beyond the factors originally identified by procedural justice theorists as important drivers of police legitimacy, including those reflecting normative (procedural justice/fairness) and instrumental (distributive justice and police effectiveness) considerations (Gau *et al.* 2012; Jackson *et al.* 2012; Bradford *et al.* 2014). In particular, scholars have noted that neighbourhood dynamics, such as collective efficacy, social cohesion and disorder, may influence citizens' perceived legitimacy of the police (Jackson *et al.* 2012; Reisig *et al.* 2021).

Concerning the link between neighbourhood dynamics and police legitimacy, an important study was done by Jackson *et al.* (2012) on public trust, police legitimacy and citizens' cooperation with the police in the British policing context. Jackson *et al.* found a significant association

between such neighbourhood-level factors as collective efficacy, social and physical disorder, and a shared sense of safety from crime and police legitimacy. Emphasizing the social ecology of legitimacy, the authors reasoned that the police are located and work within the field of social activity focusing on social control. As an institutionalized organization, the police represent 'activity conducted within the field and the ends to which it is directed'; as such, the legitimacy of the police is to a certain extent built upon 'what it is: namely, the physical embodiment of social control activity' (Jackson *et al.* 2012: 15). The idea that the police embody the overall social control activity conducted in the field provides an important reason why citizens' judgement of police legitimacy is linked to their assessment of the well-being of the neighbourhood (e.g. the strength of informal social control). As Jackson *et al.* further noted, people infer the success of formal policing from the success of informal policing, because the success or failure of policing as a general activity may be felt most keenly through day-to-day and low-level social bonds, informal social controls and symbols of order and disorder.

Jackson *et al.*'s work offers a theoretical perspective on the potential influence of neighbourhood dynamics such as collective efficacy on citizens' cooperative behaviour towards legal authorities like the police. As an extension of this perspective, it would be interesting to see the strength of the relationship between collective efficacy and cooperation, as compared with that between procedural fairness and cooperation. This exploration is also theoretically important given the existing notion that procedural justice matters more in shaping legitimacy judgements than other instrumental considerations such as police effectiveness, distributive justice and outcome favourability (Sunshine and Tyler 2003; O'Brien and Tyler 2019). In addition, connected to the social identity perspective, it is of theoretical significance to further explore if the predictive power of procedural fairness for cooperation may change across groups with different levels of perceived collective efficacy. This inquiry will also help assess the invariance perspective related to the procedural justice theory, which posits that the benefits of procedurally fair treatment are similar across situations, groups and locales (Reisig *et al.* 2021).

The social identity perspective seems to suggest that procedurally just treatment would be more important in shaping legitimacy and cooperation for people who strongly identify with the group the police represent (Tyler 2003; Reisig *et al.* 2021). Following this perspective, scholars further reasoned that the relationship between perceived procedural justice and legitimacy would be stronger for residents of low-risk neighbourhoods than for those living in high-risk neighbourhoods (Reisig *et al.* 2021). This is the case because individuals' negative perceptions of neighbourhood conditions make it more difficult for them to identify with the police. As Reisig *et al.* (2021) noted, residents' unfavourable perceptions of the police tend to generate the 'rejection of in-group inclusion for both the police and the citizen' (p. 1302).

However, it is also possible that the influence of procedurally fair treatment on police legitimacy and cooperative behaviour may be weaker for people who perceive a high level of collective efficacy in their neighbourhoods. As mentioned previously, according to Jackson *et al.* (2012), citizens' perceptions of collective efficacy affect their police legitimacy judgement because the police are the 'physical embodiment of social control activities' (p. 8). This suggests that for individuals with positive perceptions of neighbourhood collective efficacy, there would be a natural tendency to think the police are legitimate and to cooperate with the police (because they represent the social control activity conducted in the field), which may leave less room for procedural justice-related considerations. In other words, procedural justice perception may be less important in influencing legitimacy for people with high levels of perceived collective efficacy, because, in a sense, their attitudinal positions toward the police have already somewhat been shaped (by perceived collective efficacy). It should be noted that this does not mean procedural justice does not matter for individuals who believe collective efficacy is high in their neighbourhoods. Indeed, it could be reasonably expected that individuals with positive perceptions of collective efficacy

may overall show a high level of willingness to cooperate. The key point here is that the effect of procedural justice on legitimacy and cooperation for people with high levels of perceived collective efficacy may not be as strong as the effect for those with low collective efficacy levels.

CONTEXT OF URBAN CHINA: THE ROLE OF INFORMAL SOCIAL CONTROL AND COLLECTIVE EFFICACY

As an East Asian country, China differs from Western countries in many ways. One fundamental difference, as scholars have observed (Troyer *et al.* 1989; Liu, 2005), is that China can be categorized as a communitarian society rather than an individualistic society. Scholars have identified several central features of communitarianism in urban China, such as a collective culture of Chinese community, high frequencies of social interaction, interdependence among residents and a sense of mutual obligation (Zhang *et al.* 1999). In line with this communitarian culture, China has been dependent upon informal control to maintain social order, reflected by its long-time adoption of the mass line principle, which sought to 'transform public security work to the work of the whole people' (as cited in Wong 2003: 208) through the extensive involvement of local residents in crime control (e.g. participation in neighbourhood committee, work units and social order joint protection teams). As Zhong (2009) pointed out, this principle highlighted the central role of citizens in crime prevention, in that local residents were mobilized and largely responsible for controlling crime and keeping social order in their communities.

China has made more efforts to develop a formal social control system since the late 1970s, manifested by the expansion of legal education and research and the increasing number of laws and criminal justice organizations (Zhang *et al.* 1996; Jiang *et al.* 2014). However, scholars have observed that this change did not come with a declining use of informal control (Jiang *et al.* 2014). In effect, the new landscape in China has shown a combination of formal and informal models of social control, in which the traditional value of informal control remains strong and still plays a critical role in shaping Chinese citizens' thinking and behaviour associated with public safety (Messner *et al.* 2017).

China's context matters in understanding the procedural justice model because its cultural emphasis on informal control may limit the influence of procedural fairness used by police, which is reflective of formal social control, on Chinese citizens' cooperation with the police. The relevance of this feature of social control in contemporary urban China to the current study is that this social and cultural context underscores the need to include the effects of related dimensions of informal control such as collective efficacy and local ties in prediction models, given that the influence of procedural fairness on citizens' cooperation with the police may be tied to their attitudinal orientations associated with informal social control (Jackson *et al.* 2012). In this study, we used collective efficacy to reflect informal control, which is based on the recognition that collective efficacy, defined as 'social cohesion among neighbors combined with their willingness to intervene on behalf of the common good' (Sampson *et al.* 1997: 918), has been one of the most prominent concepts related to informal control and reflects consideration of not only the community's resources potential (social cohesion) but also expectations for action (Mazeroll *et al.* 2010). This twofold consideration is important in the study of neighbourhood dynamics, because social ties and resources in the community may not necessarily transform into shared expectations of taking action to prevent crime, which creates a need to incorporate both dimensions (Sampson 1997). It is noteworthy that prior research primarily focused on the effect of neighbourhood composition and paid little attention to the influence of citizens' *perceived* neighbourhood conditions on their evaluation of legal authorities (Nix *et al.* 2015). This omission is worrisome given the existence of evidence suggesting that it is individuals' *perceptions* of neighbourhood cohesion that affect their legitimacy judgements, rather than neighbourhood context (Gau *et al.* 2012).

Collective efficacy, being originally a Western concept, needs to be understood with a consideration of the Chinese context. As Zhang *et al.* (2007) observed, China differs from the West in the institutional foundations of collective efficacy. While collective efficacy in the West, as a form of social control, is grounded upon civil society and has a voluntary nature, 'the situation in China is more complex because the state plays a more prominent role in orchestrating the (social control) process' (Zhang *et al.* 2007: 925). This is reflected by the substantial influence of the government on local communities.

As Zhang *et al.* (2007) further noted, the political system in urban China features a hierarchical structure of administration involving city government, district governments, and street affairs offices (*jie-dao-ban-shi-chu*). Street affairs offices are grassroots-level governmental agencies that supervise a number of community residents' committees (*ju-wei-hui*), whose members are elected by residents. Essentially, community residents' committees are quasi-official agencies with a variety of functions including addressing residents' needs, explaining governmental policies and regulations, mediating neighbourhood disputes and organizing community activities. Although these committees reflect residents' self-governance, their operation is directed by the street affairs offices, and they are financially supported by the street affairs offices. As such, the activities of community residents' committees can be described as a form of semi-public control at the neighbourhood level.

In addition, neighbourhood police stations (*pai-chu-suo*) play an important role in neighbourhood social control in China. As the lowest level of police operation in China, the neighbourhood police interact daily with residents of communities within their jurisdiction (e.g. through community engagement activities, police home visits and the management of the household registration [*hukou*] system) and work closely with the street affairs offices and community residents' committees to prevent crime and resolve disputes (Messner *et al.* 2017). This approach of social control was identified as an important feature of Chinese policing (scholars have called it the 'Chinese style of community policing'; see Zhang *et al.* 2017). As Zhang *et al.* (2007) noted, although cities in Western countries also have local police stations, officers are not integrated into the community as are their Chinese counterparts.

Essentially, the work of community residents' committees and neighbourhood police stations reflects the political notion of 'mass line,' a guiding ideology of the Chinese Communist Party (CCP) to rely upon the masses to prevent crime and maintain social order. In practice, the mass line was carried out through the approach of 'mass prevention and mass management' in which the public, social forces, and government agencies were mobilized to fight crime and sustain social order (Zhong 2009). Although economic reforms that started in the late 1970s have substantially changed China's urban neighbourhoods (e.g. through increased residential mobility and reduced influence of the traditional work-unit-based social control structure), posing challenges to the implementation of the mass line principle, scholars have noted that the mass line remains central to China's urban social/crime control, with some new elements added 'periodically as a reaction to social economic needs' (Dai 2008: 225).

Under this social and political context, informal social control (e.g. collective efficacy) in urban China is inherently connected with semi-public control (reflected by the activities of community residents' committees) and public control (reflected by the activities of neighbourhood police stations). Indeed, urban social control in China is exerted through a delicate and interwoven network of such social institutions as families, schools, neighbourhood-based groups, and the police. As scholars have noted, the China context demonstrates the need to consider the roles of both semi-public control and public/formal control when examining the influence of collective efficacy (Zhang *et al.* 2007).

Drawing upon prior research, the current study extends the procedural justice theory to the context of China, and specifically explores the following two research questions:

RQ 1: Does *collective efficacy* have a stronger association with *willingness to cooperate with the police* than does *procedural fairness*?

RQ 2: Does the strength of the association between procedural fairness and cooperate with the police vary across groups with different levels of perceived collective efficacy?

DATA AND METHOD

Data collection

Data for this study come from a survey of approximately 2,500 residents conducted in a southeast city in China during the fall of 2018. As one of the four cities first assigned the status of 'economic special zone (ESZ)' by the central government of China in the early 1980s, this city has seen impressive economic growth and rapid social changes in the past four decades. Paralleling these trends, the city population has become increasingly diverse, due to the flux of immigrants from other parts of China seeking work opportunities and better living conditions. The city has three administrative districts, and the data were collected from one of these districts. This district was chosen out of the consideration that it has been the primary district in the city even before the city obtained its status of ESZ and contains not only long-standing neighbourhoods but also newly developed neighbourhoods. Given its socioeconomic context, focusing on this district is likely to yield a sample that could better represent the overall population of the city.

The survey was administered through a multistage sampling approach. We first randomly selected five out of the 145 neighbourhoods in the administrative district. Of the five neighbourhoods selected, four are long-standing urban neighbourhoods (with 3,998, 2,200, 1,513, and 5,640 households, respectively), and the fifth is a new suburban neighbourhood (with 1,108 households) that was developed in an originally rural area. Given the sizes of these five neighbourhoods, 600 households were randomly selected from the largest neighbourhood (the one with 5,640 households), and 400 households were randomly selected from the smallest neighbourhood (the one with 1,108 households), based on lists of addresses provided by community residents' committees. Using the same approach, 500 households were selected from each of the remaining three neighbourhoods. Finally, one member of each sampled household who was 18 years of age or older and was willing to participate in this study was interviewed. Participants were informed that their participation was voluntary, in that they could decide whether to participate and they could also refuse to answer any questions in the survey. In total, 2,245 residents completed the survey, yielding a response rate of 89%.

Measures

As this study is intended to examine the relevance of collective efficacy to the procedural justice model of policing in the Chinese social context, variables related to neighbourhood social control and the procedural justice framework were included in the study. Specifically, neighbourhood social control had these dimensions: *collective efficacy* and *local assistance ties* (informal control), *semi-public control* and *public control*. The variables addressing the procedural justice model include *willingness to cooperate with the police*, *procedural fairness*, *police trustworthiness*, *obligation to obey* and *police effectiveness*.

As one of the key variables related to neighbourhood context, *collective efficacy* was measured by eight items that captured its two dimensions as indicated by Sampson *et al.* (1997)—social cohesion and informal social control. Specifically, five items were related to social cohesion: 'To what extent are the residents in your neighborhood willing to help each other?' (responses ranging from 1 [*very unwilling*] to 5 [*very willing*]), 'Please indicate how many residents in your neighborhood possess similar moral values to you' (responses ranging from 1 [*none*] to 5 [*most residents*]), 'Please indicate how many residents in your neighborhood you can

trust' (responses ranging from 1 [*none*] to 5 [*most residents*]), 'Please indicate if (to what extent) it is difficult to get along with residents in your neighborhood' (responses ranging from 1 [*very difficult to get along with*] to 5 [*very easy to get along with*]), and 'Do you think your neighborhood is a close-knit neighborhood' (responses ranging from 1 [*certainly not*] to 5 [*certainly so*]). Additionally, three items were used to ask respondents about the likelihood that their neighbors could be counted on to intervene when they saw something wrong in their neighbourhood: 'How likely would your neighbors be to inform parents in your neighborhood if they see children do not go to school,' 'How likely would your neighbors be to stop graffiti by juveniles in your neighborhood,' and 'How likely would your neighbors be to express their disapproval to juveniles who show disrespect to adults.' The answers for these three items fell onto a 5-point Likert-type scale ranging from 1 (*very unlikely*) to 5 (*very likely*). Overall, these eight items used to measure collective efficacy show good internal consistency, with an alpha value of 0.80. Hence, the eight items were summed to create a composite index of *collective efficacy*.

The variable of *local assistance ties* was measured by four items. Specifically, a 5-point Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*) was used to measure respondents' agreement with statements including 'If you encountered difficult situations, your neighbors would find ways to help you and provide you with support' and 'If you made a mistake, your neighbors would warn you and also help you avoid making such mistake in the future.' With a Cronbach's alpha coefficient of 0.74, these four items were summed to form a composite index of *local assistance ties*. For the other two forms of neighbourhood social control, *semi-public control* was measured by a single item: 'Do you think members of your community residents' committee are effective in conducting their work,' with responses ranging from 1 (*very ineffective*) to 5 (*very effective*). *Public control* was measured by this question: 'How often do you see police officers in your neighborhood?' Answers fell onto a 5-point Likert-type scale ranging from 1 (*never*) to 5 (*very frequently*).

Items used to measure each of the variables related to the procedural justice model also showed good internal consistency, with an alpha reliability score of 0.83 for *willingness to cooperate with the police*, 0.83 for *procedural fairness*, 0.80 for *police trustworthiness*, 0.78 for *obligation to obey*, 0.81 for *police effectiveness*, and 0.72 for *risk assessment*.¹ Except *risk assessment*, which was measured by a 4-point Likert-type scale (1 = *very unlikely* to 4 = *very likely*), all procedural justice model-related variables were measured by a 6-point Likert-type scale (1 = *strongly disagree* to 6 = *strongly agree*). Given the high reliability among items, a composite measure for each of these variables was created by combining the corresponding items. The specific items used to measure these variables are presented in Table 1. For example, we measured *willingness to cooperate with the police*, the dependent variable (DV), with five items asking respondents how strongly they agreed with such statements as: 'I am willing to report to the police if I notice suspicious persons or activities in my neighborhood,' 'I am willing to report the crime that I witness to the police,' 'I am willing to provide information that may help the police to locate the suspects,' 'I am willing to serve as witness in cases investigated by the police,' and 'I am willing to go to court to act as a witness.' The key predictor variable, *procedural fairness*, was captured by asking respondents how strongly they agreed that 'when police make decisions, they consider facts, rather than their personal opinions,' 'police provide opportunities to correct the decisions that are regarded as unfair,' 'police provide opportunities for citizens to explain their situations,' 'the police clearly explain to people about why they took such actions,' and 'police treat you with respect in their interaction with you.'

Additionally, several covariates, *age*, *gender*, *marital status*, *education*, *income*, *CCP member*, *having police relatives*, *born in the city* and *victimization experience* were included in the analyses to

1 Following Tyler (1990)'s perspective, police trustworthiness and obligation to obey are the two dimensions of police legitimacy.

Table 1 *Varimax Rotated Factor Matrix for Items Measuring Variables of Procedural Justice Model of Policing*

Factor	Factor loadings					
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
<i>Factor 1—Willingness to cooperate with the police</i>						
1. I am willing to report to the police if I notice suspicious persons or activities in my neighborhood	0.76					
2. I am willing to provide information that may help the police to locate the suspects	0.72					
3. I am willing to report the crime that I witness to the police	0.80					
4. I am willing to serve as witness in cases investigated by the police	0.73					
5. I am willing to go to court to act as a witness	0.65					
<i>Factor 2—Procedural fairness</i>						
1. When police make decisions, they consider facts, rather than their personal opinions		0.61				
2. The police provide opportunities to correct the decisions that are regarded as unfair		0.67				
3. The police treat you with respect in their interaction with you		0.73				
4. The police clearly explain to people about why they took such actions		0.75				
5. The police provide opportunities for citizens to explain their situations		0.71				
<i>Factor 3—Police trustworthiness</i>						
1. The police always act within the law			0.69			
2. In dealing with crime, the police set their priorities as expected by residents			0.76			
3. The police consider the concerns of residents in developing crime control policies			0.69			
4. I am confident in the police			0.70			
<i>Factor 4—Police effectiveness</i>						
1. The police respond rapidly to calls about crime				0.68		
2. The police are doing well in solving crime				0.78		
3. The police are doing well in preventing crime				0.76		

Table 1 Continued

Factor	Factor loadings					
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
4. The police do a good job in helping the victim				0.68		
Factor 5— <i>Obligation to obey</i>						
1. I would accept the decisions of the police even when I think those decisions are mistaken					0.79	
2. I would do as police required, even when I do not understand why the order has been given					0.79	
3. I would do what the police tell me to do, even when I disagree with the order					0.80	
Factor 6— <i>Risk assessment</i>						
1. How likely would you be the victim of violent crime in the year ahead						0.85
2. How likely would you be the victim of property crime in the year ahead						0.87
Eigenvalues	7.25	2.22	1.81	1.39	1.23	1.01
Variance explained	31.50	9.64	7.86	6.06	5.35	4.40
Cronbach's α	0.83	0.83	0.80	0.81	0.78	0.72

Varimax rotation with Kaiser Normalization. Factors extracted using principal component analysis.

account for their potential impact on the DV. Specifically, *age* was a continuous variable measured by a single question asking the respondent's year of birth (subtracting the year of birth from the year of the survey). *Gender* was dichotomously coded, with 1 = female and 0 = male. *Marital status* was a dummy variable with married being coded as 1. *Educational attainment* was dichotomously coded as well, with 1 = college degree or above, and 0 = high school diploma or below. The variable *income* was measured by a question asking respondents to indicate their monthly household income. *CCP member* was a dummy variable, with 1 = a member of CCP and 0 = not a member of CCP. *Having police relatives* was also dichotomously coded, with having relatives serving in the police force coded as 1 and having no relatives serving in the police force coded as 0. Finally, the variable *born in the city* was measured by a question asking respondents if they were born in the city where the study was conducted, and the response categories were dichotomously coded, with 1 = born in the city and 0 = not born in the city. Regarding *victimization experience*, it was measured by a single question asking respondents to indicate if, within the 2-year period, they themselves or their family members had experienced victimization associated with violent crime or property crime. The variable was dichotomously coded, with 1 for experiencing victimization and 0 for not experiencing victimization.

Table 2 reports descriptive statistics for all variables included in the regression analysis.

Analytical strategy

Given the existence of some evidence suggesting that such concepts as procedural justice and police legitimacy sometimes do not show good convergent and discriminant validity (Gau 2011), it was necessary to first determine that these variables related to the procedural justice

Table 2 *Univariate Descriptive Statistics (N = 2,245)*

Variables	%/Mean (SD)	Range	α
Willingness to cooperate with the police	22.94 (3.97)	10–30	0.83
Neighborhood context/social control			
Collective efficacy	27.28 (4.68)	8–40	0.80
Local assistance ties	14.18 (3.40)	4–20	0.74
Semi-public control	3.38 (0.91)	1–5	–
Public control	3.23 (1.05)	1–5	–
PF*collective efficacy (interaction term, centered)	7.55 (21.32)	–83 to 123	–
Procedural fairness	21.92 (4.35)	10–30	0.83
Age	40.42 (13.87)	18–88	–
Gender (female)	54.00	0–1	–
Marital status (married)	58.70	0–1	–
Education (college degree or above)	40.90	0–1	–
Born in the city	34.90	0–1	–
Member of CCP	15.50	0–1	–
Having police relatives	21.10	0–1	–
Monthly family income (RMB)		1–8	–
Up to 1,999 (US\$290)	14.50		
2,000–3,999 (US\$580)	15.60		
4,000–5,999 (US\$870)	16.20		
6,000–7,999 (US\$1160)	11.10		
8,000–9,999 (US\$1450)	8.30		
10,000–11,999 (US\$1740)	6.40		
12,000–13,999 (US\$2030)	10.30		
14,000 (US\$2030) or above	17.60		
Victimization experience (being victimized)	6.70	0–1	–
Police legitimacy			
Police trustworthiness	17.33 (3.63)	4–24	0.80
Obligation to obey	11.98 (3.00)	3–18	0.78
Instrumental judgement			
Police effectiveness	16.16 (3.83)	4–24	0.81
Risk assessment	4.12 (1.23)	2–8	0.72

model essentially reflected distinct constructs based on our data before applying the multivariate analyses. To address this concern, principal components analysis was performed to check the factor loadings of all the items that were used to measure the key constructs in the study, including procedural fairness, willingness to cooperate with the police, police trustworthiness, obligation to obey, and police effectiveness, and risk assessment.

Based on the results of the factor analysis demonstrating a good convergent and discriminant validity of the scale used to measure these constructs, a series of multivariate analyses were conducted to examine the relative influences of procedural fairness and collective efficacy on citizens' willingness to cooperate with the police, and the role of collective efficacy on the relationship between procedural fairness and cooperation with the police, with a special focus on the potential moderating effect of collective efficacy. Given that the data were collected from

residents living in five neighbourhoods, it seems reasonable to use multilevel modelling (MLM) to analyze the data in order to account for the potential group/neighbourhood-level variance in the outcome variable. However, the use of MLM is based on the observation of the existence of significant group-level variability. If the group-level variability is nonsignificant, then MLM is not needed, and traditional Ordinary Least Squares (OLS) model is an appropriate tool to estimate the parameter of a regression model (Garson 2019).

To check the necessity for using MLM, a variance component test was conducted to assess if values associated with the outcome variable—*willingness to cooperate with the police*—cluster by neighbourhood. Specifically, a null model (or no predictors) was developed to divide the variance in the outcome into its within- and between-groups components. The results from the null/baseline model showed that the between-groups component was nonsignificant, indicating little to no variance in *willingness to cooperate with the police* lied between the neighbourhoods in the sample. Given the nonsignificant between-neighbourhood variability, we chose to use OLS regression, rather than MLM, to analyse the data. OLS regression is also appropriate for this purpose given the continuous nature of the DV—*willingness to cooperate with the police* (a composite measure).

Specifically, we followed a three-step process to examine the influences of the predictors on the DV, *willingness to cooperate with the police*. First, we included only predictor variables for a typical procedural justice model (e.g. procedural fairness, police trustworthiness, obligation to obey, police effectiveness and risk assessment) and demographic variables in the analysis (Model 1), which allowed us to examine how *willingness to cooperate with the police* was connected to *procedural fairness* and police legitimacy variables netting the influences of demographic characteristics. Second, we added *collective efficacy* into the model (Model 2). This allowed examination of the relative strength of *procedural fairness* and *collective efficacy* in predicting *willingness to cooperate with the police*, which helped address the first research question and test the argument made by procedural justice theorists that procedural justice would be the most salient factor influencing citizens' attitudinal behaviours towards the police. Third, we added an interaction term ($PF \times \text{collective efficacy}$) between *procedural fairness* and *collective efficacy*, and other variables related to neighbourhood social control, including *local assistance ties*, *semi-public control* and *public control*, into the model (Model 3). This full model allowed us to examine the potential moderating role of collective efficacy on the relationship between procedural fairness and citizens' willingness to cooperate with the police.

RESULTS

Table 1 presents the results of factor analysis on the 23 items used to measure the key variables related to the procedural justice model of policing in the study. As Table 1 shows, based on the rule of eigenvalues greater than 1.0, six factors emerged that explained approximately 65% of the total variance. As expected, the items that were supposed to measure the intended constructs loaded together. Specifically, for the six constructs of willingness to cooperation with the police, procedural fairness, police trustworthiness, police effectiveness, obligation to obey and risk assessment, the factor loadings ranged from .65 to .80, from .61 to .75, from .69 to .76, from .68 to .78, from .79 to .80, and from .85 to .87, respectively. The rotated factor matrix suggested good convergent and discriminant validity of the factors, meaning that the six variables as measured by specific items were distinct from each other in the study.

Table 3 presents the results of multivariate analyses on *willingness to cooperate with the police*. In developing the models, we did not detect any multicollinearity issues, as across the four models all variance inflation factor scores related to the explanatory variables were below 4.0 (ranging from 1.03 to 1.95), and all their tolerance scores were greater than 0.2 (ranging from

Table 3 Linear Regression of Willingness to Cooperate with the Police ($N = 2,245$)

Predictors	Model 1			Model 2			Model 3					
	B (SE)	t	Tolerance	VIF	B (SE)	t	Tolerance	VIF	B (SE)	t	Tolerance	VIF
Neighborhood social control												
Collective efficacy	-	-	-	-	0.32 (0.02)	15.41***	0.79	1.27	0.29 (0.02)	13.30***	0.70	1.42
Local assistance ties	-	-	-	-	-	-	-	-	0.11 (0.03)	5.01***	0.72	1.39
Semi-public control	-	-	-	-	-	-	-	-	0.04 (0.09)	1.84†	0.84	1.19
Public control	-	-	-	-	-	-	-	-	0.01 (0.07)	0.26	0.93	1.08
PF* collective efficacy	-	-	-	-	-	-	-	-	-0.05 (0.00)	-2.60**	0.97	1.04
Procedural fairness	0.30 (0.02)	11.57***	0.57	1.75	0.22 (0.02)	9.07***	0.55	1.82	0.21 (0.02)	8.36***	0.54	1.85
Demographic characteristics												
Age	0.04 (0.01)	1.61†	0.77	1.29	0.04 (0.01)	1.93†	0.77	1.30	0.05 (0.01)	2.18*	0.76	1.32
Females	0.04 (0.16)	1.99*	0.98	1.03	0.04 (0.15)	1.93†	0.98	1.03	0.03 (0.15)	1.86†	0.97	1.03
Married	-0.04 (0.17)	-2.08*	0.87	1.15	-0.05 (0.16)	-2.44*	0.87	1.15	-0.05 (0.16)	-2.41*	0.86	1.16
College degree or above	-0.02 (0.17)	-1.09	0.83	1.20	-0.03 (0.16)	-1.63	0.83	1.20	-0.03 (0.16)	-1.53	0.82	1.21
Born in the city	0.02 (0.17)	0.81	0.93	1.08	0.002 (0.16)	0.11	0.92	1.08	0.01 (0.16)	0.24	0.90	1.11
Member of CCP	0.03 (0.22)	1.32	0.90	1.12	0.01 (0.21)	0.67	0.89	1.12	0.01 (0.21)	0.37	0.89	1.13
Having police relatives	0.02 (.19)	.73	0.93	1.07	0.01 (0.18)	0.58	0.93	1.07	0.01 (0.18)	0.51	0.93	1.08
Monthly family income	0.01 (0.03)	0.48	0.91	1.09	0.01 (0.03)	0.61	0.91	1.09	0.03 (0.03)	1.28	0.89	1.13
Victimization experience	0.03 (0.33)	1.38	0.96	1.04	0.02 (0.31)	1.23	0.96	1.04	0.01 (0.31)	0.77	0.95	1.05
Police legitimacy												
Police trustworthiness	0.15 (0.03)	5.53***	0.54	1.86	0.11 (0.03)	4.51***	0.53	1.88	0.09 (0.03)	3.57***	0.51	1.95
Obligation to obey	0.07 (0.03)	3.29***	0.77	10.31	0.02 (0.03)	1.00	0.75	1.34	0.01 (0.03)	0.48	0.73	1.38
Instrumental judgement												
Police effectiveness	0.09 (0.03)	3.62***	0.59	1.70	0.08 (0.02)	3.29***	0.59	1.70	0.07 (0.02)	3.07***	0.59	1.70
Risk assessment	-0.07 (0.07)	-3.24**	0.88	1.14	-0.04 (0.06)	-1.77†	0.87	1.15	-0.03 (0.06)	-1.69†	0.87	1.16

Table 3 Continued

Predictors	Model 1			Model 2			Model 3					
	B (SE)	t	Tolerance	VIF	B (SE)	t	Tolerance	VIF	B (SE)	t	Tolerance	VIF
Model fit												
<i>F</i>	52.04***				70.32***				58.12***			
<i>R</i> ²	0.27				0.35				0.36			
<i>R</i> ² change	—				0.08***				0.01***			

Entries are standardized coefficients and standard errors from OLS regression.
PF collective efficacy is the interaction term between procedural fairness and collective efficacy.
p < .05. ***p* < .01. ****p* < .001.

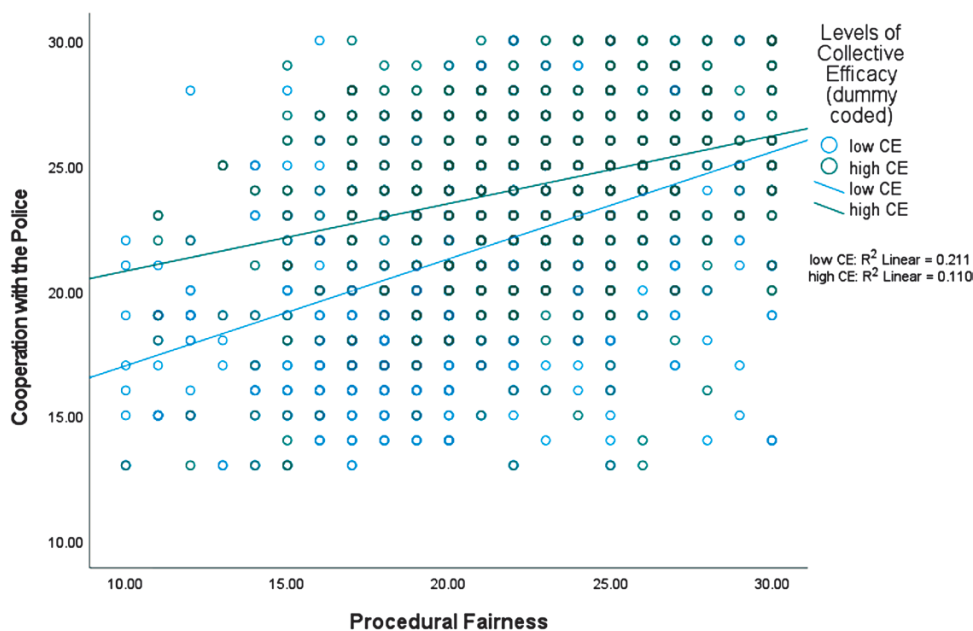


Figure 1. Interaction effect of procedural fairness and cooperation with the police.

0.51 to 0.98), the cut-off points commonly used in determining multicollinearity (Hair et al. 2010). Overall, these models displayed a good model fit, with variables included in the models explaining a substantial proportion of variance in the DV (Model 1, 27%; Model 2, 35%; and Model 3, 36%).

The results showed a salient positive association between *collective efficacy* and the DV across Model 2 and Model 3 in which collective efficacy was included ($p < .001$ for both models), and this was the case even when considering *procedural fairness* and other explanatory variables. Although *procedural fairness* was found to be positively related to the DV across all three models, the variable reflecting neighborhood effect—*collective efficacy*—displayed a stronger association with the DV than *procedural fairness* did, as indicated by their standard correlation coefficients. In effect, the results in Model 1 and Model 2 demonstrated that with the addition of *collective efficacy*, the proportion of variance explained by the explanatory variables improved from 27% to 35% (R^2 change = .08), which was a substantial increase. Specifically, the positive relationship revealed that citizens who perceived a higher level of collective efficacy within their communities were more willing to cooperate with the police than those with a lower perception of collective efficacy.

It also needs to be noted that Model 3 showed a significant interaction effect between *procedural fairness* and *collective efficacy* ($p < .01$), suggesting the linkage between *procedural fairness* and the DV was moderated by *collective efficacy*. As Figure 1 shows, although *procedural fairness* increased citizens' willingness to cooperate with the police for both groups (the group with a collective efficacy score below the mean and the group with a collective efficacy score above the mean), the positive association was more salient for the group of citizens reporting lower neighborhood collective efficacy than the group reporting higher neighborhood collective efficacy. In addition, Model 3 indicated that another variable reflecting neighborhood effect, *local assistance ties*, was positively related to the DV ($p < .001$). However, for the additional two variables reflecting neighborhood social control, only *semi-public control* was found to have a marginally significant association with the DV ($p < .1$).

Regarding the variables for a typical procedural justice model, as previously mentioned, *procedural fairness* was a significant predictor of citizens' willingness to cooperate with the police ($p < .001$ for all the three models), although the strength of its association with the DV was rivalled by *collective efficacy*. Specifically, citizens who perceived the police as procedurally fair were more willing to cooperate with the police. The variable of *police trustworthiness* was also found to have a positive relationship with the DV across all the three models ($p < .001$). However, the other variable reflecting police legitimacy, *obligation to obey*, was observed to be a significant predictor of the DV only in Model 1 ($p < .001$), suggesting its link with *cooperation with the police* was seriously weakened by the addition of the neighborhood context variable *collective efficacy*.

For the two variables related to instrumental judgement, *police effectiveness* and *risk assessment*, *police effectiveness* was found to be positively associated with the DV across all the three models ($p < .001$ for Models 1 and 2, and $p < .01$ for Model 3), and this was true even taking into consideration the measure of *procedural fairness*, suggesting its association with the DV was not overridden by *procedural fairness*. However, despite the significant linkage between *risk assessment* and the DV in Model 1 ($p < .01$), its relationship with the DV in Models 2 and 3 was only marginally significant ($p < .1$).

Regarding control variables, it was found that citizens' *age*, *gender*, and *marital status* influenced their willingness to cooperate with the police. The results suggest that citizens who are older, female and unmarried are more willing to cooperate with the police than their younger, male and married counterparts.

DISCUSSION

Based upon a large sample of the general population from a city in southeast China, this study advanced our understanding of the relevance of collective efficacy to the procedural justice framework in the context of China. While this study revealed that procedural fairness did matter in predicting Chinese citizens' cooperative behaviour towards the police, its predictive power was rivalled by that of collective efficacy, a variable reflecting neighborhood context. In the findings of this study, collective efficacy had the strongest association with willingness to cooperate with the police, and it essentially moderated the function of procedural fairness on the outcome variable. These findings highlight the importance of considering citizens' perceptions of neighborhood conditions for understanding their behavioural orientations towards the police.

The results of this study challenge the argument made by procedural justice theorists that citizens' perceptions of procedural fairness are the most important factor in shaping their police legitimacy-related judgement and their deference to the police and the law, and would even override the influence of citizens' instrumental judgements (e.g. police effectiveness and risk assessment) and other extraneous variables like collective efficacy and neighborhood cohesion (Sunshine and Tyler 2003; Tyler 2006). The finding that Chinese citizens' willing cooperation with the police was more strongly linked to their perceptions of collective efficacy than to procedural fairness judgement (though procedural fairness was still important) suggests that this theoretical perspective may not hold true in non-Western social contexts like China. As previously discussed, unlike Western countries with their cultural emphasis on individualism, China has a collectivistic culture that has long stressed the critical role of informal social control in shaping public safety. In cases where citizens rely more on themselves (informal social control) to control crime, it would be reasonable to expect a reduced role of perceptions of procedural fairness in shaping their crime-control-related behaviour, including their cooperation with the police.

Indeed, this study reveals that individuals' cognitive orientation toward the police is a function of their perceptions of their environment (Nix et al. 2015). The finding seems to be in line with Jackson et al.'s (2012) argument that the police essentially represent the social activity conducted

within the field that is concerned with and directed toward social control, and they will garner legitimacy if this social control activity is viewed to be successful (reflected by high collective efficacy). Our results suggest further that citizens' perceptions of neighborhood conditions may be more powerful in predicting citizens' legitimizing actions than other theoretically important factors like procedural justice. This seems to reveal a new potentially effective way for the police to increase citizens' supportive attitudes and behaviour. That is, the police could be more effective in garnering legitimacy and citizens' cooperation if they improved citizens' perceptions of neighborhood collective efficacy. Certainly, citizens' positive evaluation of collective efficacy relies upon overall good conditions in their neighborhood, including a strong mutual trust among residents and the tendency of residents to work for the common interests of the community (e.g. neighbours intervening when things go wrong). The police can play an important role in this through community engagement efforts, with a goal to build the social and organizational fabric of neighbourhoods and strengthen the capacity of communities in crime prevention. The strong association between collective efficacy and cooperation indicates that these efforts will likely lead to positive outcomes in residents' behavioural orientations toward the police.

In addition, the moderation role of collective efficacy deserves noting. It means that, although procedural justice is important for promoting cooperation with the police among citizens with differing perceptions of collective efficacy in their communities, it is more effective in encouraging cooperation among people with a weak sense of collective efficacy than among those with a strong sense of collective efficacy. This finding seems inconsistent with the social identity perspective, which proposes that the linkage between procedurally just treatment and legitimacy judgement/cooperation would be stronger for individuals in low-risk neighbourhoods than for those in high-risk neighbourhoods (see [Reisig et al. 2021](#)).

The reason for the larger influence of procedural justice on cooperation for people with low perceived collective efficacy might be as follows: People tend to defer to and cooperate with the police when they think collective efficacy in their neighborhood is strong, because the police are regarded as 'prototypical' representatives of community ([Sunshine and Tyler 2003](#)). In the words of [Jackson et al. \(2012\)](#), the police are the 'physical embodiment of social control activity'. Thus, people attribute community well-being to the effective work of the police. This more proximate group-level dynamic may diminish the influence of individual judgement of procedural fairness. That is, there seems to be a natural tendency for those with high perceptions of community collective efficacy to cooperate with the police because they think it is the right thing to do (as the police did a good job in making a good community), which reduces the space for consideration of whether the police treated them in a procedurally fair manner. Said another way, there is a larger space for procedural justice to function when people's sense of collective efficacy is weak. While it is not at odds with the invariance perspective (procedural fairness as a significant predictor of cooperation for both subgroups of residents with different levels of perceived collective efficacy), this finding does suggest that the relative strength of procedural fairness's relationship with cooperation changes in important ways across groups of individuals with different levels of perceived collective efficacy. Especially, the finding highlights that it seems critically important for the police to use procedural justice in their interactions with residents who have a weak sense of collective efficacy in their communities, in order to promote cooperative behaviours on the part of those residents.

Like many studies, the current one is not without limitations. First, the data were collected from a city in southeast China, a region with better social and economic conditions than the rest of China. Given the regional differences in China (see [Wu and Wen 2020](#)), we suggest future research to replicate the study using data collected from other regions of China. Second, this study did not consider how migrants may differ from local residents in attitudinal behaviour toward the police. Recognizing potential disparities in attitudes towards the police between these two groups of

residents (Sun *et al.* 2013; 2017), it is necessary for future research to pay special attention to the views of migrants and explore how the influence of procedural justice judgement and perceived collective efficacy on citizens' deference and cooperative behaviour may vary based on residency status.

CONCLUSION

Using survey data collected from a large sample of over 2,200 urban residents in China, this study is one of the first attempts to examine the relevance of neighborhood context, reflected by collective efficacy, to the procedural justice model of regulation. The results of this study highlight the role played by citizens' perceptions of collective efficacy in their cooperation with the police in the context of China, demonstrating the profound influence of citizens' assessment of the strength of informal social control processes on their behavioural orientations towards the police, as well as the necessity of attending to cultural dynamics in the examination of the procedural justice framework. Given the strong linkage between perceived collective efficacy and cooperation, police officers would likely be more successful in promoting citizens' support if they made more efforts to foster social cohesion and informal social control within communities. Furthermore, as the moderation role of collective efficacy suggests, it is of particular importance for police officers to use procedural justice in their interactions with citizens with a lower sense of collective efficacy. A future extended model of police legitimacy may need to include the effects of community cultural context to enlarge its theoretical validity to a broader scope.

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