PROCEDURAL JUSTICE AND POLICE LEGITIMACY: UNTANGLING THE EFFECTS OF RACE/ETHNICITY-BASED SITUATION AND ORGANIZATIONAL CHARACTERISTICS OF POLICE AGENCY

by

Luye Li

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Approved: _____

Karen F. Parker, Ph.D.
Chair of the Department of Sociology and Criminal Justice

Approved: _____

George H. Watson, Ph.D.
Dean of the College of Arts and Sciences

Approved: _____

Douglas J. Doren, Ph.D.
Interim Vice Provost for Graduate and Professional Education

I certify that I have read this dissertation and that in my opinion it meets the academic and professional standard required by the University as a dissertation for the degree of Doctor of Philosophy.

Signed: _____

Ivan Y. Sun, Ph.D.
Professor in charge of dissertation

I certify that I have read this dissertation and that in my opinion it meets the academic and professional standard required by the University as a dissertation for the degree of Doctor of Philosophy.

Signed: _____

Christy A. Visher, Ph.D.
Member of dissertation committee

I certify that I have read this dissertation and that in my opinion it meets the academic and professional standard required by the University as a dissertation for the degree of Doctor of Philosophy.

Signed: _____

Karen F. Parker, Ph.D.
Member of dissertation committee

I certify that I have read this dissertation and that in my opinion it meets the academic and professional standard required by the University as a dissertation for the degree of Doctor of Philosophy.

Signed: _____

Ruth A. Triplett, Ph.D.
Member of dissertation committee

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ABSTRACT

In the 21st century, law enforcement agencies have increasingly realized the importance of police-civilian contacts in shaping public evaluations of legal authorities. Empirical evidence has shown a strong linkage between procedural justice embedded in police-civilian contacts and public views of the police as legitimate institutions. Although racial disparities have been found in public perception of the police with African Americans being the most critical group of the police, studies have rarely investigated the possible influences of race/ethnicity-based situations, defined mainly by the nexus of civilian and officer race and ethnicity, on police legitimacy. Besides, prior studies have seldom taken police organizational variations, such as internal procedural justice and policing strategies, into consideration when assessing public views of police legitimacy. This dissertation attempts to address these voids in the existing literature.

Using the *Police-Community Interaction Survey* (PCI) and the *Law Enforcement Organizations Survey* (LEO) of the National Police Research Platform Phase II, 2013-2015, the current study assesses the effects of the nexus of officer race and civilian race/ethnicity, as well as police internal procedural justice and policing strategies, on public perceptions of procedural justice and police legitimacy. More

than 5,000 traffic stops from forty-eight police agency are included in the analysis. A large sample size and the merging of two datasets allowed the construction of a comprehensive combination of officer and civilian race and ethnicity and the test of multilevel impacts on public evaluations of the police. The primary statistical approaches include factor analysis, multivariate regression analyses, and hierarchical linear modeling (HLM).

The major findings of this study are: Black civilians were less likely to perceive the police procedurally just and legitimate than White civilians; this Black-White divide in perceptions widens in encounters involving Black civilians and White officers and the negative effect of this racial combination on perception of police legitimacy is partially mediated by procedural justice; Hispanic civilians perceived White officers to be more legitimate compared to their White counterparts, and procedural justice enhances such relatively positive effect. These findings highlight the importance of procedural justice in developing a health police-public relation, advance our knowledge of the complexities of race/ethnicity in shaping civilians' perceptions of police, and inform police administrators of potential organizational reforms to enhance police legitimacy.

Chapter 1

INTRODUCTION

1.1 Research Problems and Statement

In the 21st century, law enforcement agencies have increasingly realized the importance of police-civilian contacts in shaping public evaluations of legal authorities. Not surprisingly, community stakeholders expect the police to be fair and sensitive to the needs of people with whom they come into daily contact. To this end, policymakers and police executives have called for research to improve the quality of police-public encounters and, consequently, enhance the legitimacy of police intervention. Empirical evidence has shown a strong linkage between procedural justice (i.e. the public perception of fair, respectful, and trustworthy police treatment) embedded in police-civilian contacts and public views of the police as legitimate institutions (Tyler, 2006; Tyler & Fagan, 2008; Tyler & Huo, 2002; Schulhofer, Tyler, and Huq, 2011). However, many critical questions, especially related to the possible influences of race/ethnicity-based situation and organizational characteristics on police legitimacy (i.e. the public perception of the police having the proper authority to exercise power and thus their willingness to defer to police decisions), remain under-addressed.

The primary purpose of this project is to advance our knowledge of the impacts of race/ethnicity-based situation and organizational characteristics on public perceptions of police legitimacy. The specific goal of this study is to determine the relative effects of the nexus of police-civilian race/ethnicity and departmental

supervisory fairness (i.e. internal procedural justice) on police procedural justice and legitimacy. The study is designed to address four common limitations in the literature.

First, past studies on public perceptions of police legitimacy relied predominantly on survey data from individuals who may not have had actual contacts with the police. Their evaluations were thus based mainly on vicarious experiences (e.g., Augustyn, 2016; Tankebe, 2010a) and a general impression of legal authorities (e.g. Cao & Hou, 2001; Jang, Joo, & Zhao, 2010), which tend to be heavily influenced by the media reports on the police (Gaeta, 2010; Kim, Barak, & Shelton, 2009; Wu, 2010). This study focuses on people who have had recent encounters with the police. These individuals are more likely to provide direct and accurate information on the content of police-public contacts, and thus their reflections on legitimacy are strongly anchored in personal rather than vicarious experiences.

Second, racial and ethnic effects have yet to be fully tested in the police legitimacy research. Specifically, the nexus of police-civilian race and ethnicity, which comprises an important situational consideration in officers' interactions with the public, warrants more research attention. Although past studies have extensively considered, for instance, the influences of racial/ethnic minorities on attitudes toward the police, an adequate examination that takes into account various combinations of officer and civilian race and ethnicity is still lacking, due mainly to data constraints. This study created a total of nine different categories of civilian and office race and ethnicity dyads that involve Black, White, and Hispanic racial/ethnic groups, allowing an opportunity to untangle complex racial and ethnicity impacts on public assessments of the police.

Third, prior studies have rarely analyzed the mediation effect of procedural justice. Numerous studies have documented that racial/ethnic minorities displayed less favorable attitudes toward the police compared to their White counterparts (see Brown & Benedict, 2002). These findings highlight the importance of identifying possible remedies to neutralize the negative effect of civilian race/ethnicity on public evaluation of the police. For instance, if Black civilians perceive White officers less procedurally just or legitimate compared to White civilians' views of White officers, could procedural justice be instrumental in narrowing the perception gap of the police associated with the race/ethnicity of both civilians and officers? This line of inquiry, up to date, has not been investigated in the literature.

Finally, recent studies have also pointed out the vital role of internal procedural justice/organizational justice (e.g., fair supervision and treatments of officers within a police agency) in affecting officers' job satisfaction, compliance with organizational rules, and officer's self-evaluation of fair and just treatments on civilians (Haas, Van Craen, Skogan, & Fleitas, 2015; Nix & Wolfe, 2016; Van Craen & Skogan, 2017a, 2017b; Wu, Sun, Chang, & Hsu, 2017). Nevertheless, the potential linkage between internal procedural justice within a police agency and fair police treatment on the street from the public standpoint has yet to be investigated. It is theoretically and practically interesting and important to assess the connections between internal procedural justice and civilian assessments of police treatment.

1.2 Research Questions

Three broad research questions guide this study:

Research question 1: Do various police-civilian racial/ethnic combinations impact civilian perceptions of procedural justice and police legitimacy?

Research question 2: Does procedural justice mediate the effect of the police-civilian racial/ethnic combinations on civilian perception of legitimacy?

Research question 3: Do police internal procedural justice and organizational characteristics affect civilian perceptions of procedural justice?

1.3 Significance of Study and Implications for Criminal Justice Policy

In 2014, the United States Department of Justice introduced *The National Initiative for Building Community Trust and Justice* (n.d.), aimed at strengthening police legitimacy and trust among racial/ethnic minorities by improving transparency and accountability of policing. One of the three foci of this initiative is to build procedural justice, which focuses on "*how the characteristics of law enforcement interactions with the public shape the public's views of the police, their willingness to obey the law, and actual crime rates*" ("The National Initiative for Building Community Trust and Justice", n.d.). To align with this goal, this study contributes to criminal justice policy and practice in two broad aspects.

First, this study represents the first comprehensive attempt to examine the police-civilian racial and ethnic dyads in officer-initiated encounters and their effects on public perception of procedural justice and police legitimacy. Unlike prior studies that focused chiefly on the divide of the Black-White domain and its effect on attitudes toward criminal justice practitioners, this study includes Hispanic ethnicity and extends the analysis to a Black-Hispanic-White comparison across both citizen and officer race/ethnicity. Given that the Hispanic population is the fastest-growing minority group in the United States (Flores, 2017), assessing and comparing Hispanic perceptions of legal authority with that of other racial and ethnic groups becomes a vital consideration for how to build a healthy police-public relationship. Moreover,

this study allows a test of the mediation mechanism of procedural justice between the police-civilian racial and ethnic combinations and public view of the police. A study of this kind is timely important, considering that high-profile deadly police-civilian encounters in recent years have brought race and ethnicity back to the central stage of many heated debates on the treatment of minority groups by the criminal justice system. As this project predicts, if procedural justice mediates the negative racial and ethnic effect on police legitimacy, an important policy implication shall stand out: procedurally fair treatment from police officers could cultivate perceptions of legitimacy from the public despite various racial/ethnic combinations between police officers and civilians during police-public encounters.

Second, this project suggests ways to increase procedural justice within police agencies. In specific, this project offers information concerning how supervisory fairness and policing strategies can strengthen individual officer's procedural justice on the street. For example, if supervisors' fair treatment of individual officers is found to be positively related to officers' fair treatment of civilians, policymakers and police administrations should implement policies and programs aimed at enhancing organizational fairness and justice to officers. Similarly, if policing strategies matter, police agencies need to consider adjusting their policing priorities to cultivate police procedural justice and to promote positive police-community relations.

1.4 Plan of Study

This study consists of eight chapters. This chapter serves as an introduction and an outline of the dissertation. Chapter Two features a review of relevant literature. The review begins with an overview of research on procedural justice and police legitimacy, following by a discussion of the role of procedural justice in police-

initiated encounters. The discussion then shifts to the perception of the police by demographic groups and situational characteristics that have previously been found to be significantly related to public views of the police. Next, the chapter discusses how internal procedural justice, policing strategies, and size of agency, as organizational characteristics, affect public perception of police procedural justice. The chapter concludes with a discussion of limitations associated with past research.

Chapter Three proposes three research questions. The chapter starts with a description of the research gaps in the existing literature on procedural justice and police legitimacy that assessed the race and ethnicity issues. The chapter then presents two research questions that focus on the race/ethnicity-based situations and their effects on procedural justice and police legitimacy. Next, the chapter suggests a partial mediation model and illustrates the mediating effect of procedural justice between racial/ethnic combinations and police legitimacy. In the end, the chapter concludes with a third research question focusing on organizational effects on procedural justice.

Chapter Four introduces the study methodology. It describes the data used in this study. Data collection, sample size, and data combination of three surveys are explained in detail. The chapter then describes the items used to create the two outcome variables (i.e. procedural justice and police legitimacy), the nine categories of police-civilian racial and ethnic dyads, the measures of situational and organizational characteristics, and control variables. The chapter concludes with an introduction of the analysis strategy that consists of multivariate regression analyses and hierarchical linear modeling (HLM).

Chapter Five presents the results of the study. Using descriptive statistics, the chapter begins with a bivariate analysis of the data and an interpretation of key

measures. The chapter then shows the results of two regression models for procedural justice and three regression models for police legitimacy. An interpretation on how the two sets of models addresses the first two research questions is provided. Next, to address the third question, the chapter shifts attention to the results of the multilevel analysis and the interpretation of the organizational effect on procedural justice.

Chapter Six discusses the results on how race/ethnicity-based situation impacts procedural justice and police legitimacy. The chapter starts with an explanation on the relatively negative effect of the racial combination of Black-civilian-White-officer and the relatively positive effect of the Hispanic-civilian-White officer combination on procedural justice and police legitimacy. It is followed by a discussion on the mediation effect of procedural justice on the racial/ethnic effect on police legitimacy. The chapter then introduces a model that examines African-American young men's perception of the police procedural justice and legitimacy. In the conclusion, an account is offered for the effect of civilian demeanor in a police-initiated encounter on perception of the police, followed by an overview of the comparison between general and specific police legitimacy.

Chapter Seven features a discussion on the organizational impacts of police agency on procedural justice. To begin with, the chapter analyzes the effects of fair treatment of police chief and supervisor and fair departmental rules on procedural justice. Then the chapter addresses the effects of policing strategy and size of agency. In the end, the chapter discusses the outcomes of several organizational features that were assessed in an additional HLM analysis.

Chapter Eight provides the conclusion of the dissertation. The chapter summarizes the key findings of this project, followed by a discussion on several

limitations and suggestions for future research. It then specifies policy implications and concludes with a final summary.

Chapter 2

LITERATURE REVIEW

This chapter features a comprehensive review of police legitimacy, procedural justice, and factors that impact public perception of the police at individual, situational, and organizational level. Race/ethnicity, as arguably the most influential characteristic of social affairs in the United States, will receive a large space of review on how it affects different groups' view of the police. As one can see, various forms of prejudice, discrimination, and social inequality concerning the demarcation of race and ethnicity in a larger society. Within the criminal justice system, such inequality is reflected by residential and school segregation, profiling in law enforcement, disproportionate contact with the criminal justice system, and unequal health and reentry sources offered to racial/ethnic minorities. Those unfortunate inequalities has placed tremendous burdens on racial and ethnic minority communities since the early days of American history.

In recent years, deadly police-public incidents have featured the contemporary history of police-community relationship. Fair and accountable policing has taken center stage in public debates on the legitimacy of government institutions. Against such a backdrop, delving into the nuanced differentiation caused by the nexus of police and civilian race and ethnicity has become the central theme of this study and it has a timely importance. More importantly, as establishing a positive relationship with the local communities has become almost every law enforcement agency's agenda in this country, how to develop fair policing "from the inside out" is of interests of police

executives and administration. Salient organizational characteristics, such as internal procedural justice (fairness of supervision), various forms of policing strategies and tactics, and departmental size will also be reviewed. The major goal of this chapter is to provide with the state of art of policing studies on procedural justice and legitimacy, identify the research gaps that this study is about to address, and serve a knowledge base for the other chapters.

2.1 Police Legitimacy

Police-community relations have been a constant focus of policing studies. Historically, the problem of police-community relations has centered on the racial issues of policing, such as police mistreatment of racial minority groups and communities (see Walker & Katz, 2018, p. 405). Police scholars have consistently acknowledged that police legitimacy is a serious and broader problem that influences police-community relations. Legitimacy can be defined as the public belief that the police have a commonly accepted legal authority to exercise power and thus deserve public compliance and support (Tyler, 2004; Tyler & Huo, 2002). A growing body of studies has found that police legitimacy is associated with numerous positive outcomes in police-community relations. When the police is perceived to be legitimate, the public shows compliance with the law and deference to the police decisions (Dai, Frank, & Sun, 2011), willingness to cooperate with police (Tyler & Fagan, 2008), great support to local policing initiatives and tactics (Tyler & Huo, 2002), and a high level of respect to, satisfaction with, and confidence in police performance (Hinds & Murphy, 2007).

Police experts also argue that legitimacy can be obtained by instilling procedural justice in routine police activities (Hinds & Murphy, 2007; Tyler,2006). In

modern policing, public support is crucial. Law enforcement agencies rely on community members to report crimes and neighborhood problems, to provide information for assisting in criminal investigations, and to collaborate with local policing programs and initiatives (Tyler & Fagan, 2008). For example, community policing and problem-oriented policing tactics seek to build partnerships with community stakeholders and local organizations to address crime and disorder (Skogan, 2009).

2.1.1 The National Police Crisis, 2014-2016

Several police-public deadly confrontations triggered a "national police crisis" in 2014-2016, causing a great challenge to police-community relations. The crisis began with the Ferguson event happened in August 2014, when Michael Brown, an unarmed 18-year old African-American man was shot and killed by a White officer in Ferguson, Missouri. Soon after this event, angry protests and unrests touched the entire United States. When the Missouri government and other authorities mobilized police and military forces to respond to the demonstrations, public anger increased and violent events and riots against the police erupted in several major cities (Culhane, Boman, & Schweitzer, 2016; Lebron, 2017). The Ferguson incident, compounded with the death of Eric Garner, who was suffocated by two New York City police officers in July 2014, sparked the national police crisis (Culhane et al., 2016; Lebron, 2017). The crisis continued in 2015 when Walter Scott, an unarmed 50-year-old African-American running away from the police, was shot in the back and killed by a White officer (Culhane et al., 2016; Lebron, 2017). A week later on April 12, 2015, Freddie Gray, a 25-year-old African-American, died in a Baltimore police van due to neck injuries. Gray's death resulted in protests, followed by arson, looting, and violence

against police in Baltimore (Culhane et al., 2016; Lebron, 2017). The police shooting incidents also happened in 2016 and continuously triggered public outcry as Alton Sterling, a 37-year-old African-American man, was shot six times in the back and front when two White officers kneed him down to the ground in Baton Rouge, Louisiana in July, 2016 (Lebron, 2017).

The 2014-2016 national police crisis is deemed to be one of the most serious police-community relations crises in the past three decades, and impacted every aspect of policing, ranging from crime fighting tactics to police officers' behavior in public encounters (Walker & Katz, 2018). Building trust and legitimacy soon becomes a pressing matter to every law enforcement agency. This mission has been reflected in the President Task Force on 21st Century Policing (2015, p. 9) where it states, "Building trust and nurturing legitimacy on both sides of the police-citizen divide is not only the first pillar of this task force's report but also the foundational principle underlying this inquiry into the nature of the relations between law enforcement and the communities they serve."

2.1.2 Tyler's Process-based Model of Police Legitimacy and Critiques

As building police legitimacy has become an important policing agenda in recent years, many studies have been devoted to the topic. Among these studies, Tyler's process-based model is the most frequently tested theoretical framework of legitimacy. Tyler posits that legitimacy refers to "a property of an authority that leads people to feel that the authority or institution is entitled to be deferred to and obeyed" (Sunshine & Tyler, 2003, p.514). The concept can be represented by two dimensions: public trust in the police and obligation to obey the police (Tyler, 2006; Tyler & Fagan, 2008; Tyler & Huo, 2002). Public trust in the police originates from the belief

that the police will uphold the common morals and standards of the larger society and that their decisions are in the best interests of the society that they serve (Tyler & Jackson, 2013, 2014). In addition to trust in the police, the public also perceive the police as deserving to be obeyed because people's ethical and moral responsibilities cause them to believe that obeying the police is the right thing to do (i.e. obligation to obey), rather than the compliance stemming from instrumental concerns about avoiding punitive outcomes (Sunshine & Tyler, 2003; Tyler 1990; Tyler & Huo, 2002).

Although Tyler's process-based model is commonly tested, the construct of police legitimacy varies across studies (see Jackson et al., 2011; Murphy & Cherney, 2012; Murphy, Tyler, & Curtis, 2009). Recent studies revealed that the convergence between the two constitutes of legitimacy was low (Gau, 2011, 2014). Other studies also found that public trust in the police often statistically loads with procedural justice into a single factor, rather than loading with obligation to obey (Maguire & Johnson 2010; Reisig, Bratton, & Gertz, 2007). In addition, researchers argue that trust in the police and obligation to obey cannot converge to a single factor because these two dimensions are conceptually distinct. The formal signals a positive attitude toward the police whereas the latter reflects negative emotions, such as fear of punitive consequences and avoidance of police contact (Farmer, 2016; Gau 2011, 2014; Tankebe, 2013)

In contrast to Tyler's operationalization of police legitimacy, numerous studies constructed police legitimacy differently. For example, Tankebe (2013) argues that obligation to obey is distinct from police legitimacy and should not be treated as a composite of legitimacy. He conceptualized and constructed police legitimacy

consisting of four dimensions: procedural justice, distributive fairness (i.e. the fairness of outcome received from a police contact), effectiveness (i.e. police competence of reducing crime and disorder), and lawfulness (i.e. the degree that the police decision represents the common value and standard of the community). This operation of legitimacy was supported by the British data used in his study and provided with a novel construct of police legitimacy that is distinguished from the Tyler's process-based model. However, this new construction of legitimacy is yet to be tested by data from different countries other than the United Kingdom. Furthermore, in addition to Tankebe's and Tyler's operationalization of police legitimacy, researchers also found many correlates of police legitimacy are not distinct from each other. For example, Reisig and colleagues (2007) showed that the distinction between procedural justice and distributive fairness, and the distinction between trust in the police and distributive fairness, were questionable; these measures often loaded together and formed a single factor. Due to various conflicting methods of measuring legitimacy, how to construct legitimacy as a single concept warrants more studies.

Although there is disagreement on how to measure police legitimacy, a considerable amount of empirical evidence supports that police legitimacy produces numerable desirable outcomes of policing. Primarily, evidence shows that, when the police are viewed as legitimate, the public is more likely to defer to police decisions, comply with the law, cooperate with the police, and support of local policing initiatives (Sunshine & Tyler, 2003; Tyler, 2006; Tyler & Fagan, 2008; Tyler, Sherman, Strang, Barnes, & Woods, 2007). In this regard, police legitimacy thus has an instrumental meaning in policing efficiency. That is, legitimate police institution can maintain social order and secure law-abiding behavior from the public without

resorting to coercive measures (Mazerolle, Antrobus, Bennett, & Tyler, 2013; Tyler, 2003;).

2.2 Procedural Justice

Procedural justice is a key element to build police legitimacy. It refers to a fair, impartial, and transparent process that utilize by legal authorities to interact with the public (The President's Task Force on 21st Century Policing, 2015). The core argument of police procedural justice perspective is that the fairness of law enforcement has a greater impact on police-community relations than police effectiveness in crime control. This argument also reflects a shift of the public expectation of police performance: in nowadays, the public place more emphasis on the quality of police treatment of the community members than on how effective the police can tackle crime and disorder. This argument has garnered consistent support in previous studies (Reisig et al., 2007; Sunshine & Tyler, 2003; Tankebe, 2013; Tyler, 2006; Tyler & Fagan, 2008; Tyler & Huo, 2002; Wolfe, Nix, Kaminski, & Rojek, 2016).

In previous studies, procedural justice has been constructed as a formative construct that taps into four dimensions: (1) civilian participation; (2) neutrality in decision-making; (3) contact with respect and dignity; and (4) benevolence and trustworthy motives (Goodman-Delahunty, 2010; Jonathan-Zamir, Mastrofski, & Moyal, 2015; Murphy and Cherney, 2011; Rousenbaum et al., 2015; Stoutland, 2011). The four dimensions of procedural justice require further elaboration. First, civilian participation emphasizes giving the civilian a "voice of right" (Lind & Tylor, 1988; MacCoun, 2005) and requires that the police hear what civilians say in an encounter with the police; the police are viewed as fair when civilians are given opportunities to

explain the situation, express their view, and see their input been taken into consideration when the police make a decision.

Second, neutrality in decision-making requires that the police treat people in an equal and unbiased fashion. The decisions made by the police is required to be based on fact and law rather than on extra-legal factors, such as a civilian's race, ethnicity, gender, age, and social class. The decision-making process is also required to be transparent to ensure that the police treatment is impartial to everyone and individuals that they treat are not singled out and discriminated against by the police (Tyler and Wakslak, 2004).

Third, contact with respect and dignity focuses on the manner and attitude that the police display in treatment of civilians on the street. The police are viewed as fair and positive when they treat individuals with politeness and dignity, and inform and respect the individual's civil rights, such as a right to keep in silence and to be represented by an attorney. Common examples in this regard are that the police politely greet the civilian and express appreciation for the civilian's cooperation at the end of the encounter.

Last, the benevolence and trustworthy motives are manifested by that officers explain their decisions to individuals that they come into contact, give clear instructions, answer individuals' questions, and provide assistance if needed during an encounter. These actions can demonstrate an officer's kind intention, such as a genuine concern about the civilian's wellbeing (i.e., driving safety) or quality of life for the community or a larger society, and ensure the civilian that the police's decision can be trusted (Jonathan-Zamir et al., 2015).

Scholars also divide the four features of procedural justice into two categories: the quality of decision-making, which includes a civilian's participation and the officer's neutrality, and the quality of treatment, which includes contact with respect and dignity and the trustworthy motives (Hinds & Murphy, 2007; Sunshine & Tyler, 2003; Tyler, 2006; Tyler & Huo, 2002). A recent study argues that informational support, which shows the degree to which officers are willing to provide information, should also be included as an element of procedural justice (Rosenbaum, Lawrence, Hartnett, McDevitt, & Chad, 2015). Although there are diverse ways to measure procedural justice, the most common method is to create an overall latent and summative scale by grouping survey questions surrounding the four elements of procedural justice(e.g., Gau, Corsaro, Stewart, & Brunson, 2012; Reisig et al., 2007; Tankebe, 2013).

2.2.1 The Advantages of Procedural Justice

Three advantages of procedural justice highlight the importance of this approach of policing practice. First, procedural justice is an effective way to build police legitimacy. Research has found that procedural justice is the most important antecedent of police legitimacy and has a stronger effect on public perception of legitimacy relative to other competing variables, such as distributive justice (i.e. fairness of outcome) or police effectiveness (in reducing crime and disorder) (Reisig et al., 2007; Tyler 1990; Tyler & Huo, 2002; Wolfe et al., 2016). Evidence also shows that people who received fair and procedurally just treatment from the police were more likely to perceive the police in a legitimate way, and thus accepted and complied

with the officer's decision (Gau et al.2012; Hinds & Murphy, 2007; Jonathan-Zamir & Weisburd, 2013; Kochel, Parks, & Mastrofski, 2013; Murphy, Hinds, & Fleming, 2008; Reisig et al. 2007; Schulhofer, Tyler, & Huq, 2011; Sunshine & Tyler, 2003; Tyler, 2005, 2006; Tyler & Fagan, 2008; Tyler, Schulhofer, & Huq, 2010).

Second, procedural justice has the potential to elicit positives response and reaction from the public--verbally, attitudinally, and behaviorally-- during police-public encounters. People who felt fairly treated by the police are more likely to speak civilly, show a respectful attitude toward the officer, and evaluate the police in a positive and satisfactory way, even if the decision is unfavorable (McCluskey, 2003; Tyler & Huo, 2002). When it comes to police contact, people have an instrumental concern about whether the outcome is fair and deserved (distributive fairness) (Wolfe et al., 2016), but people's perceptions of justice and injustice are often found to be mainly based on normative criteria (i.e., fairness and equity of process) rather than instrumental concern (fairness and equity of outcome) (see Tyler, 2005, 2006). Put it alternatively, although outcome matters, people care more about whether the process is fair in reaching the outcome than the outcome per se (see Mastrofski et al., 2016). The finding that procedural justice is more important than distributive justice in shaping public evaluation of the police has a salient implication for policing practice. It indicates that, even though the police may need to make an decision that is unfavorable to citizens, this unpleasant experience can be delivered in a procedurally fair fashion, leading to a less negative reaction, making the outcome more acceptable, and still achieving a positive evaluation from the public.

Third, procedural justice has invariant effect on police legitimacy across groups in different demographic categories (Tyler 2004; Tyler & Huo, 2002). This proposition is also known as the "invariance thesis" of procedural justice (Wolfe et al., 2016). It suggests that the procedural justice approach has an equal effect in enhancing police legitimacy for all people, regardless of their race, ethnicity, gender, age, social class, or nationality. Because of its invariant effect, procedural justice is also recommended to repair the relations between police and minority communities, which was severely damaged by the Ferguson event and other police-public deadly incidents in recent years (Smoot, 2016; Walker & Kats, 2018; Willis 2014). As Tyler (2004, p. 95) concludes, "A process-based approach is an ideal way to bridge ethnic and other social divisions in society."

Although this invariance thesis has long been acknowledged by scholars, previous studies mainly focused on examining the invariant effect of procedural justice on people from different nations, with little attention to the invariant effect of procedural justice across different ethnicity, gender, and other demographic groups (Wolfe et al., 2016). For example, studies conducted in England and Wales (Jackson, Bradford, Hough, Myhill, Quinton, & Tyler, 2012), Australia (Hinds & Murphy, 2007), Israel (Jonathan-Zamir & Harpaz, 2014; Jonathan-Zamir & Weisburd, 2013), Slovenia (Reisig, Tankebe, & Mesko, 2014), Ghana (Tankebe, 2008, 2009, 2010b), China (Sun et al., 2017), found that people perceived the police as more legitimate when they received procedurally just treatment. A few studies found that the invariance thesis held true across racial minorities and Whites (Taylor, Wyant, &

Lockwood, 2014; Nix, Pickett, Wolfe, & Campbell, 2017), and in different neighborhood contexts (Gau et al., 2012). More studies are thus warranted to assess the invariance thesis of procedural justice in various demographic-subgroups (see Wolfe et al., 2016).

2.3 Types of Police Contacts

In general, most people tend to avoid personal contact with the police, given the social control role that the police play and the potential punitive consequences of law enforcement (Farmer, Sun, & Starks, 2015; Wu, 2009). Even people who lived in high-crime areas and had to call the police for assistance were reluctant to interact with the police (Hahn & Jefferies, 2003). Meanwhile, research shows that public attitudes toward the police are strongly influenced by personal experience of different types of police contact; that is, the types of police contact condition the public perception of the police (see Skogan, 2006).

In general, police-public contacts are categorized into two groups: police-initiated contacts (e.g., traffic stops) and civilian-initiated contacts (e.g., crime reports and traffic accidents) (Reisig, Mays, & Telep, 2018; Skogan, 2006; Wells, 2007). Police initiated contacts refer to law enforcement activity in response to a violation of law, either criminal or traffic law, and civilian-initiated contacts occur when people need information or assistance from the police. It is reasonable to expect that those who had involuntary encounters with the police hold less positive attitudes because negative consequences may result from these encounters, such as receiving a ticket or being arrested. Another reason that police-initiated contacts are unfavorable is that extra-legal factors could play a role in this type of contact, such as racial profiling and

other discriminatory practices based on an individual's demographic features. Studies have found that racial and ethnic minorities are more likely to be stopped, questioned, and searched by the police. For example, "Driving while Black" was found to have a significant effect on police stops (Allen & Monk-Turner, 2010; Kowalski & Lundman, 2007; Lundman & Kaufman, 2003).

Among all types of police contacts, traffic stops are the most common form of public contacts with the police, accounting for about half of all police contacts (Langton & Durose, 2013). Whether a traffic stop is executed in a procedurally just manner determines people's attitudes toward the police. A procedurally unjust stop is related to many less positive attitudes toward the officer who initiates the stop. For example, Reisig and colleagues (2018) found that people who experienced procedurally unjust treatment in a traffic stop are less satisfied with how the police resolved the encounter, less likely to follow the police directives, less willing to accept the officer's decisions, and are more likely to wish the police had handled the situation differently. Furthermore, the patterns of police-initiated stops condition public attitudes toward the police. A recent study found that, compared to police stops due to a violation of traffic law (e.g., speeding), investigatory stops which seek possible criminal law violations were considered far more intrusive and personally offensive, and thus are more resented by civilians, especially by racial and gender minority groups (Epp, Maynard-Moody, & Haider-Markel, 2014). Indeed, people usually know the reason when a traffic stop occurred, such as they were speeding or running a red light, while investigatory stops often happen when civilians do not necessarily know why they are being stopped. The same study also found that civilians felt that a traffic stop showed the police's concerns for their driving safety, but investigatory stops for

potential criminal activity indicated that the civilians, at least from the officers' views, were "suspects" or even "criminals". In this regard, civilians who stopped due to criminal investigation were found to believe that their demographic chacateristics (e.g. race and gender) play a role in triggering police investigatory stops.

As traffic stops are the most commonly occurred type of police contact, and procedural justice and legitimacy are more important in affecting police-public relations in police-initiated stops than other types of police contacts, this study focuses on police procedural justice and legitimacy in traffic stops.

2.4 Public Perception of the Police by Race and Ethnicity

Virtually every controversial issue in policing involves race. Scholars have documented a "racial divide" (Schuck et al., 2008, p.501) and "deep racial chasm" over trust in the police in the U.S. (Epp et al., 2014, p. 71), with Blacks Americans expressing lower trust in the police than their White counterparts. Indeed, such racial differences have strained the relationship between the police and African-American communities and continuously affected routine police-civilian encounters (Kennedy, 2011). In general, studies found that racial and ethnic minority groups were far less likely to report that the police acted procedurally just on the street compared to Whites and have less favorable attitude toward the police (e.g. Skogan,2005; Weitzer & Tuch, 2004, 2006).

2.4.1 Black Civilians' Perception of the Police

The history of American policing reveals that the most affected group has been the African-American community (Walker & Kats, 2018). For example, the most serious crises in the history of police-community relations were stemmed from violent

and often deadly incidents between White police and Black civilians, such as the Rodney King event in the 1990s and the Ferguson incident in 2014. Concerning public attitudes toward the police, racially-biased practice has been the focal concern in nearly every aspect of policing. A majority of past studies have found that Blacks perceive the police less favorably (Brown & Benedict, 2002; Rosenbaum et al., 2015; Weizer & Tuch, 2006; Wu, Sun, & Triplett, 2009), less fair (Lundman & Kaufman, 2003), and less legitimate (Sargeant, Antrobus, Murphy, Bennett, & Mazerolle, 2016; Wolfe et al., 2016) than Whites. Research on traffic stop also found that African Americans were disproportionately stopped as pedestrians or while driving (Lange, Johnson, & Voas, 2005; Lundman & Kaufman, 2003; Allen & Monk-Turner, 2010), searched (Engel and Johnson, 2006; Gelman et al., 2007; Higgins et al., 2011), and arrested or ticketed (Kochel et al., 2011; Langton & Durose, 2013).

Many explanations have been articulated to explain the relatively negative attitudes of African Americans toward the police. Among these perspectives, the sense-of-injustice model is among the most prominent in this field (see Wu et al., 2009). The sense-of-injustice perspective argues that perceptions of the police are heavily influenced by an overall belief that the police treat minorities unjustly (Hagan & Albonetti, 1982; Henderson, Cullen, Cao, Browning, & Kopache, 1997; Wu, 2009). Unfavorable perceptions held by minorities, especially African-Americans, are not necessarily caused by specific unfair treatment by the police; rather, these perceptions mainly arise from persistent feelings of unequal treatment by the criminal justice system in general and the police in particular. Several studies lent support to this perspective and found that minorities view the criminal justice system more negatively

than Whites, independent of negative experiences (Eschholz, Blackwell, Gertz, & Chiricos 2002; Rosenbaum, Schuck, Costello, Hawkins, & Ring, 2005).

Three sources contribute to African-Americans' persistent sense of injustice. First, African-Americans have been significantly overrepresented in the criminal justice system. The 2016 Uniform Crime Report data from the Federal Bureau of Investigation (FBI) showed that Blacks represented around 27% of total arrests, despite being only 13% of the population, and comprised 37.5% of violent crime offenders and 28.1% of property crime offenders (FBI, 2016). This disproportionate Black involvement in criminal justice has generated concerns about the fairness of law enforcement. Accordingly, African-Americans tend to view the police as "occupying armies" in Black neighborhoods, whose job is to maintain the status quo and to protect the interests of people in power (Cashmore, 2013). Problems in law enforcement, such as racial profiling or pulling over people who are "driving while Black", also produced concerns about the possible racism of policing practice.

Second, being over-policed and under-policed at the same time is another source of Black residents' sense of injustice. Blacks are not only more likely than Whites to be subject to law enforcement activities but are also more likely to be victimized by violent crimes (see Barlow & Barlow, 2000). The police were found to often ignore the intra-racial conflicts in Black communities and to be less likely to interfere Black-on-Black assaults (Baumer 2002; Carr, Napolitano, & Keating, 2007; Rennison, 2001). This situation leads to Black communities demanding more police protection and high rates of crime reporting (Xie & Lauritsen, 2013). In 2015, the victimization rate (per 1,000 persons age 12 and older) for violent crimes was 22.6% for Blacks and 17.4% for Whites (Bureau of Justice Statistics, 2016). Anderson (1999)

has indicated that Black neighborhoods and civilians are not only often subject to overly aggressive police tactics and practices, but they are also denied equal protection by police who are unwilling to deal with disorder and crime in minority neighborhoods. As being aggressively policed but not protected by the police, Black communities' trust in the police is constantly low and their global orientation toward the police is more likely to be less positive.

Finally, injustice has been a constant, historical memory in Black neighborhoods and has influenced Black children through socialization and family education. For a number of reasons, negative attitudes toward the police are part of the subculture within Black communities, manifested by the fact that most Black parents instruct their children to stay away from or avoid contacts with the police (Anderson, 1999; Wilson, 2012). Similarly, as the subculture theory of delinquency implies, Black juveniles, who live in disadvantaged and segregated neighborhoods and are susceptible to the subculture, are more likely to engage in deviant behaviors (Cloward & Ohlin, 1960; Cohen, 1955), leading to more law enforcement contacts and lower favorable attitudes toward social institutions and legal authorities among Black youth (Orum & Cohen, 1973; Weitzer, Tuch, & Skogan, 2008).

2.4.2 Hispanic Civilians' Perception of the Police

As the fastest-growing minority group in the U.S. (Flores, 2017), Hispanics have received increased scholarly attention in studies of public perceptions of the police. The Hispanic community has a very different history of relations with the police compared to the African-American community. Although Hispanics are not a homogeneous group and diverse regarding countries of origin and immigration status, Hispanics or Latinos are often treated as a single category or aggregated ethnic group

in official governmental statistics and in academic works (Sun & Wu, 2018). According to the U.S. Census Bureau, Hispanics represented 17% of the U.S population in 2014; about two-thirds (64%) were of Mexican heritage, and one-third (35%) were foreign-born. By 2060, 29% of the U.S. population is projected to be Hispanic—more than one-quarter of the total population (Colby & Ortman, 2017). In the meantime, it is estimated that 10 to 15% of Hispanics in the U.S. are undocumented immigrants, representing half of the estimated 11 million undocumented immigrants in the U.S. (Krogstad, Passel, & Cohn, 2015). The growth of undocumented immigrants has become a major political issue and public concern in recent years, shaping immigration control policies and their enforcement. Problems arise from prejudice by non-Hispanics who stereotype all Hispanics as immigrants or undocumented immigrants (Sun & Wu, 2018).

Like other racial and ethnical groups, Hispanics often evade police contacts. However, the reasons that Hispanic groups are evasive to the police are different from that for other racial/ethnic groups. Considerable evidence shows that Hispanics' attitudes toward the police differ from those of African-Americans because of their different history with the U.S. police (see Cao & Wu, 2017 for a review). Hispanics who are recent immigrants were also found to have different attitude toward the police compared to American-born Hispanics whose families have been in the U. S. for several generations (Correia, 2010; Wu, 2014). In addition to the common factors to be predictive of public view of the police, four unique factors have been identified to have an impact in Hispanic perception of the police: language barriers, culture difference, experience with legal authorities in their origin of countries, and immigration (legal) status (see Sun & Wu, 2018 for a review). Language barriers is

one of the most prominent obstacles during a police encounter for Latino foreign-born individuals (Davies & Fagan, 2012). Failure to reach effective communication often cause frustration and misunderstanding for both parts of the police officers and Hispanic immigrants. Skogan (2005) indicate that communication is key to deliver quality of treatment by the police and subsequently to increase satisfaction with the police. In his study, immigrants who only spoke Spanish were found to be more unsatisfactory with the police compared to their Caucasian counterparts. Research also found that linguistic difficulty during a police contact can exacerbate Latino's fear of and mistrust in the police (Lewis & Ramakrishman, 2007; Rennison, 2010; Walker, Spohn, & Delone, 2018; Waslin, 2007), and further damage the police-immigrant interaction (Culver, 2004). The existing findings about the language barriers highlights the important role of Spanish-speaking/bilingual officers in executing community policing initiatives in Latino communities. Indeed, research documented that the improved perception of the police in Latino communities after an adoption of community policing tactic mainly due to the recruited Spanish-speaking officers who rendered more effective communications with the local Latino residents (Torres & Vogel, 2001).

Besides language barriers, culture difference is another reason that Hispanics remain reluctant to contact the police or turn to police help (Ammar, Orloff, Dutton, & Aguilar-Hass, 2005; Sun & Wu, 2018). Latino culture emphasizes on familial support and responsibility, traditional gender roles, and close personal ties (Eraz & Globokar, 2007; Lewis & Ramakrishnan, 2007). These cultural traits can affect Latino's willingness to contact legal authorities and their global attitudes toward the police. Historically, Hispanics resolves conflicts within families and communities. Early

research found that resorting to police help is deemed as disrespectful to the head or authority of the family (Carter, 1985). Studies also showed that insensitivity of Latino culture is a source of inappropriate police response and misunderstanding between police officers and Latino communities, and this insensitivity can further amplify the likelihood of negative interaction between the police and Latino residents (Ammar et al., 2005; Menjivar & Bejarano, 2004).

In addition to language barriers and culture difference, the experience of interacting legal authorities in their origin of countries is another source that influence Latino immigrant's view of the U.S. police. Latino immigrants were found to have negative experience of contacting the police in their home countries; their police often act in an intrusive, aggressive, and uncivil manner (Correia, 2010; Menjivar & Bejarono, 2004; Role, Moak, & Bensel, 2016). Such negative experience, as Menjivar and Bejarono (2004) suggested, can impede Latino immigrant's positive interaction with the U.S. police as they may deem all the legal authorities that treat them in an unfair manner, including American police officers. However, the accuracy of such an inference is worth further tests. One can argue that the previously negative experience with the police in their home country can also lower Latino's expectation of the interaction with the U.S. police, a fairly treatment from the police can sharply contrast to their negative experience with the police in their home country, and thus lead to a positive perception of the U.S. police. Future investigation thus warranted in this line of research.

Besides aforementioned, immigration (legal) status is found to be a significant factor determining Latino's perception of the police. Among Latino immigrants, a recent study found that undocumented immigrants were found to have less

unfavorable attitudes toward the police than those documented immigrants (Roles, Moak, & Bensel, 2016). Cavanagh and Cauffman (2015) also found that Latino youth whose mothers were undocumented held more negative perceptions of the police than youth whose mothers were documented, and those undocumented youth themselves had more negative perception of the police compared to their documented counterparts. This study also pointed out that the police suffered the most from the tightened policies of immigration control and received the most resentment from immigrant residents compared to other legal authorities, including judges who are actually the decider of an immigration case and the ultimate deportation. Indeed, as the most visible "face" of law and gatekeepers of the criminal justice system, the police is deemed the most feared legal authority among immigrants. Goff and colleagues (2013) have confirmed that policies that cast the police of immigration enforcement reduced public views of the police as legitimate.

It is worth to mention that the local police who under a pressure to enforce immigration control often face a dilemma in between developing a positive relationship with the local Latino immigrants and reporting of non-citizen victims and witnesses to federal authorities (Ammar et al., 2005; Orloff, Dutton, Aguilar-Hass, & Ammar, 2003). Armenta (2015) found that police departments usually have an official community policing program that aims to build positive communication and trust with local Latino immigrant residents, but their patrol officers undermine these well-meaning goals by citing and arresting Latino residents who lack a state-issued ID per the immigration law and policy. Thus, line officers who performed tightened social control and urban discipline on Latino immigrants ultimately sabotage the community policing efforts (Armenta, 2015). More importantly, the heightened immigration

control can affect Latino immigrants and non-immigrants alike. Studies found that Hispanics in general, regardless of origin and immigration status, tend to shun the police for avoiding troubles of immigration check for themselves, family members and others in the community (Khashu, Busch, & Latif, 2005; Menjvar & Bejarano, 2004). A study conducted in Costa Mesa, California confirmed that aggressive immigration enforcement by local police led to more police stops of fully documented and legal Latino residents, and these persons who experiencing this treatment personally and vicariously alike were found to have less favorable attitudes toward the local police (Vidales, Day, & Powe, 2009).

Along with the rapidly growing population of Hispanic ethnicities, research on Hispanic's perception of legal authorities, including its comparison with that of other racial and ethnic groups is also increased in quantity. However, the existing findings on this topic are far from reaching an agreement. Similar to those on Black's perception of the police compared to the White's, most studies found that Latinos generally view the police less positively than Whites (Davis & Hendricks, 2007; Lai & Zhao, 2010; Lundman & Kaufman, 2003; Skogan, Steiner, DuBois, Gudell, & Fagan, 2002; Weitzer & Tuch, 2004, 2006). For example, compared to Whites, Latinos were three times more likely to see local police as impolite, twice as likely to think local police are unfair, unhelpful, and unconcerned about their problems (Skogan et al., 2002), and more likely to use excessive force (Skogan, 2005). However, a few studies have showed different findings, with Wu (2014)'s finding that Hispanic view of the police was not significantly different from the White, and McCluskey, McCluskey and Enriquez (2008)'s report that Latinos are more satisfactory with the police than their non-Hispanic White counterparts. With respect to the comparison of attitudes toward

the police between Latino immigrants and non-immigrants, a few research showed that Latino immigrants have positive perception of the police compared to their non-immigrant counterparts. For example, Correia (2010) found that Latino immigrants in Reno, Nevada, showed more favorable views of the police than non-immigrant Latino in various aspects of the police such as fairness, honesty, and provision of equal treatment. Based on a mixed sample of Asian and Latino immigrants, Davis and Hendricks (2007) also found that immigrants in Seattle view the police more positively than non-immigrants in evaluations of police fairness, misconduct (i.e. less legitimate stops, racial profiling, and physically abuse of residents), and police effectiveness. However, Davis and Handricks (2007) study also showed that, when Latinos were undivided as immigrant and non-immigrant groups, the whole group has less positive attitudes toward the police compared to their non-Hispanic White counterparts. Therefore, based on this study, it is unclear whether Latino immigrants had a positive perception of the police compared to non-immigrant Latinos and how their perception of police compared to that of other racial groups. Overall, these diverse findings highlighted the complexity of comparative ratings of the police between Latino and other racial/ethnic groups and the findings on the same topic are far from conclusive.

2.4.3 The Gradient Thesis on Racial and Ethnic Minorities' Perception of the Police

Previous studies have found that public perception of the criminal justice system by racial/ethnic minorities and Whites follows a "racial gradient" (Hagan, Shedd, & Payne, 2005, p. 384), "gradient thesis" (Buckler, Unnever, & Cullen, 2008, p. 35) or a "racial-hierarchy" (Weitzer & Tuch, 2004, p. 305). That is, although Black

and Hispanic people, as minority groups, both hold less favorable attitudes toward the police compared to the Whites, Hispanics' general orientations toward the police is more positive relative to that of African-American groups. Therefore, the perception of the police among White, Black, and Hispanic groups formed a distinct gradient or hierarchy form-- with African-American groups at the bottom, Hispanics in the middle, and the Whites at the top-- in terms of their favorability toward the police from the least to the most. (Buckler et al.,, 2008; Cao & Wu, 2017; Gabbidon & Jordan, 2013; Hagan et al., 2005; Higgins, Gabbidon, & Vito, 2010; Potter, Higgins, & Gabbidon, 2011; Weitzer & Tuch, 2004, 2006). This racial/ethnic gradient perspective derives from the comparative conflict theory, which implies that skin tone is a general criterion of social acceptance. In the United States, where a particular racial/ethnic culture prevails, the darker the person's skin, the greater his/her social distance from the dominant groups, and thus it is more difficult for people's individual qualifications to be acknowledged by a larger society (Portes & Rumbaut, 2001). In this regard, racial and ethnic minorities' perception of the criminal justice system is comparable to their perceived "relative subordination" of racial and ethnic status. As Black groups perceive themselves in the most "subordinated" rank of the society and deem the criminal justice system to maintain the status quo, their attitudes toward the legal authorities tend to be negative. Combined with their disproportionate contacts and injustice experience with the criminal justice system, it is easy to understand that African-Americans have the least favorable attitudes toward the criminal justice system, compared to the Whites and other racial/ethnic minority groups in the United States (Hagan et al., 2005; Lopez, Livingston, & Center, 2009).

With respect to perception of the police, the racial/ethnic gradient thesis also received supportive evidence. Scholars found that Hispanics/Latino/Latinas hold more negative perceptions of the police when compared to Whites but were not as negative as the opinions of African-Americans; these attitudes include perceptions of police injustice (Gabbidon & Jordan, 2013), satisfaction with the police (Garcia & Cao, 2005), and confidence in the police (Cao & Wu, 2017; Lopez, Livingston, & Center, 2009; Sherman, 2002). Such an attitudinal ladder, however, is not always confirmed in the literature. For example, some studies found Hispanics to display more negative attitudes toward the police than Blacks did (Menjívar & Bejarano, 2004; Skogan et al., 2002). A possible explanation for this finding is that most studies on Hispanics' perceptions of the police used data from southern states and border regions in the U.S. (e.g., Lai & Zhao, 2010; Menjívar & Bejarano, 2004), where border and immigration policing targeted mainly at Hispanics (see Brown & Benedict, 2002). A recent study also found that there was no difference in perceptions of procedural justice and police legitimacy between Hispanic and White respondents, and this study called for further inquiry in ethnic effect on perception of the police (Nuño, 2018).

2.5 Perceptions of the Police by officer Race and Ethnicity

There are a considerable number of studies that have examined the effects of citizen demographic features on their assessments of the police (e.g. Tyler, 2005; Wu, 2014; Zhao, Lai, Ren, & Lawton, 2015; Zhao, Tsai, Ren, & Lai, 2014). In contrast to the large quantity of studies on civilian racial and ethnic effect on public evaluations of the police, there are far fewer studies of how public perceptions of the police vary by officer race and ethnicity. Findings from this thin line of inquiry were mixed. For example, Black officers were more likely viewed as acting improperly during an

encounter than were White officers (Allen & Monk-Turner, 2010); White officers' stops were perceived to be less legitimate by Black civilians (Cochran & Warren, 2012). Due to the small number of studies on police race and ethnicity as a demarcation of public attitudes toward the police, Weitzer and Tuch (2006) call for more scholarly attention to assess the officer's race and ethnicity, and its effects on police-public relations. They argue that the part of police is as equally important as the part of civilians in police-community relations.

A relevant vein of investigation has examined the impact of officer race on their behavior. These studies shed light on the inquiry of public perception of the police by officer's race and ethnicity. For example, research found that Black officers interact with Black civilians differently from White officers concerning the use of force and providing assistance (Mastrofski, Reisig, & McCluskey, 2002; Sun & Payne, 2004; Sun, Payne, & Wu, 2008). Sun and Payne (2004) found that, compared to White officers, Black officers are more likely to use force to resolve interpersonal conflict, and also more likely to provide assistance in Black-dominated neighborhood. These studies highlight the importance of diversifying the police force since minority officers often have a positive effect on police-community relations (see Sun, 2003). In contrast to these studies, other scholars note that the link between officer race and variation of police behavior is weak and suggest that there is little behavioral difference between White and minority officers (see Brown & Frank, 2006). Nevertheless, the unclear effect of officer race and ethnicity on public perception of the police warrants a further investigation.

2.6 Interaction of Civilian and Officer Race and Ethnicity

Until now, the interaction of civilian and officer race and ethnicity and its effect on public perception of the police has not been addressed in the literature. Despite a lack of evidence, the public, and African-American communities in particular, believe that discriminatory policing practices, such as racial profiling, are most likely to be associated with White officers due to their inherent racial bias (Cochran & Warren, 2012). Police organizations have traditionally limited their hiring to White civilians, making the potential conflict between White officers and minority communities more likely. Indeed, scholars have argued that the most strained police-community relations in history have been caused by the mistreatments, and deadly incidents between Black civilians and White officers (Culhane et al., 2016; Lebron, 2017).

Using comparative conflict theory, the differentiation in perceptions of the police created by the combination of police and citizen race and ethnicity can be explained by the racial minority citizen's feeling of "subordination" when they come to interact with the police. That is when minority civilians contact an officer of the same race, the feeling of "relative social subordination" is less than that they feel when meeting a White officer. Thus, racial minorities' experiences of interacting with police officers at the same race as well as their evaluations of officers' behavior tend to be more positive due to an alleviated feeling of "subordination" (Weitzer et al., 2008; Weitzer & Tuch, 2006). In contrast, if a racial or ethnic minority civilian meets a White officer who is perceived to be part of a dominant societal group, the minority civilian may feel uneasy with the relative racial subordination. This feeling, coupled with previous and vicarious contacts with the police, is likely to produce less positive attitudes toward White officer or officer of a different race/ethnicity.

Consistent with this perspective, it has been suggested that racial minorities are more likely to perceive a White officer to act improperly and unfairly because of "the feelings of exclusionary treatment and subordination by White-dominant society" (Cochran & Warren, 2012, p.210). For example, minority civilians are more likely to perceive the occurrence of racial profiling when stopped by a White officer than they would be if the officer were a minority. On the other hand, racial minority civilians might view the behaviors of a minority officer as favorable and more trustworthy because he or she can sympathize and better understand the situation of minorities or a person of the same race, and thus believe the officer less likely to enforce the law in a racially-biased manner. These all imply a comparison of the interaction effect of civilian and officer race/ethnicity in public evaluation of the police. However, these interaction effects were only inferred in the previous studies and have not been tested.

2.7 Public Perception of the Police by Other Demographics

2.7.1 Gender

Previous studies showed that the gender effect on perceptions of the police is quite divergent. The majority of studies found that women commonly held more favorable views of police than men (Gabbidon, Higgins, & Potter, 2011; Huebner, Schafer, & Bynum, 2004; Lai & Zhao, 2010; Potter, et al., 2011; Taylor et al., 2001; Weitzer & Tuch, 2002). Concerning reporting of unfair treatment by the police, women were less likely than men to report such experiences (Gabbidon et al., 2011; Potter et al., 2011). Additionally, the intersectionality between victimization and gender is found to be predictive of evaluations of the police and female victims were found to rate police performance more positively than men (Tewksbury & West,

2001). Brown and Benedict (2002) argued that women view the police more favorably than men because women have fewer antagonistic contacts with the police than men and are also less subject to law enforcement. Compared to men, who are more likely than women to engage in violent situations involving police use of force or coercion, women are more likely to interact with the police for assistance, information, and police service.

Although the general pattern of the gender effect on perception of the police reveals that women have more positive attitudes toward the police than men, a few studies showed different findings (Hurst & Frank, 2000; Potter, 2010). For example, Potter (2010) discovered that women were overwhelmingly dissatisfied with police officers' intensity and type of intervention when the police were called to address intimate partner violence (IPV). Latino immigrant women victims of IPV were also found to be unsatisfactory with the police officer who addressed their IPV-conflict and reported that the officer often lacked culture sensitivity of and empathy toward the victim (Ammar, 2005). These findings suggest that the type of incident that the police address matters and intimate partner violence in particular conditions (moderates) the gender effect on public perception of the police. Regarding the intersectionality between race and gender, Potter (2010) found that Black women were reluctant to call the police for help because of their general distrust of the criminal justice system's treatment of Black people. It is worth noting that, although past studies have assessed female officers' job satisfaction and unequal treatment within the agency (Sawn, 2016; Guajardo, 2016; De Haas, Timmerman, & Höing, 2009), the nexus of police and civilian gender remains severely under-investigated. Since public perception of police is a crucial criterion for evaluating police performance, how female police officers are

perceived by the public, especially in police-civilian contacts, should be of interest to future studies, police administrators, and policy makers.

2.7.2 Age and Social Class

In addition to race and gender, civilian age has been found to have a strong impact in public evaluations of the police (e.g., Bridenball & Jesilow, 2008; Weitzer & Tuch, 2002). Younger civilians tend to have less favorable attitudes toward the police than older civilians. Some researchers have even found that age is a stronger predictor of attitudes than race, gender, and other demographics (Lai & Zhao, 2010; Rosenbaum et al., 2015; Tankebe, 2013). Brown and Benedict (2002) found that younger people were less likely than their older counterparts to support aggressive policing of violence and to think police treatment and services satisfactory. Gaines and Kappeler (2011) explained this finding by suggesting that younger civilians tend to have a freedom/adventure-oriented lifestyle whereas the elderly lead a more safety-oriented lifestyle; thus, younger people were more likely to engage in risky and adventurous behaviors than the elderly, which subject to more police control.

Socioeconomic status (SES) is another factor that has a demarcated effect on public perceptions of the police. Findings related to the link between social class and attitudes toward the police were not consistent. Some empirical studies supported such a link, stating that people in lower SES more likely to have less favorable attitudes toward the police than the more affluent (e.g., Cao & Wu, 2017; Sampson & Jeglum-Bartusch, 1998). It has been argued that people in a lower social class were more likely to be the subjects of police control actions, leading to less favorable evaluations of the police (Black, 2010; Sun & Payne, 2004; Sun, Payne, & Wu, 2008). However, as proxy of socioeconomic status, income and education were found to have an

equivocal effect on public perception of the police. Weitzer and Tuch (1999) found that income did not significantly affect people's assessments of quality-of-life policing or racialized policing, regardless of their racial backgrounds. Most existing literature showed no relationship between educational attainment and public attitudes toward the police (Payne & Gainey, 2007; Ren, Cao, Lovrich, & Gaffney, 2005; Sims, Hooper, & Peterson, 2002), with a few exceptions that indicate more postive evaluations among better educated people (Allen & Monk-Turner, 2010; Nuño, 2018).

2.8 Situational Characteristics

Situational characteristics of a police-civilian encounter often include civilian and officer demeanor, the outcome of the police contact (e.g. if a ticket or fine issued) and police use of physical force. Along the process-based model of policing, past research has focused predominately on the influences of citizen's demeanor and dispositions on public evaluations of the police, with little attention to other situational factors. Another line of research also found that situational characteristics strongly affect police behaviors, such as use of force. For example, civilian and officer demeanor, weapon presence, and neighborhood context, have a much stronger effect than the police and civilian demographics on the likelihood of police making an arrest (Sun & Payne, 2004; Worden, 2015). Civilians' hostile attitudes or behavior toward the police trigger the officer's defensive mechanisms, including the officer's change in attitude and use of force. For example, studies found that people who were antagonistic to the police were more likely to be arrested for that specific reason (Black, 1971; Klinger, 1994). Physical resistance or verbally disrespect to a police officer was also found to significantly increase the likelihood of use of force (Worden, 2015).

However, a hostile situation in a police-public encounter may not solely due to the civilian's disrespectful demeanor. Instead, such escalated situation can be initiated by the police officer. Mastrofski and colleagues (2002) argue that, since being pulled over and stopped by a police officer is commonly considered an unfavorable incident, officers may approach civilians with an expectation of conflict and resistance, and thus adopt an aggressive and tough attitude toward the stopped civilian. Therefore, a hostile situation can be caused or escalated by the civilian's reaction to the officer's tough attitudes and rough manners toward the citizen. Such particular context featured by dialogic aggression between civilians and police officers were difficult to be captured by previous survey studies but was inferred to influence civilians' perceptions of police legitimacy (see Dunhan & Alpert, 2009). For example, Smoot (2016) pointed out that an officer's hostile attitudes, through a verbal or non-verbal aggression, are likely to provoke a hostile response from the civilian, which, in turn, increases the likelihood of the officer often responding with physical force or making an arrest to control the escalated situation (Smoot, 2016). Lopez (2010) also argues that many arrests for disorderly conduct or resisting arrest, in fact, involved officers' improper response/overreaction to perceived disrespect by civilians. Although not a crime, a particular facial expression or refusal to answer questions may be deemed as disrespect to the police, and arrests based on this disrespect have often known as "contempt of cop" (Lopez, 2010). Speculatively, the arrests based on a civilian's defensive response to an officer's aggressive attitude can be perceived as less fair and procedurally just since the hostile situation may not always be initiated by a civilian.

The interactive patterns of civilian and officer hostile demeanor are complex but often civilian demeanor is the main subject of past studies. Dunhan and Alpert

(2009) confirmed this complexity of interaction between officers and civilians by suggesting that, when the demeanor of both civilian and officer show a pattern of dialog, both parties' demeanor can change the direction of civil or hostile behavior, based on the other party's response. Most interestingly and importantly, this study found that each party's responding demeanor change in the same direction of the other party's initial demeanor, which sets the tone of the interaction (i.e. hostile or civil). That is, civil attitudes and behavior lead to a positive response, while hostile attitude and behavior result in a negative reaction; this pattern applied to both the civilian and the officer involved in a police contact. Although important, this line of inquiry on the complex and dialogic reaction between officers and civilians lack of empirical evidence and more studies were warranted on how the context of police-civilian demeanor's interaction affected public perception of police legitimacy and procedural justice.

The outcome of a police contact is considered to be another predictor of public perception of the police. Unfavorable outcomes, such as a ticket, fine, or arrest, cause a negative experience for civilians, which is speculated to have a negative impact in public perception of the police.

As a unique function of the police, use of force has received a considerable amount of scholarly attention historically. It is commonly acknowledged that the police have authority to use force. The police rely on coercive means to achieve policing effectiveness and ensure compliance when they encounter resistance from the subjects. However, people who received police use of for force consider the experience unpleasant and usually give a negative evaluation of the police. Scholars have long acknowledged the importance of use of force plays in shaping public

perceptions of the police (Alpert & Dunham, 2004; Johnson & Kuhns, 2009; Kinnaird, 2003; Skolnick & Fyfe, 1993), Nevertheless, it is difficult to define what constitutes the use of excessive or unnecessary force (Alpert & Dunhan, 2004). The perception of excessive or unnecessary force is quite subjective and varies across civilians (Adams, 1999), officers (Weisburd, Greenspan, Hamilton, Bryant, & Williams, 2001), and law enforcement agencies (Johnson & Kuhns, 2009). Regardless of the varying definition associated with use of necessary force and its different operationalization in studies, researchers found that citizens' views of police legitimacy were heavily influenced by police use of excessive force (see Shjarback &White, 2016). The perception of police legitimacy would diminished quickly in a police-public encounter that ends up in violence (Shjarback & White, 2016) or police use of excessive force (Brunson, 2007; Gau & Brunson, 2010)

Another major concern regarding police use of force is that the application is usually related to racial profiling. A sizable body of literature documented that racial minorities are disproportionately targeted by police use of coercive force. For example, African-Americans were found to be more likely than Whites to receive higher-level of police force, even when controlling for situational characteristics (Terrill and Mastrofski, 2002). A racial differentiation is also found in the approval of police use of force. For example, African-Americans are far more likely than Whites to disapprove of police use of force (see Johnson & Kuhns, 2009, for a review). As noted above, the police, as a social institution, experienced a legitimacy crisis in 2014-2016, fueled by high-profiling police shootings of African-Americans by White officers (Miller, 2016). During the crisis time, procedural justice is largely considered and recommended as a restorative approach balanced against aggressive and

controversial policing approaches, such as controlling situation by using force. It is also suggested that acting procedurally fair is an effective measure to deescalate a conflicting situation and to avoid the use of coercive force for obtaining civilian's compliance, and respect in further (Dai et al., 2011). With respect to police legitimacy, research shows that law enforcement agencies can enhance their legitimacy in the eyes of the public by reducing the frequency of using unnecessary force (Pickering & Klinger, 2016). Overall, prior findings have showed that police use of force is negatively related to public perception of procedural justice and police legitimacy.

2.9 Organizational Characteristics of Police Agency

2.9.1 Internal Procedural Justice (IPJ)

Past studies of public view of the police focused predominantly on the effect of procedural justice. Recent studies have extend this line of research to explore how fairness of supervision within police agencies affect individual officers' behavior on the street (Van Craen, 2016a, 2016b; Haas et al., 2015; Wu et al., 2017). The President's Task Force on 21st Century Policing (2015) categorized police procedural justice into "internal" and "external" procedural justice. The former refers to the fair process that supervisors and agency treat police officers, and the latter refers to the fair manner that the police interact with citizens. In recent years, studies on organizational justice of police agencies has surfaced. This vein of research has found that internal procedural justice plays an important role in gaining desirable outcomes for law enforcement agencies. Specifically, internal procedural justice enhanced individual officers' adherence to agency rules that regulate police-citizen interactions (Bradford, 2014; Bradford, Quinton, Myhill, & Porter, 2014; Donner, Maskaly, Fridell, &

Jenning, 2015; Tankebe, 2010b), reduced the likelihood of police misconduct and, consequently, citizen complaints (Mastrofski, et al., 2016), and increased police support for external procedural justice in police-citizen encounters (Tankebe, 2014; Van Craen & Skogan, 2017a, 2017b; Wu et al., 2017). In a recent study, internal procedural justice was even found to neutralize the negative effect of Ferguson-related publicity on officers (Nix & Wolfe, 2016). Although internal procedural justice has shown an impact in generating many positive outcomes, the linkage between internal and external procedural justice is still understudied.

Nevertheless, a few studies have made a progress in building theoretical explanation of how internal procedural justice is associated with external procedural justice. These studies suggested that supervisory influence and treatment have a far-reaching effect on individual police officers' behavior (see, Van Craen & Skogan, 2017a and Wu et al., 2017). Borrowing the organizational justice theory from the literature of both business management (see Colquitt, Wesson, Porter, & Ng, 2001) and social learning theory (e.g., Robertson & Barling, 2013), policing studies suggest that modeling is a key component in generating officer behavioral styles. Although street-level officers generally work away from supervisory control and supervisors' attitudes do not automatically translate into officers' attitudes (see Engel & Worden, 2003 and Ingram, 2013), officers conduct themselves by imitating colleagues and, particularly, perceive their superiors' behavioral style as exemplary (Van Craen & Skogan, 2017a and b). Like employees in other organizations and industries, police officers would simulate their supervisors' styles and instill the behavioral model into daily work. Engel and Peterson (2013) pointed out that the behaviors of rank and file officers, learned from their leaders, have a salient meaning in policing management

and they described this modeling-and-learning pattern as "leading by example" (p. 399). These previous studies provide a reasonable base to assume that officers imitate fair treatment that they receive from their leaders and bring the same fair treatment to the public.

To complement the theorization of causal mechanism between internal and external procedural justice, the literature of intimate partner violence also suggests that undeserved and painful treatment can be transmitted interpersonally. Scholars found that people who experienced domestic violence in childhood or adversary childhood experiences, such as being beaten or abused by parents or witnessing parents act aggressively or violently toward each other, are more likely to imitate their parents' behavioral pattern of treating an intimate partner; these people are also more likely to become victims or perpetrators of domestic violence in adulthood since violence is perceived as an acceptable and legitimate manner to deal with conflicts and problems in an intimate relationship (Goldbatt, 2003; Levendosky, Huth-Bocks, & Semel, 2002; Wekerle & Wolfe, 1999). This theoretical perspective from the literature of intimate partner violence also shed light on explaining the link between internal and external procedural justice within a law enforcement agency. If a subordinated officer was unfairly treated by his or her supervisor or the departmental rules, this procedurally unjust behavioral style can be internalized and modeled by the subordinate, who may unfairly treat the public on the street and deem such behavioral style is justifiable and a norm.

Furthermore, social learning theory and generalized trust theory also help to explain the link between unfair treatment that officers receive from their supervisors and the unfair treatment that officers render to citizens. Social learning theory posits

that delinquent behavior is learned (Akers, 2011; Akers & Jensen, 2011). In line with this proposition, a derivative hypothesis is that officers' unfair treatment of citizens is learned through similar mistreatments that they have experienced with their supervisors (Van Craen, 2016a and b). That is, unfair treatment is learned (internalized) by officers and exercised on the public (externalized). This hypothesized linkage can be also explained by the institutional theory of generalized trust (Rothstein & Stolle, 2008). For example, Van Craen (2016a) suggested that a "particularized" trust (in supervisors) can transfer into a "general" trust (in citizens). Having trust in citizens, police officers shall be more likely to deliver procedurally just treatment to citizens that they serve. Fair treatment from a supervisor can establish an individual officer's trust in supervisor. Such a "particularized" trust has a diffusion effect and increases a "general" trust in people which in turn render fair treatment of the public.

2.9.2 Policing Strategy and Size of Department

A few scholars argue that it is certain police practices, rather than bias of individual officers, that negatively affect the African American community. That is, certain police practices are racially-based. These police practices often result from institutionalized department policies, particularly crime-fighting strategies that lead to systematic discriminatory actions (Walker et al., 2018).

Studies have found that departmental styles or strategies of policing are important in shaping police-community relationships (Ren, Cao, Lovrich, & Gaffney, 2005; Ridgeway, 2009). In general, it is reasonable to speculate that aggressive policing strategy negatively impacts public perception of police legitimacy, since aggressive policing activities are considered as aggressive and intrusive to citizens'

day life. Since 1970s, community-oriented policing (COP) has become the most popular policing tactic and has been broadly adopted by law enforcement agencies aiming for developing a positive relationship with local communities (Namgung, 2018). Nowadays, (COP) has become "the dominant style of policing among countries systems across the globe" (Makin & Marenin, 2017, p. 421). Although there are numerous definitions of COP but they appear to have three common features: 1) police-community partnerships which requires collaboration between police agencies and local residents and organizations, 2) a problem-solving approach which prioritize the most-concerned local problem (i.e. crime or disorder) and concentrate sources to tackle it, and 3) organizational decentralization which empowers and places responsibilities on middle-level officers (not the police chief) for addressing local problems (Skogan, 2009; Somerville, 2009). Research has found that community-oriented policing has positive effects on public perceptions of the police, including citizen satisfaction, perceptions of disorder, and police legitimacy (see Gill, Weisburd, Telep, Vitter, & bennett, 2014 for a review). Under the umbrella of community policing, the broken windows strategy emphasized the goal of the police to eliminate minor crimes and disorders in local communities, while the problem-solving approach stressed the importance of addressing issues that concerned the community most (Mastrofski, Worden, & Snipes, 1995). When aggressively targeting at disorder and low-risk crimes, both strategies reversely influence public views of police legitimacy (Gau & Brunson, 2010; Rosenbaum, 2006; Weisburd, Wooditch, Weisburd, & Yang, 2016).

In the hope of improving police-community relations, police agencies are suggested to employ procedural justice policing approach (The President's Task Force

on 21st Century Policing, 2015). This approach requires patrol officers to be trained and then implement procedurally fair and just treatments during their contacts with the public. Studies have shown that procedural justice policing can significantly improve public opinion of the police (Mazerolle et al., 2013; Mazerolle, Bennett, Antrobus, & Eggins, 2012; Murphy & Mazerolle, 2018). Through the application of robust experimental methods, A randomized field trial of procedural justice policing, as known as "Queensland Community Engagement Trial (QCET)", was found to significantly improve public trust in the police among immigrants (Murphy & Mazerolle, 2018) and non-immigrants, confidence in the police (Murphy, Mazerolle, & Bennett, 2014) and police legitimacy (Mazerolle et al., 2012).

As technology develops and advances rapidly in the 21st century, many technologies were introduced and widely applied in contemporary policing, including crime investigation and prevention, and anti-terrorism and intelligence gathering (Randol, 2014). Among all new technologies, crime-mapping and geodata analysis was most discussed and utilized by police department for identifying "hot spot" of communities that they serve (Manning, 2008). Although new technologies used in policing yield desirable outcomes within police department, how crime-analysis policing is viewed by the public is understudied. There is a dearth in the literature about public perception of crime analysis policing, except one qualitative study examined officer's perception of crime analysis policing and crime analysts. The exceptional study suggests that crime-analyst officers earned respect and legitimacy among their peer officers for the knowledge that they produced by crime analysis and they were viewed as "a new generation of crime experts" (Cope, 2004, p. 202). Although favorable attitudes toward the crime analysis policing and crime-analyst

officers were found in this study, it is unknown whether such positive perception is shared by the public. More studies thus warrant for investigating on public perception of crime-analysis policing. For example, it would be interesting to know if the public attitudes toward technologies of intelligence and information gathering for anti-terrorism are positive or otherwise, as those technologies can be deemed intrusive to people's private life and civil rights in democracies.

In addition to policing strategies, size of department also has an impact on individual officers' behavior. The size of a police department relates to its level of bureaucracy (Brooks, 2010). The larger the agency, the more attenuated supervision on proper police conduct and thus more police misconduct. For example, Nowacki (2015) suggested that as the department becomes larger, supervision over each officer decreases, the likelihood of police use of excessive force increases as well as citizen complaint, and the perception of police legitimacy thus decreases. She also found that a larger department is positively associated with the likelihood of lethal force used by police in both her whole sample and the Black sample. Based on this study, size of police agency is assumed to be inversely associated with police legitimacy. Until now, this hypothesis has yet to be tested.

Chapter 3

RESEARCH QUESTIONS AND A CONCEPTUAL MODEL

Although race and ethnicity were found to have a noticeable effect on public perception of the police, past studies focus on either the part of civilians or police officers (see Weitzer & Tuch, 2006). The literature has yet to investigate that how the nexus of civilian and officer race/ethnicity affects public perception of the police, and how different racial/ethnic combinations of civilian and officer influence public perception of the police. Through the Ferguson event and other police-public deadly incidents, it is noted that TV news, social media, and public debates often focus on a race-based situation that involves Black civilians and White officers. Based on this notice and the literature gap, this study examines race/ethnicity-based situation in a type of police-public encounter (traffic stops) and assess its impact on police legitimacy and procedural justice.

Another gap that this study attempts to fill is to examine the mediation effect of procedural justice on the relationship between racial/ethnic combinations and public perception of the police. Previous studies only acknowledge the "invariance thesis" of procedural justice across different demographic groups by stating that procedural justice increases police legitimacy in the eyes of the public regardless of individual difference. Studies rarely assessed that whether procedural justice can serve as a remedy to subsidize the relatively negative effects of racial and ethnic minorities on perception of the police, and police legitimacy in particular. That is, how to close the "racial gap" or the "racial divide" in public view of the police among the White,

Black, and Hispanic groups is of interest of this study. There is one exceptional study assessed the mediation effect of procedural justice and found that Spanish-speaking was not a predictor of Latino's satisfaction of the police but was mediated by the quality of treatment (i.e. participation and neutrality) that the individual received from the police; that is, Spanish-speaking by police officer, interacting with quality of treatment, have a positive effect on Latino's satisfaction with the police (Skogan, 2005). As studies on the mediation of procedural justice is limited in scope, more research is warranted. A more interesting question can be whether procedural justice mediate the effect of race/ethnicity on police legitimacy instead of affecting the effect of Spanish-speaking which is a proxy of ethnicity.

The specific goal here is to test if procedural justice is a remedy to neutralize or reduced the potential negative racial/ethnic effect of civilian's or officer's race/ethnicity on public perception of the police. Based on the procedural justice invariance thesis (Wolfe et al., 2016), it is hypothesized that procedural justice mediates the effect of race/ethnicity-based situation (i.e., the nexus of civilian and police officer race/ethnicity) on public perception of police legitimacy. Nine racial/ethnic combinations from both civilians and officers are thus created and examined in this study. In particular, the nine categories include White civilians encounter White, Black, and Hispanic officers, Black civilians meet White, Black, and Hispanic officers, and Hispanic civilians are contacted by White, Black, and Hispanic officers.

Three research questions were proposed for this study. The first two questions focus on the nine racial/ethnic combinations:

RQ1: Do the racial/ethnic combinations embedded in police-public encounters affect civilians' perceptions of procedural justice and police legitimacy?

RQ2: Does procedural justice mediate the effects of the racial/ethnic combinations on civilians' perception of police legitimacy?

Figure 3.1 is the conceptual diagram (Figure 3.1) that depicts the two research questions in a partially-mediation model. The first research question examines the direct effects of racial/ethnic combinations on perceptions of procedural justice and legitimacy. It is hypothesized that the combinations of civilians or police in racial/ethnic minority groups will have a relatively negative effects on procedural justice and police legitimacy compared to the combination of White civilian met White officer. Procedural justice is hypothesized to have a positive effect on police legitimacy. This hypothesis is made based on two observations. First, white civilians shall have no feeling of "relatively social subordination" when met a White officer based on their racial status—the "social distance" is the shortest between them (Cochran & Warren, 2012), and thus the combination of white civilian and white officer shall yield the highest level of perception of police procedural justice and legitimacy compared to other combinations. Second, racial and minority officers were found to be viewed less legitimate and procedurally just by the public compared to white officers (Allen & Monk-Turner, 2010; Weitzer & Tuch, 2006). Therefore, any combinations involving racial/ethnic minority officer shall produce a lower level of perceived procedural justice and police legitimacy compared to combinations

including White officers[1]. At last, procedural justice is hypothesized to have a positive effect on police legitimacy

The second research question assesses the mediation effect of procedural justice on the connection between racial/ethnic combinations and police legitimacy. The author hypothesizes that procedural justice partially mediate the effects of racial/ethnic combinations on police legitimacy. Put it alternatively, the racial/ethnic combinations are proposed to have direct and indirect effects (via procedural justice) on police legitimacy (see Figure 3.1).

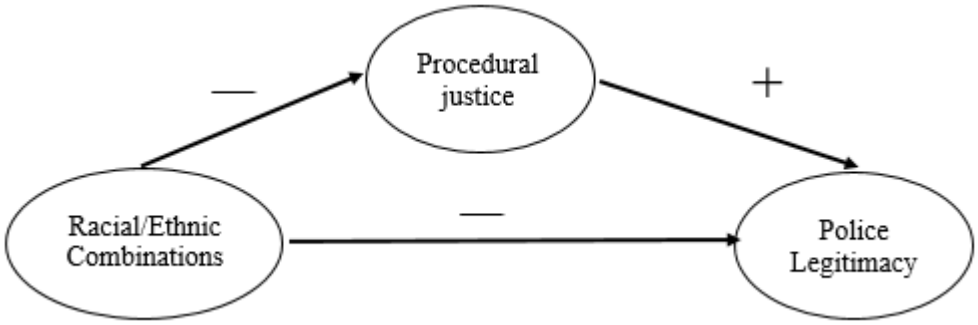

Figure 3.1 The Conceptual Diagram for the Model of Partial Mediation by Procedural justice

Mediation model was conducted by following procedures where three regression models must be estimated in order to show mediation (Baron & Kenny,

[1] As aforementioned, the literature does not provide sufficient information on the comparison of police-civilian racial/ethnic combinations and their impacts in public perception of the police. Thus, the nuanced and possible comparative effects of the nine combinations on procedural justice and police legitimacy are hypothesized based on reasonable inference derived from relevant studies.

1986): the first model should estimate the impact of the independent variable (racial/ethnic combinations) on the mediating variable (procedural justice); the second model should estimate the effect of racial/ethnic combinations on the dependent variable (police legitimacy); and lastly, the third model should estimate the impact of the independent variable (racial/ethnic combinations) and mediator (procedural justice) on the dependent variable (police legitimacy). The following conditions must hold with regard to the three aforementioned models for complete mediation to be evident: (a) a significant relationship between racial/ethnic combinations and procedural justice, (b) a significant relationship between racial/ethnic combinations and police legitimacy, and (c), in the third model, procedural justice—but not racial/ethnic combinations—must be a significant predictor of police legitimacy. If, in model three, racial/ethnic combinations remain significant, then partial mediation is evident (Baron & Kenny,1986; also see Diehr & McDaniel, 2018).

Procedural justice is hypothesized to have a partial mediation effect because procedural justice may not fully mediate the possible effects of the racial/ethnic combinations, giving the strong racial/ethnic effect documented in previous studies. Procedural justice may improve public perception of police legitimacy, but the complexity of racial/ethnic effects and the tension between civilians and officers in different racial/ethnic groups may not be fully neutralized by the police acting procedurally just only. It is thus expected that, after controlled procedural justice, the racial/ethnic combinations still have a remained and direct effect on police legitimacy.

In addition to the first two research questions, the last research question examines the association between organizational characteristics of police agencies and the public perception of procedural justice. Three organizational features of police

agency are assessed, including internal procedural justice, policing strategies (e.g., community policing, broken-window policing, procedural justice policing, and crime-analysis policing) and size of department. Thus, the third research question is proposed as below:

RQ3: Do organizational characteristics (i.e., internal procedural justice, policing strategy, and size of department) have an impact on public perception of procedural justice?

In specific, internal procedural justice is hypothesized to be positively related to public perception of procedural justice ("external procedural justice"), as previous studies found that subordinate police officers tend to imitate their supervisors' behavioral styles, and that individual officers who received fair treatment from their supervisor are more likely to act procedurally just toward civilians. Among the four policing strategies, aggressive policing, such as broken-window policing, is hypothesized to be inversely related to procedural justice, as policing approaches based on broken-window theory were often rated as intrusive, over-policing, and have a negative impact on racial minority neighborhoods (Gau & Brunson, 2010; Rosenbaum, 2006; Weisburd, Wooditch et al., 2016); community policing and procedural justice policing strategies are hypothesized to have a positive effect on procedural justice, as community policing's aim is to tackle the most concerned problem (i.e. crime or disorder) of a community and developing a positive relationship with community members (Gill et al., 2014; Namgung, 2018; Somerville, 2009), and procedural justice policing is to cultivate individual officer's working behavior in a procedurally fair style. Crime-analysis policing is also hypothesized to positively influence procedural justice as the knowledge produced by crime analysis was viewed

to have a legitimate ground and respectful (Cope, 2004; Manning, 2008; Randol, 2014;)

With respect to size of department, a large police agency is hypothesized to be inversely associated with procedural justice because individual officers in a large agency may have attenuated supervision and check on their conducts and their misconducts may thus increase (i.e. procedurally unjust).

Chapter 4

DATA AND METHOD

4.1 Data

The current study uses the National Police Research Platform (NPRP), Phase II (2013-2015)[2] from the National Institute of Justice (NIJ). This data is archived by the National Archive of Criminal Justice Data (NACJD) in the Inter-University Consortium for Political and Social Research (ICPSR) at the University of Michigan. The author is authorized to use this data by the NACJD's Fast Track Release program since December 2016.

The NPRP includes four survey datasets: the Law Enforcement Organizations (LEO) Survey A, B, and C, and the Police-Community Interaction (PCI) Survey. The LEO Surveys A, B, and C were collected from July to November 2013, September 2013 to January 2014, and October 2014 to February 2015, respectively. These three surveys contain information on individual officers perception and evaluation of multiple aspects of their agency, such as fairness of supervision and promotion, professional training, job satisfaction, stress, individual wellbeing, and relationship

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Rosenbaum, Dennis P., Susan M. Hartnett, Wesley G. Skogan, Stephen D. Mastrofski, Gary W. Cordner, Lorie A. Fridell, William McCarty, Jack McDevitt, and Megan Alderden. The National Police Research Platform, Phase 2 [United States], 2013-2015. ICPSR36497-v1. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor], 2016-09-29. http://doi.org/10.3886/ICPSR36497.v1

with the community. The PCI survey was collected from 2013 to 2014 and contains information on civilians' experience of their recent encounters with the police.

The NPRP was intended to implement a platform-based methodology for collecting data about police organizations and the communities that they serve. The goals of NPRP is to generate in-depth standardized information about police organizations, personnel, and practices to improve policing in the direction of evidence-based learning-organizations and to provide judicious feedback to police agencies and policy makers.

4.1.1 The Police-Community Interaction Survey (PCI)

The PCI data were collected in the United States from 16,659 civilians who had a recent contact with the police in one of three categories: traffic or pedestrian stop, traffic accident, and crime report. Among the 16,659 civilians, 42% responded had a traffic or pedestrian stop, 24% contacted the police because of a traffic accident, and 34% met the police for reporting a crime. As aforementioned, this study focused on police procedural justice and legitimacy only in traffic stops, respondents who recently contacted police because of traffic accident or crime report were thus excluded from this study. Overall, there are 6,911 traffic or pedestrian stops from 54 police departments remained in the PCI data.

The codebook of the National Police Research Platform, Phase 2 (2013-2015), described the survey process of the PCI data:

"*To identify potential respondents, police department employees extracted names and addresses of persons who had recent contact with the police (within the past two to three weeks) from September 2013 to January 2014. The chief of police or the sheriff then sent a letter to those individuals, encouraging them to evaluate their*

encounter with the officer, either online or via automated telephone response. The letter also explains the purpose of the study and gives the respondent a personal identification number to complete a survey. Roughly 62% responded by internet. All surveys were available in English and Spanish, and participants were allowed to respond to the survey in the language of their choice. All surveys consisted of at least 55 items, although there were unique questions for civilians who were stopped by the police (i.e., police use of force) and for those who reported a crime or were involved in a traffic crash (i.e., referral for victim services). A skip pattern was implemented in the survey such that civilians only received questions applicable to their particular contact with the police. Among the 54 agencies implementing the PCI survey, 47 were randomly selected, and seven were from a non-random sample. The participating agencies varied in size by the number of sworn officers employed (19 agencies had 180 or fewer sworn employees, 16 agencies had between 181 and 500 sworn employees, and 18 had 501 or more sworn employees). The overall response rate was 6.29%."

The PCI survey collected demographic information on both civilians and officers in a police-public encounter. Missing demographic features of the civilians were corrected or adjusted according to the case file and registration stored in the police department. This study thus used the adjusted demographic information of the civilians. When demographic information was missing from the survey, data were imputed, using the department's mailing file that included demographics from police records. This imputed data represents for 5.0% of the responses on race, 4.7% on gender, and 5.2% on age. Demographic information was unavailable from either source in 2.6% of all cases on race, 0.8% on gender, and 1.1% on age. These cases

with demographic information missing on both civilians and officers were excluded from the analysis. As only White, Black, Hispanic civilians and officers were selected for the research purpose, civilians and officers who are in other race and ethnicity (13.32%) were excluded from the data. After dropped unsuitable and missing cases, the final sample size of traffic stops for analysis is thus around 5,200.

4.1.2 The Law Enforcement Organizations (LEO) Survey A and B

The LEO Surveys A and B contain organizational information of police agencies, including internal procedural justice, policing strategies, and officer wellbeing. In total, 22,765 officers from 95 agencies participated in LEO Survey A, and 15,825 officers from 93 agencies participated in LEO Survey B. The codebook of the National Police Research Platform, Phase 2 (2013-2015), described the survey process of LEO Survey A and B:

"Surveys were conducted online using software hosted by Qualtrics, Inc©. Invitations from agency leaders were e-mailed to all employees and included a link to the survey's home page. There, respondents completed an informed consent statement and could choose to complete the survey. All employees received occasional e-mail reminders concerning the survey, and announcements were distributed at their place of work. Almost all potential respondents who clicked on the human subjects and consent page agreed to continue to the survey. Each survey took an average of about 12 minutes to complete. The average agency response rate for the survey was 45.12%.

The sample of the agency was drawn from the 2007 Law Enforcement Management and Administrative Statistics database. Consideration was also given to the geographic location of the agencies, with a desire to include organizations in the Northeastern, Midwestern, Southern, and Western parts of the USA. Furthermore, the

number of municipal police and sheriff agencies in the sample closely reflected their representation within the total population of law enforcement agencies. Participating agencies were recruited from a random sample of police and sheriff's offices. Agencies with 100 to 3,000 sworn police personnel were eligible for participation. Organizations were sampled to fill strata defined by region of the country and agency size."

Both LEO Surveys A and B included sworn officers and civilian employees. For the study purpose, civilian employees were excluded from the final sample size. The final sample size of sworn officers participated in the LEO Survey A and B are 17,820 and 12,305, respectively. Except for the agency's ID number, the identification information of the participating agencies was removed from the data. Therefore, this study was unable to identify the location and geographic region of the participating agencies.

When using the hierarchical linear modeling (HLM) technique, a nesting feature of a dataset must be discovered for the analysis. Using the agency's ID number as the related field, the LEO Surveys A and B and the PCI Survey were combined into a single dataset, with the agency's ID number as an identifier. After the dataset was combined, 48 agencies participated in the LEO Surveys A and B and the PCI Survey, and thus were used in the HLM analysis.

4.2 Measures

4.2.1 Dependent Variables

4.2.1.1 Procedural Justice

Two dependent/outcome variables were constructed in this study: procedural justice and police legitimacy. Procedural justice is a summative scale of twelve items with each having four-scale Likert-type responses (1 = strongly disagree, 2 = disagree, 3 = agree, and 4 = strongly agree). These twelve items were selected according to the four dimensions of procedural justice commonly used in previous studies—participation, respect, neutrality, and benevolence (Rosenbaum et al., 2015). In particular, "participation" and "respect" were reflected by three items respectively, "neutrality" was represented by two items, and "benevolence" was tapped by four items. Table 3.1 shows the specific items used to create the scale of procedural justice. Factor analysis found that each twelve items of procedural justice reached high factor loadings and unequivocally loaded into a single factor with a very high internal reliability (Cronbach's alpha = .97). Thus, instead of separating the twelve items into four categories and creating four factors of procedural justice, the twelve items were combined into a single scale to measure the level of procedural justice. A higher value on this scale indicated a fairer and more procedurally just treatment received by the civilian in a police stop.

The missing value is a common concern for creating a large scale using multiple items. The scale of procedural justice has twelve items, and each has missing values. One item of the twelve has missing value as high as 705. If dropped all the missing value of the twelve items, 27.43% of the cases (1,895) would be dropped from the final sample. To reduce missing values and retain usable cases, a method was used

that replaces missing values with the (row) mean of available values of the twelve items. Using Stata 14, the pattern of missing value for the twelve items shows that 98.33% of the respondents answered more than six questions (1.67% of the respondents answered less than six questions). Thus, using six questions as a cutoff line, the missing value of the twelve items were replaced. In specific, if a case has more than six available values of the twelve items, the missing value (less than six questions) were replace by the average response—the row mean—of the available values (non-missing value). If a case has more than six missing values across the twelve items, this case was dropped from the final sample.

The above method to address missing value is superior to simply replacing missing value with the mean of each question. The latter is to replace missing value by the average response of all respondents for one question, while a row mean is the average response of the respondent's own answers across the other answered items. Due to the very high internal reliability of the twelve items for procedural justice (alpha = .97), using the average response of the respondent's own answer is more accurate for predicting the respondent's missing response to a certain item. The final counts of the created scale of procedural justice contained 98.61% of the total cases and 1.39% cases were dropped because of missing values.

4.2.1.2 Police Legitimacy--General Trust in the Police

General trust in the police is used as a proxy of police legitimacy in this study. Tyler's process-based model constructed police legitimacy along mainly two dimensions: trust in the police and obligation to obey (Tyler, 2006; Tyler & Fagan, 2008; Tyler & Huo, 2002). However, recent studies found that this convergence of the two is low (Gau 2011, 2014). Using factor analysis, this study also found that trust in

the police and obligation to obey are statistically distinct and cannot load together. Since obligation to obey in the PCI survey has only one item, this study uses trust in the police as a proxy of police legitimacy.

Three items were combined to form a summative scale of trust in the police, which is treated the proxy of police legitimacy. Each item had a four-category Likert-type response (1 = strongly disagree, 2 = disagree, 3 = agree, and 4 = strongly agree). The three items together loaded into a single factor with a high internal reliability (Cronbach's alpha=.90). In general, this scale asked how much the respondent trusts the local police, with a higher value indicating a higher level of trust in the police. The missing rate is 20.82% (1,438) for the three items. The method of replacing missing value with a row mean is used to address the missing value of the three items, if missing value of the three were discovered. Table 4.1 shows the results of factor analyses and the specific items used to create the scales of procedural justice and trust in the police.

Table 4.1 Items and Factor Analysis for Procedural Justice and General Trust in the Police

Scales and Items (Rotation: orthogonal oblimin)	Factor Loadings	Eigen value	α
Procedural justice		8.80	.97
During the encounter, the officer…. (1=strongly agree; 4=strongly disagree)			
Participation			
Considered my views	.91		
Listened to what I had to say	.90		
Seemed concerned about my feelings	.87		
Respect			
Treated me with dignity and respect	.85		
Interrupted me (reverse code)	.77		
Treated me politely	.83		
Neutrality			
Was fair and evenhanded	.60		
Made decisions based on the facts	.83		
Benevolence/trustworthy motives			
Comforted and reassured me	.93		
Explained what would happen next in the process	.90		
Clearly explained the reasons for his/her actions	.93		
Tried to be helpful	.91		
Trust in the Police (1 = strongly agree; 4 = strongly disagree)		2.18	.90
I trust my police department to make decisions that are good for everyone in my city	.88		
I have confidence that my police department can do its job well	.89		
How well are (the police in your neighborhood) treating people fairly, regardless of who they are?	.77		

4.2.2 Level-1 Predictors: Traffic-strop Characteristics

4.2.2.1 Level-1 Independent Variables

Using the respondent's and the officer's race/ethnicity, a total of nine dummy variables measuring civilian-officer racial/ethnic combinations were created to reflect

the race/ethnicity-based situations during a traffic or pedestrian stop. Each combination was coded by a dichotomous value with 1 indicating the designated racial/ethnic combination and 0 being the other eight combinations. The nine combinations are shown in Table 4.2.

Table 4.2 Racial and Ethnical Combinations between Civilians and Officer

Interaction Terms	**Racial and Ethnic Combinations**
White*White	White civilians stopped by White officers
White* Black	White civilians stopped by Black officers
White*Hispanic	White civilians stopped by Hispanic officers
Black*White	Black civilians stopped by White officers
Black*Black	Black civilians stopped by Black officers
Black* Hispanic	Black civilians stopped by Hispanic officers
Hispanic*White	Hispanic civilians stopped by White officers
Hispanic*Black	Hispanic civilians stopped by Black officers
Hispanic* Hispanic	Hispanic civilians stopped by Hispanic officers

4.2.2.2 Level-1 Control Variables

The level-1 control variables were divided into three groups: Civilian's Demographics, Officer's Demographics, and Situational Variables. The first group, Civilian's Demographics, consists of Race/Ethnicity (White, Black, and Hispanic), Gender, Age, and Education. The variables of race/ethnicity were three dummy variables indicating White, Black, and Hispanic. Each variable was coded as a dummy variable, with 1 representing the designated race and 0 being the other two races. White is treated as a reference group to be compared to two other racial/ethnic groups. Citizen gender is a dummy variable with 1 indicating female and 0 representing male. Citizen age is a continuous variable, ranging from 18 to 92. The Citizen education is a seven categorical variable, ranging from 1 (some grade school) to 7 (graduate student,

professional, Ph.D., JD, or MA, or another post-collegiate status). Except that the missing rate of civilian Education is 6%, all variables of Civilians' Demographics have a missing rate below 3%. Missing values were dropped from the final sample.

The second group are officer demographics, including officer race/ethnicity, gender, and age. Similar to the civilian's demographics, officer race/ethnicity was measured by three dichotomous variables representing White (the reference group), Black, and Hispanics and a dummy variable measured gender with 1 indicating female officer and 0 male officer. Officer age was represented by three dummy variables: "under 30 years old," "between 30 and 40 years old" (the reference group), and "over 40 years old". The age group of officers between 30 and 40 years old was set as the reference group compared to the other two age groups in the analysis because the majority of officers (60%) were in this age category. The missing rate for the officer's race/ethnicity is 5% and for officer's gender and age the missing values are around 3%.

The last group, situational characteristics, measured non-racial situational information during a stop, including civilian demeanor with 1 representing that the civilian raised voice during the encounter and 0 indicating the otherwise, and officer demeanor (1= the officer raised voice; 0= the otherwise), outcome of contact (0= the civilian did not receive a ticket or fine; 1= the civilian received a ticket or fine), and officer use of force. Officer use of force is a scale containing three items that ask whether the officer during the encounter (1) threatened to use physical force against the respondent; (2) searched the respondent by touching the respondent's body in different places and (3) actually used force against the respondent, such as pushing, grabbing, hitting, or kicking. To reflect the concept of "continuum of force" in prior

research (Garner, Maxwell, & Heraux 2002, Sun & Payne, 2004), a number was assigned to each of three types of force based on the relative harm caused by each of them. From the least to the highest, the assigned numbers range from 1 (threatened to use physical force) to 2 (searched and tocuhed the respondent) and to 3 (pushing, grabbing, hitting, or kicking). The use fo force scale was created by summing the assigned numbers. A higher value on the scale indicated a greater level of force involved during an encounter. The factor analysis showed that the three items loaded into a single factor (Cronbach's alpha=.70). The rate of officer use of force is 3.86% of the total traffic or pedestrian stops.

4.2.3 Level-2 Predictors: Organizational Characteristics

Three organizational characteristics were measured in this study: internal procedural justice, policing strategy, and size of department. The organizational information is from LEO Surveys A and B. Sixteen items from LEO Survey A were selected to measure internal procedural justice, and were divided into three subcategories: fairness of the chief, fairness of the supervisor, and fairness of the departmental rules. Each scale was created through factor analysis of several items with high scores of factor loadings and a high internal reliability. Table 4.3 displays the results from factor analysis for the factor analysis.

Four policing strategies comprised of the second category of the organizational characteristics: community policing, broken window policing, procedural justice policing, and crime analysis policing. Two groups of variables reflected the departmental emphasis on and individual officer's view of these four types of policing strategy. The departmental emphasis on the four policing strategies were measured by the questions of "*how much has current top leadership emphasized*

(community/broken windows/procedural justice/crime analysis) policing?" Each has response ranging from (1=not at all; 5=top priority). The individual officer's view of policing strategy were represented by the questions of "*how do you view community/broken windows/procedural justice/crime analysis policing*" with response ranging from 1 being strongly oppose and 5 being strongly support.

Finally, agency size, as the last category of variable, was measured by a dummy variable with 1 denoting that an agency has more than 300 sworn officers and 0 indicating that an agency employs fewer than 300 sworn officers. The frequency pattern of agency size showed that half the agencies had more than 300 sworn officers, while the other half had fewer than 300 sworn officers. Therefore, using 300 as a cut-off line reflected the distribution of the size of agencies that participated in the PCI survey.

As the LEO Surveys A and B were completed by individual officers instead of departmental administration, all organizational variables were created by aggregating individual officers' responses to the agency level. That is, the mean responses of the officers within an agency were taken to reflect the organizational characteristics. Table 5.1 in the next chapter shows the descriptive statistics for all variables used in this study.

Table 4.3 Items and Factor Analysis of Fairness of Chief, Fairness of Supervisor, and Fairness of Departmental Rules

	Factor Loading	Eigen value	α
Fairness of Chief (1=Never, 2=Rarely, 3=Sometimes, 4=Often, 5=Always)		2.18	.90
How often head inspires me to work to the best of my ability	.86		
How often head sets a good example for everyone in the organization	.89		
How often head makes clear what is expected of employees	.81		
Fairness of Supervisor (1=Never, 2=Rarely, 3=Sometimes, 4=Often, 5=Always)		5.71	.95
How often supervisor inspires me to work to the best of my ability	.88		
How often supervisor does good for organization not just themselves	.89		
How often supervisor sets a good example for everyone in the organization	.91		
How often supervisor makes clear what is expected of employees	.83		
How often supervisor gives inexperienced direction and guidance (reversed)	.79		
How often supervisor encourages input when decisions made	.79		
How often supervisor's decisions are fair and consistent	.87		
How often supervisor stands up for employees when done nothing wrong	.81		
Fairness of Departmental rules (1=Strongly disagree, 4=Strongly agree)		2.53	.83
For minor mistakes department helps officers with coaching and counseling	.69		
Officers are treated with respect during disciplinary investigations	.74		
In this agency the disciplinary process is fair	.76		
Employees are treated the same regardless of gender	.68		
Employees are treated the same regardless of race	.68		

4.3 Analytic Strategy

This study used the statistical software Stata 14 for analysis. Three groups of statistical models were to address the research questions. The first two groups of models are comprised of OLS regressions and the last group of models used the hierarchical linear modeling technique. The PCI survey was used in the first two groups of models and the combined dataset was used for the HLM analysis.

4.3.1 Multivariate Analysis for Procedural Justice and Police Legitimacy

Two OLS regression models were used for estimating procedural justice—PJ-Model 1 and PJ-Model 2. These two models were to examine the effects of racial/ethnic combinations and other control variables on procedural justice (shown as Step 1 in Figure 4.1). The first model, PJ-Model 1, examined the civilian's and officer's race/ethnicity separately. Using White as a reference group, Black and Hispanic civilians and officers were compared to their White counterparts in terms of civilian's perception of procedural justice. The separate effects of civilian and officer race/ethnicity shed light on which party's race/ethnicity plays a role in the interactive effect of the racial/ethnic combinations which enter in PJ-Model 2.

In PJ-Model 2, the nine racial/ethnic combinations were introduced into the model. The variable Race/Ethnicity of civilian and officer was thus omitted to avoid the issue of multi-collinearity. The combination of White civilians stopped by White officers (White*White) was treated as the reference group and its effect is compared with the effects of other racial/ethnic combinations. A Wald-test was used to test whether these nine combinations had a statistically significant association ($p<.05$) with procedural justice

The second group of models treated trust in the police as a dependent variable. Similar to the first group of models, T-Model 1 tested the racial/ethnic effect of civilian and officer separately, and T-Model 2 tested the effects of the nine racial/ethnic combinations. T-Model 2 also omitted the race/ethnicity of civilians and officer to avoid multi-collinearity and treated the combination of White civilians and White officers as the reference group. T-Model 3 was used to test the mediating effect of procedural justice and thus was similar to T-Model 2 except for the introduction of procedural justice as a mediating variable.

According to the proposed conceptual diagram shown in Figure 2.6.1, the two groups of OLS regression models address the first two research questions (RQ1 and RQ2) in three steps (see Figure 4.1). PJ-Model 2 reflected the Step 1 for testing the direct effects of racial/ethnic combinations on procedural justice. T-Model 2 executes Step 2 for assessesing the direct effects of racial/ethnic combinations on police legitimacy. T-Model 3 realized Step 3 that investigate the mediating effect of procedural justice.

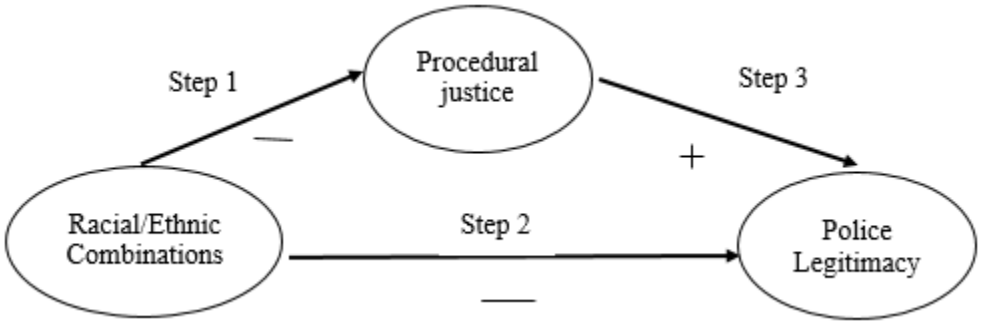

Figure 4.1 The Analytic Strategies for the Conceptual Diagram for the Model of Partial Mediation by Procedural Justice

4.3.2 Multilevel Analysis for Procedural Justice

The last group of models used the combined data of LEO survey A and B for analysis. The combined dataset has a nested nature with police stops clustered in police agencies. Thus, the Level-1 units of analysis are traffic and pedestrian stops and the Level-2 units of analysis are police agencies. A two-level parametric linear mixed model was used to estimate the outcome variable: procedural justice.

The HLM approach was performed in three steps. First, without introducing any predictors at any level, an unconditional model (HLM-Model 1) was estimated to assess the proportion of variance in procedural justice accounted for by the differences within and between police agencies. In other words, the model indicated whether there was sufficient variation between agencies in levels of procedural justice that warranted use of the HLM technique to investigate the organizational predictors at Level-2. Next, Level-1 predictors were entered into the model with randomly varying intercepts (HLM-Model 2). This step examines whether the level of procedural justice still differs across police agencies after controlling for all Level-1 variables that measure the characteristics of traffic stops. Finally, organizational variables were added into the model with randomly varying intercepts and fixed slopes[3] (HLM-Model 3).

One Level-1 variable, police use of force, was expected to vary with regard to the organizational characteristics at Level-2. The reason is that the quantity of police

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[3] Due to the complex nature of hierarchical linear modeling (HLM) and the large number of predictors at Level-1 and Level-2, the Level-1 slopes were not allowed to vary randomly in order to reduce the complexity of the models and facilitate the model's convergence. Assessing fixed effects of the Level-1 predictors also reflected the focal interest of the HLM analysis, which is to examine the effects of organizational variables on the outcome variable, instead of the variation of Level-1 predictors by agency characteristics at Level-2.

use of force can vary by agency due to different departmental rules and culture. For example, if department rules stipulate certain conditions that officers was allowed to use force rather than giving discretion to officers, police officers may have no choice but to use more force under the conditions stipulated by departmental rules; the aggressive or authority-oriented culture of a police agency can also increase officers' use of force. Therefore, police use of force was centered around the group mean to facilitate the convergence and interpretation of HLM analysis (Rabe-Hesketh & Skrondal, 2008). Two continuous variables, civilian age and education, were also centered around the group mean. Other variables at Level 1 entered the HLM analysis with their original forms. Using the original metrics of these variables was proper since they were dummy variables with meaningful values of 0. At the organizational level, except for size of department, all Level-2 variables were centered around the grand mean. Size of department is a dummy variable with 0 having a substantive meaning, and thus was entered in its original form.

Chapter 5

RESULTS

5.1 Bivariate Analysis

Table 5.1 shows the bivariate analyses for all variables that are used for analysis. Table 5.1 is also divided into three blocks to show dependent variables, Level-2 organizational predictors, and Level-1 police stops predictors. A total of 5,178 stops and forty-eight police agencies were included in the analysis. The first block showed that the average score of public perception of procedural justice is 34.22 for a scale of procedural justice ranging from 12 to 48 with 30 being the medium, and the average score of trust in the police is 8.09 for a scale of trust in the police varying from 1 to 12 with 7 being the medium. Both the two mean numbers are above the medium evaluation of the scales and leaning toward to the maximum score, indicating that averagely the civilians who stopped by the police received police treatment in a higher level of procedural justice and perceived police legitimacy in a greater degree. The second block reported the average scores of internal procedural justice, policing strategy, and size of department. As shown in Table 5.1., the average scores of fairness of chief, fairness of supervisor, and fairness of departmental rule are 10.18, 30.50, and 7.76 across forty eight police agencies. Each is above the medium of its range from minimum to maximum score and more close to the maximum, suggesting a high officer employee's evaluation of fairness of chief, supervisor, and departmental rule across the 48 agencies. The mean scores of the departmental emphasis on and personnel's view of the four policing strategies (i.e. community, broken-window,

procedural justice, and crime-analysis) are all above their medium of the range from minimum to the maximum, reflecting greater departmental efforts invested to and a high level of personnel's endorsement of the four policing strategies. With respect to size of department, 65% of the forty-eight agencies (31) have sworn officers more than 300.

The third block showed the bivariate analysis for Level-1 predictors. Among the 5,178 respondents who had a recent contact with the police due to traffic stop, four in five (80%) are White, one in ten are Black (11%), and one in ten are Hispanic (10%); approximately half of the respondents are female (43%); the average age of the respondents is 47 years, and the average educational level (5.28) is between "some college" (=5) and "Graduated College/Bachelors/BA" (=6).

A large majority of respondents (86%) reported being stopped by a White officer, and 8% and 6% of respondents were stopped by Black and Hispanic officers,; only 7% of respondents were stopped by a female officer; and three in five (60%) respondents were stopped by officers between thirty and forty years old, while almost one in five respondents were stopped by officers who were under thirty years old (18%) or over forty years old (22%).

Among the reported 5,178 police stops, 3% of stops involved the civilians raising their voices, while 12% involved that the officer raised voice; 72 percent of the police stops yielded an outcome of a fine or a ticket; and 11% of stops involved police use of force.

With respect to the civilian-officer racial/ethnic combinations, almost seven in ten (69%) stops occurred between a White civilian and a White officer; approximately one in ten were Black civilian stopped by White officer (9%), and 8 percent involves

Hispanic civilian stopped by White officer; 5% of stops involved a White civilian and a Black officer; and the percentage of stops in other racial/ethnic combinations were below 5%.

Table 5.1 Statistic descriptive for variables in analysis

Variables	Mean	S.D.	Min	Max
Dependent Variables				
Procedural justice	34.22	10.93	12	48
General trust in police	8.09	2.84	1	12
Level 2: Organizational Predictors				
Internal Procedural Justice				
Fairness of Chief	10.18	1.39	5.46	13.04
Fairness of Supervisor	30.50	.92	27.29	37.95
Fairness of Departmental Rule	7.76	.68	5.46	8.84
Policing Strategy				
Department's emphasis on				
Community Policing	3.67	.34	2.51	4.48
Broken Window Policing	2.82	.48	1.74	3.67
Procedural Justice Policing	3.84	.27	2.83	4.32
Crime Analysis Policing	3.71	.52	2.39	4.74
Personnel's view of				
Community Policing	4.11	.26	3.34	4.45
Broken Window Policing	4.14	.19	3.52	4.54
Procedural Justice Policing	4.29	.20	3.80	4.59
Crime Analysis Policing	4.14	.29	3.2	4.5
Size of Department	.65	.47	0	1
Level 1: Traffic-stop Predictors				
Civilian's Demographics				
White	.79	.41	0	1
Black	.11	.32	0	1
Hispanic	.10	.30	0	1
Gender (Female=1)	.43	.50	0	1
Age	47.23	15.66	18	92
Education	5.28	1.50	1	7
Officer's Demographics				
White	.86	.35	0	1
Black	.08	.27	0	1
Hispanic	.06	.24	0	1

Table 5.1 Continued

Variables	Mean	S.D.	Min	Max
Gender (Female=1)	.07	.27	0	1
Age				
Under 30 years old	.18	.38	0	1
Between 30 and 40 years old	.60	.49	0	1
Over 40 years old	.22	.42	0	1
Situational Characteristics				
Civilian's Demeanor (raised voice=1)	.03	.16	0	1
Officer's Demeanor (raised voice=1)	.12	.33	0	1
Outcome of Contact (ticket or fine=1)	.72	.45	0	1
Police Use of Force	.11	.62	0	6
Civilian-Officer Racial/Ethnic Combinations				
White * White	.69	.46	0	1
White * Black	.05	.23	0	1
White * Hispanic	.04	.20	0	1
Black * White	.09	.28	0	1
Black * Black	.02	.13	0	1
Black * Hispanic	.01	.10	0	1
Hispanic * White	.08	.27	0	1
Hispanic * Black	.01	.09	0	1
Hispanic * Hispanic	.01	.10	0	1

Note: the sample size of Level-1(n) is 5,178 traffic stops and the sample size of Level-2 (N) is 48 police agency

5.2 Racial/Ethnic Combinations and Procedural Justice

Table 5.2 shows the results of the first group of models that estimated civilian's perception of procedural justice. The PJ-Model 1 shows the effects of civilian and officer race separately. Black civilians were more likely to have unfavorable perceptions of procedural justice compared to their White counterparts. Compared to White officers, Black and Hispanic officers were more likely to be perceived less procedurally just in a police-public encounter.

The PJ-Model 2 omitted the race/ethnicity of civilian and officer and added the nine interaction terms of racial/ethnic combinations. Compared to the reference

group—White civilians stopped by White officers—White civilians perceived Black and Hispanic officers less procedurally just during a traffic stop, and Black civilians perceived White, Black, and Hispanic officers to be less procedurally just. Among the civilian-officer racial combinations, Black civilians stopped by White officers yielded the strongest negative effect on procedural justice (β=-.05; P<.001). A Wald-test showed that the racial/ethnic combinations were significantly associated with procedural justice (p<.000).

Concerning other demographics of civilian and officer and situational characteristics, most of them showed a consistent effect on procedural justice across PJ-Model 1 and 2. Civilian age and education were associated with procedural justice, with older or less educated civilians perceived that police more procedurally just; Civilian's and Officer's Demeanor, Outcome of Contact, and Police Use of Force all have a robust and negative effect on procedural justice. That is, civilians perceived the officer as less procedurally just if, during the encounter, the civilian or officer raised their voice, the civilian received a ticket or fine, or the officer used force. The explanatory variables accounted for 37% of the variance in perception of procedural justice in PJ-Model 1 and 2.

Table 5.2 OLS Regressions of Procedural justice (PJ)

	PJ-Model 1		PJ-Model 2	
	Beta	S.E.	Beta	S.E.
Civilian's demographics				
Black	-.05***	.40	--	--
Hispanic	.01	.43	--	--
Gender (Female=1)	-.02	.24	-.02	.25
Age	.11***	.01	.11***	.01
Education	-.06***	.08	-.07***	.08
Officer's demographics				
Black	-.03*	.45	--	--
Hispanic	-.03**	.51	--	--
Gender (Female=1)	-.004	.46	-.01	.46
Age				
Under 30 years old	-.003	.33	.004	.33
Over 40 years old	-.02	.30	-.02	.30
Situational characteristics				
Civilian's demeanor (raised voice=1)	-.04**	.78	-.04**	.78
Officer's demeanor (raised voice=1)	-.41***	.41	-.41***	.41
Outcome (ticket=1)	-.31***	.27	-.31***	.27
Police use of force	-.09***	.21	-.09***	.21
Civilian-officer Racial/Ethnic Combinations				
White * Black	--	--	-.03**	.54
White * Hispanic	--	--	-.04**	.60
Black * White	--	--	-.05***	.44
Black * Black	--	--	-.03**	.92
Black * Hispanic	--	--	-.03**	1.24
Hispanic * White	--	--	.0009	.37
Hispanic * Black	--	--	.01	1.29
Hispanic * Hispanic	--	--	.01	1.26
N	5178		5178	
R^2	.37		.37	

*p<.05, **p<.01, and ***p<.001

5.3 Racial/Ethnic Combinations and Police Legitimacy

Table 5.3 reported the results of the estimation of trust in the police. T-Model 1 showed that civilian race/ethnicity had a significant effect on trust in the police, while officer race/ethnicity is weakly related to trust in the police. Specifically, compared to

White civilians, Hispanic civilians expressed greater trust in the police and Black civilians displayed lower trust in the police. This result is not entirely consistent with the racial/ethnic gradient documented by previous studies that perceptions of the police follow a White/Hispanic/Black gradient from the most to the least favorability (Hagan, Shedd, & Payne, 2005; Buckler, Unnever, & Cullen, 2008).

T-Model 2 showed the effect of racial/ethnic combinations on trust in the police. Compared to White civilians encountering White officers, Black civilians maintained less trust in the police, regardless of the officers' race/ethnicity. Again, Black civilians who were stopped by White officers yielded a negative effect on trust in the police, and this negative impact is the strongest compared to other racial/ethnic combinations relative to the reference group (White civilian and White officer). In addition, Hispanic civilians encountering White officers reported a higher level of trust in the police compared to the White civilian and White officer combination. A Wald-test showed that the nine racial/ethnic interactions were significantly associated with trust in the police ($p<.000$).

Other variables, such as civilians' age, gender, and education, had a significant effect on trust in the police across T-Model 1 and 2. Male, older, or less educated civilians had greater trust in the police. None of officer demographics had an impact on civilians' trust in the police. With respect to situational characteristics, officers' demeanor, outcome of contact, and use of force had significant effects on civilians' trust in the police. Civilians had less trust in the police if the officer's voice was raised, a negative outcome occurred, or the police officer used force during the encounter. The explanatory variables accounted for 10% of the variance in civilians' trust in the police in T-Model 1 and 2.

T-Model 3 showed the mediation effect of procedural justice on civilians' trust in the police. After procedural justice entered the model, the explained variance of civilians' trust in the police increased by a large amount from .10 to .23. More importantly, procedural justice reduced or increased certain predictors' effects and even changed the direction of certain effects. Black civilians encountering White officer had a reduced negative effect on trust in the police-- the standard coefficient reduced from -.08 in T-Model 2 to -.06 in T-Model 3. In this regard, procedural justice partially mediated the negative effect of Black civilians stopped by White officers concerning trust in the police. On the other hand, procedural justice fully mediated the effect of both the dyads of Black-civilian/Black-officer and Black-civilian/Hispanic-officer. The negative influences of these two combinations were significant (β=-.03, $p<.05$; β=-.03, $p<.05$) in T-Model 2, but showed no effect in T-Model 3 (β=-.02, p>05; β=-.01, p>05) in T-Model 3. Moreover, procedural justice enhanced the positive effect of the Hispanic-civilian/White-officer combination, raising the impact from.03 in T-Model 2 to.04 in T-Model 3, and the p-value dropped from $p<.05$ to $p<.01$.

Concerning other situational characteristics, the officer's demeanor and outcome of contact showed a positive effect (β= .02, $p<.01$) on trust in the police in T-Model 3, while they had a negative effect (β=-.16, $p<.001$) in T-Model 2. This directional change of effect is a baffling because it showed that the civilians are more likely to trust the police if officers raised their voice or delivered an unfavorable outcome. Furthermore, police use of force showed a reduced negative effect (β=-.04, $p<.01$) in T-Model 3 compared to its negative effect (β=-.08, $p<.001$) in T-Model 2. That is, half of the negative effect of police use of force was mediated by procedural justice.

Table 5.3 OLS Regressions of Police Legitimacy-General Trust in the Police

	T-Model 1		T-Model 2		T-Model 3	
	Beta	S.E.	Beta	S.E.	Beta	S.E.
Procedural justice	--	--	--	--	.46***	.00
Civilian's Demographics						
Black	-.08***	.12	--	--	--	--
Hispanic	.04**	.13	--	--	--	--
Gender (Female=1)	-.04*	.08	-.04**	.08	-.03*	.004
Age	.11***	.002	.11***	.002	.06***	.07
Education	-.11***	.03	-.11***	.03	-.08***	.002
Officer's Demographics						
Black	-.005	.14	--	--	--	--
Hispanic	-.02	.16	--	--	--	--
Gender (Female=1)	-.003	.14	-.002	.14	.01	.13
Age						
Under 30 years old	.01	.10	.01	.10	.01	.09
Over 40 years old	-.01	.09	-.01	.09	-.01	.09
Situational Characteristics						
Civilian's demeanor (raised voice=1)	-.01	.24	-.01	.24	.01	.22
Officer's demeanor (raised voice=1)	-.16***	.13	-.16***	.13	.02**	.13
Outcome (ticket or fine=1)	-.12***	.09	-.12***	.09	.02*	.08
Officer's use of force	-.08***	.07	-.08***	.07	-.04**	.06
Civilian-officer Racial/Ethnic Combinations						
White * Black	--	--	-.01	.17	.01	.16
White * Hispanic	--	--	-.02	.19	.0004	.17
Black * White	--	--	-.08***	.14	-.06***	.13
Black * Black	--	--	-.03*	.29	-.02	.26
Black * Hispanic	--	--	-.03*	.38	-.01	.36
Hispanic * White	--	--	.03*	.15	.04**	.14
Hispanic * Black	--	--	.01	.41	.01	.37
Hispanic * Hispanic	--	--	.01	.39	.01	.36
N	5244		5244		5178	
R^2	.10		.10		.23	

*p<.05, **p<.01, and ***p<.001

5.4 Hierarchical Linear Modeling for Procedural Justice

5.4.1 Unconditional Model

The HLM-model1, as shown in Table 5.4, demonstrates the result of the unconditional model for procedural justice. As the unconditional model was run without adding any variables at either level, the Level-1 or police-stop level model is simply

$$Y_{ij} = \beta_{0j} + r_{ij}, r_{ij} \sim N(0, \sigma^2)$$

Moreover, the level-2 or organizational level model is

$$\beta_{0j} = \gamma_{00} + \mu_{0j}, \mu_{0j} \sim N(0, \tau_{00})$$

where i denotes traffic stops and j indexes police agencies. Y_{ij} is procedural justice perceived by civilian i who was stopped by an officer from police agency j, while σ^2 indicates the variance at traffic-stop level. γ_{00} is the average score (the grand mean) of procedural justice across all the traffic stops, and τ_{00} is the variance at the organizational level. As shown in HLM-model1, γ_{00} = 34.03, S.E.=.51.The estimated results of σ^2 and τ_{00} are 110.10 and 11.34, respectively. Thus, the intra-class correlation coefficient (ICC) is .09 [=11.34/(11.34+110.10)], indicating that 9% of the variance in procedural justice was explained by characteristics of police agencies. Such between-agency difference is statistically significant (χ^2=534.51, p<.001).

5.4.2 Conditional Model with Level-1 Predictors

HLM-model 2 included all the predictors at traffic-stop level. Procedural justice was estimated as a function of civilian and officer demographics and situational variables. Specifically, the Level-1 model is

$$
\begin{aligned}
Y_{ij} = {} & \beta_{0j} + \beta_{1j}(\text{Black civilian}) + \beta_{2j}(\text{Hispanic civilian}) + \beta_{3j}(\text{Female civilian}) \\
& + \beta_{4j}(\text{civilian age}) + \beta_{5j}(\text{civilian education}) + \beta_{6j}(\text{Black officer}) \\
& + \beta_{7j}(\text{Hispanic officer}) + \beta_{8j}(\text{Female officer}) \\
& + \beta_{9j}(\text{officer age below 30}) + \beta_{10j}(\text{officer age above 40}) \\
& + \beta_{11j}(\text{civilian demeanor}) + \beta_{12j}(\text{officer demeanor}) \\
& + \beta_{13j}(\text{outcome of contact}) + \beta_{14j}(\text{use of force}) + r_{ij}, r_{ij} \sim N(0, \sigma^2)
\end{aligned}
$$

Due to the large amount of Level-1 variables, all Level-1 variables are treated with a random intercept and a fixed slope to reduce the complexity of the model and facilitate the convergence. Table 5.4 presents the results for HLM-model2. All situational variables had a significant effect on procedural justice. Compared to White civilians, Black and younger civilians were less likely to perceive officers as acting procedurally just during a police stop, as well as civilians who had higher educational attainment. Black and Hispanic officers were less likely to be perceived to act procedurally just compared to their white counterparts; officers who were more than 40 years old were less likely to be perceived to act procedurally just compared to officers between 30 and 40 years old.

The ICC drops from .09 in the unconditional model to .02 in the conditional model with Level-1 predictors, suggesting that there is still substantial variation among police agencies after controlling for the characteristics of traffic stops at Level-1. The next step is to introduce organizational variables into the model to explain the variation of procedural justice.

5.4.3 Conditional Model with Level-1 and Level-2 Predictors

The HLM-model 3 is the full model with both Level-1 and Level-2 variables. At the organizational level, three variables for internal procedural justice, four

variables for departmental emphasis on police strategy, four variables for personnel's view of police strategy, and one variable for size of department were entered at this step. As the Level-1 model remains the same, the Level-2 model is written as:

$$\beta_{0j} = \gamma_{00} + \gamma_{01}(\text{Fairness of chief}) + \gamma_{02}(\text{Fairness of supervisor}) +$$
$$\gamma_{03}(\text{Fairness of departmental rule}) +$$
$$\gamma_{04}(\text{Department's emphasis on community policing}) +$$
$$\gamma_{05}(\text{Department's emphasis on brokenn} - \text{window policing}) +$$
$$\gamma_{06}(\text{Department's emphasis on procedural justice policing}) +$$
$$\gamma_{07}(\text{Department's emphasis on crime analysis policing}) +$$
$$\gamma_{08}(\text{Personnel's view of community policing}) +$$
$$\gamma_{09}(\text{Personnel's view of brokenn} - \text{window policing}) +$$
$$\gamma_{010}(\text{Personnel's view of procedural justice policing}) +$$
$$\gamma_{011}(\text{Personnel's view of crime} - \text{analysis policing}) + \gamma_{012}(\text{Size of department}) +$$
$$\mu_{0j},\ \mu_{0j} \sim N(0, \tau_{00})$$

$$\beta_{1j} = \gamma_{10}$$

$$\beta_{2j} = \gamma_{20}$$

…

$$\beta_{12j} = \gamma_{120}$$

Combined the Level-1 and Level-2 model, the full HLM model, with Level-1 and Level-2 predictors, is shown below:

$$Y_{ij} = \gamma_{00} + \gamma_{01}(\text{Fairness of chief}) + \gamma_{02}(\text{Fairness of supervisor}) +$$
$$\gamma_{03}(\text{Fairness of departmental rule}) +$$
$$\gamma_{04}(\text{Department's emphasis on community policing}) +$$
$$\gamma_{05}(\text{Department's emphasis on brokenn} - \text{window policing}) +$$

γ_{06}(Department′s emphasis on procedural justice policing) +
γ_{07}(Department′s emphasis on crime analysis policing) +
γ_{08}(Personnel′s view of community policing) +
γ_{09}(Personnel′s view of brokenn − window policing) +
γ_{010}(Personnel′s view of procedural justice policing) +
γ_{011}(Personnel′s view of crime − analysis policing) + γ_{012}(Size of department) +
γ_{10}(Black civilian) + γ_{20}(Hispanic civilian) + γ_{30}(Female civilian) +
γ_{40}(civilian age) + γ_{50}(civilian education) + γ_{60}(Black officer) +
γ_{70}(Hispanic officer) + γ_{80}(Female officer) + γ_{90}(officer age below 30) +
γ_{100}(officer age above 40) + γ_{110}(civilian demeanor) + γ_{120}(officer demeanor) +
γ_{130}(outcome of contact) + γ_{140}(use of force)+r_{ij}, $r_{ij} \sim N(0, \sigma^2)$

Table 5.4 reports the results of HLM-Model 3. The three variables for internal procedural justice showed a significant effect on procedural justice. However, fairness of chief and fairness of supervisor showed an inverse relationship with procedural justice, suggesting that the fairer the treatment officers receive from their chiefs and supervisors, the less likely it is that officers act procedurally just on the street. This finding contradicted with the proposed hypothesis. Meanwhile, fairness of departmental rule was positively related to procedural justice, indicating that the fairer the departmental rules for treating individual officers, the more likely that officers act procedurally just on the street.

With respect to policing strategy, procedural justice policing and crime analysis policing, both in departmental emphasis and personnel view, had a significant impact on procedural justice. That is, when these two policing strategies received more support from departmental leadership and officers, it was more likely that

officers behaved procedurally just on the street. Surprisingly, the personnel's view of community policing exerted a significant and negative influence on procedural justice in that the more officers support community policing, the less likely that officers act procedurally just on the street, which is contradictory to the hypothesis. One possible explanation is that community policing has been used as an umbrella term to reflect various policing strategies, and this term used in the measures, "*how much has current top leadership emphasized community policing?*" and "*how do you view community policing?*", were too simple to capture the content and measures of this strategy and, in the meantime, different department and police officer may have various understanding and executive style of community policing. Moreover, size of department was found to be negatively related to procedural justice. The larger a department is, the less likely that officers act procedurally just on the street.

After adding Level-1 and Level-2 variables, the residual standard deviation at Level-1 and Level-2 are .64 and 8.59, respectively. The variance that was explained by the full HLM model is thus 39% [4]. Concerning partitioned variance, 81% of Level-2 variance and 18% of Level-1 variance were explained by the full model[5]. The ICC dropped from .09 in the unconditional model to .01 in the full model, suggesting that

---

[4] The variance that is explained by the full model is calculated by the formula $\frac{(\varphi_1+\theta_1)-(\varphi_3+\theta_3)}{\varphi_1+\theta_1}$; therefore, 39 %= $\frac{(3.37^2+10.49^2)-(.64^2+8.59^2)}{3.37^2+10.49^2}$

[5] The level-2 and level-1 variance is calculated by the formulas as below, respectively: $R_{L2}^2 = \frac{\varphi_1-\varphi_3}{\varphi_1}$; $R_{L2}^2 = \frac{\theta_1-\theta_3}{\theta_1}$. Therefore, 81% = (3.37-.64)/3.37 and 18% = (10.49-8.59)/10.49

1% of the variance in procedural justice remained to be explained by the characteristics of police agencies after adding Level-1 and Level-2 variables.

Table 5.4 Hierarchical linear models for procedural justice

	HLM-Model 1		HLM-Model 2		HLM-Model 3	
	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.
Intercept (γ_{00})	34.02	.51	37.33	.65	34.43	7.17
Level 2: Organizational Predictors						
Internal Procedural Justice						
Fairness of chief (γ_{01})	--	--	--	--	-.46*	.20
Fairness of supervisor (γ_{02})	--	--	--	--	-.72**	.23
Fairness of departmental rule (γ_{03})	--	--	--	--	1.07**	38
Policing Strategy						
Department's emphasis on						
Community policing (γ_{04})	--	--	--	--	-1.25	.70
Broken-window policing (γ_{05})	--	--	--	--	.42	.52
Procedural justice policing (γ_{06})	--	--	--	--	1.86*	1.00
Crime analysis policing (γ_{07})	--	--	--	--	1.30***	.38
Personnel's view of						
Community policing (γ_{08})	--	--	--	--	-3.48*	1.50
Broken-window policing (γ_{09})	--	--	--	--	2.29	1.17
Procedural justice policing (γ_{010})	--	--	--	--	3.60*	1.85
Crime analysis policing (γ_{011})	--	--	--	--	.63*	.82
Size of Department (γ_{012})	--	--	--	--	-1.11***	.44
Level 1: Traffic-stop Predictors						
Civilian's demographics						
Black (γ_{10})	--	--	-1.83***	.40	-1.81***	.40
Hispanics (γ_{20})	--	--	.45	.44	.44	.44
Gender (Female=1) (γ_{30})	--	--	-.43	.24	-.41	.24
Age (γ_{40})	--	--	.08***	.01	.08***	.01
Education (γ_{50})	--	--	-.48***	.09	-.49***	.09
Officer's demographics						
Black (γ_{60})	--	--	-1.06*	.46	-1.04*	.46
Hispanics (γ_{70})	--	--	-1.76**	.51	-1.69**	.52
Gender (Female=1) (γ_{80})	--	--	-.31	.45	-.34	.46
Age	--	--				

Table 5.4 Continued

	HLM-Model 1		HLM-Model 2		HLM-Model 3	
	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.
Below 30 years old (γ_{90})	--	--	-.25	.33	-.31	.33
over 40 years old (γ_{100})	--	--	-.61*	.30	-.63*	.30
Situational characteristics						
Citizen's demeanor (1=raised voice) (γ_{110})	--	--	-2.50**	.77	-2.49**	.77
Officer's demeanor (1=raised voice) (γ_{120})	--	--	-13.76***	.41	-13.80***	.41
Outcome (1=ticket) (γ_{130})	--	--	-7.11***	.31	-7.13***	.31
Use of Force (γ_{140})	--	--	-1.47***	.21	-1.50***	.21
Level 2 Residual Standard Deviation ($\sqrt{\varphi}$)		3.37		1.06		.64
Level 1 Residual Standard Deviation ($\sqrt{\theta}$)		10.49		8.58		8.59
I.C.C.		.09		.02		.01

Note: I.C.C. = intra-class correlation coefficient; the final sample size for the HLM analysis is 5,146 traffic stop at level-1 and 48 police agencies at level-2; the number of sworn officers who responded the survey within an agency ranges from 13 as a minimum and 463 as a maximum with a mean of 107.2.

*p<.05, **p<.01, and ***p<.001

Chapter 6

RACE/ETHNICITY-BASED SITUATION, PROCEDURAL JUSTICE AND POLICE LEGITIMACY

The current study represents the first attempt to comprehensively assess the race/ethnicity-based situations in a police-public encounter that is comprised of both civilians' and police officers' race/ethnicity and their effect on police procedural justice and legitimacy. Several important findings deserve discussion.

6.1 Black Civilian's Perception of the Police and the Racial Combination of Black Civilian and White Officer

Consistent with the findings from previous studies, the Black-White divide in public perception of the police remains pronounced in this study. In particular, Black civilians were found to be less likely to perceive the police in a procedurally just and legitimate manner than White civilians. This large and robust effect persisted across all models of procedural justice and legitimacy and contributed to the significant effect of the racial combinations involving Black civilians on procedural justice and police legitimacy.

The combination of Black civilians encountered White officers deserves a particular mention. Among all the combinations, the Black-civilians/White-officers combination showed an effects on police legitimacy that matched the proposed conceptual diagram, with its negative effect being partially mediated by procedural justice. Although its effect was neutralized by procedural justice, there is direct and negative effect remained on police legitimacy (β=-.06, $p<.001$). This negative effect mirrors the public observation about the tensions between Black civilians and White officers, which persistently attracts the most societal attention and often becomes a focal issue of public debate. This finding also shows the complexity of racial-based

interactions between Black civilians and White officers. That is, although procedural justice reduced the harm, other factors beyond the analysis of this study may also plays a role in the remaining negative effects on police legitimacy. Such factors may include previous and vicarious experience with the police, and the total orientation toward the police by Black neighborhood (Wu, 2009; Sun & Wu, 2018).

A recent study argues that racial effect is not the most important factor in predicting public perception of the police, and race is not a strong predictor of public confidence in the police relative to contextual and neighborhood characteristics (i.e. crime rate and concentrated disadvantage) (Cao & Wu, 2017). Based on the findings, however, this study shows that race still has a strong effect on public perception of the police, even after controlling for situational characteristics that were commonly used in previous studies. These findings also showed that the racial effect on police legitimacy becomes more complex in the form of the combinations of civilian and officer race and ethnicity. Not only nuanced differentiation of police legitimacy was discovered among the nine civilian-officer racial/ethnic combination, but the Black-civilian/White-officer also had a significantly negative effect on police legitimacy, even after controlling for procedural justice, arguably the strongest predictor of legitimacy. These findings suggested that race and ethnicity per se shall not be treated as demarcation of public perception of legal authority but shall be situated in a specific racial and ethnic context to evaluate their relative effects.

6.2 Hispanics' Perception of Procedural Justice, Police Legitimacy and the Racial/Ethnic Gradient Thesis

Although the Black-White racial divide has traditionally received the most research attention in studies on public perception of the police, a growing body of

studies has examined the effect of Hispanic ethnicity on the same topic (Buckler et al., 2008; Cao & Wu, 2017; Correia, 2010; Culver, 2004; Gabbidon & Jordan, 2013; Gau, Mosher, & Pratt, 2010; Roles, Moak, & Ten Bensel, 2016; Weitze & Tuch, 2006; Wu, 2004). Following this line of inquiry, this study goes beyond the Black-White divide, includes Hispanic ethnicity, and compares the racial/ethnic effects across Black, Hispanic, and White civilians and officers. Compared to White, Hispanic ethnicity showed no effect on procedural justice but demonstrated a positive effect on police legitimacy. That is, there was no difference between Hispanic and White civilians' perception of procedural justice. In the meantime, Hispanic civilians perceive the police as more legitimate compared to their White counterparts.

The positive effect of Hispanic ethnicity compared to the Whites deserves a discussion. This particular finding did not lend support to the racial/ethnic gradient thesis which states that public perception of the police followed a White/Hispanic/Black gradient, from the most to the least favorability. Rather, this study found that the racial/ethnic effect on police legitimacy showed a Hispanic/White/Black gradient in which Hispanic civilians perceived the police most legitimately, followed by White and then Black civilians. Taking the racial/ethnic combinations into account, this novel gradient of racial/ethnic effect is also reflected among the encounters involving a White officer (see T-Model 3). That is, when encountering a White officer, Hispanic civilians reported the highest level of police legitimacy, followed by White and then Black civilians. However, this gradient effect was not obvious among other combinations involving Hispanic and Black officers.

The positive effect of Hispanic ethnicity on police legitimacy may be partially due to a high percentage of Hispanic immigrants in the country. Scholars argue that

there is a differential effect of Hispanic ethnicity on the perception of the police between immigrants and non-immigrants (Correia, 2010) and between immigrants and those who came to the United States through illegal channels (Roles et al., 2016). In particular, Correia (2010) found that immigrants were more positive about the police than non-immigrants. Scholars have also suggested that previous experience with the police in their home country plays an important role in shaping Hispanic immigrants' perception of the police in the U.S. (Menjivar & Bejarano, 2004; Correia, 2010; Roles et al., 2016). The police in Hispanic immigrants' home countries are often described as consistently engaging in activities "of torture, intimidation and coercion" (Juárez, 2001, p. 1), and did not treat people fairly (Brown, Benedict, & Wilkinson, 2006; Reames, 2003). Bringing negative experience with the police and a low level of trust in the police of their home country, Hispanic immigrants in the U.S. may consistently compare and contrast the treatments that they received from the U.S. police and the police in their home country (Menjivar & Bejarano, 2004). Hence, the generally positive perception of the U.S. police by Hispanic immigrants may be due to "the substantially inferior services and unfair treatment received from the police in their home country" (Correia, 2010, p. 106). However, these existing explanations why Hispanic civilians yield more positive attitude toward the police than White civilians shall only be applied to Hispanic/Latino/Latina immigrants and cannot be generalized to the entire Hispanic population in the U.S. The American Hispanics, who were born and raised in the U.S., may not share the Spanish-speaking immigrants' comparative experience with the police in the U.S. and the other country, and thus shall have distinct perception of the police. The PCI dataset did not distinguish American Hispanic civilians, legal and illegal Hispanic immigrants, but combined these three

categories together and only provided one option labeled “Hispanic”. Therefore, this study can not distinguish the perception of the police by Hispanic from that by America-born Hispanics and legal or illegal Hispanic immigrants. Indeed, scholars have called for moreattention to the distinct experience with the police between American Hispanic and Hispanic/Latino/Latina immigrant (Correia, 2010), English-speaking and non-English speaking Hispanic civilians (Culver, 2004), and Hispanic immigrants and those who come to the U.S. through illegal channels (Rocio et al., 2015). Scholars thus suggested that Hispanic’s perception of the police is far from conclusive based on current studies on this topic and called for future assessments for the nuanced distinction in perception of the police by Hispanic groups (Sun & Wu, 2018).

As the Hispanic ethnic minority is one of the fastest growing populations in the United States, policing the Hispanic community becomes an important task and should receive more attention from police administration and policymakers. It is suggested that language and cultural differences are the biggest barriers to developing a positive police-Hispanic community relationship (Correia, 2010; Culver, 2004). Despite the challenges, this study provides evidence that the procedural justice approach plays an important role in gaining trust in the police from Hispanic civilians and enhances police legitimacy in the eyes of Hispanic communities.

6.3 The Mediation Effect of Procedural Justice

This study represents tested the mediation effect of procedural justice on racial/ethnic impacts and other situational factor effects on police legitimacy. Previous studies have acknowledged the importance of procedural justice in predicting police legitimacy (Reisig et al., 2007; Tyler, 2004, 2006; Tyler & Fagan, 2008; Tyler & Huo,

2002; Wolfe et al., 2016). However, the mediation mechanism of procedural justice between non-procedural justice predictors and legitimacy has rarely been tested. It is expected that, in the presence of procedural justice, the negative effects of non-procedural justice predictors are likely to show a diminished or tenuous effect on legitimacy. For example, scholars suggest that procedural justice is more important than distributive justice (i.e., fairness of outcome) in predicting legitimacy (Wolfe et al., 2016) and that people who received procedurally fair treatment from the police perceive the police as legitimate even if they received an unfavorable outcome from the police such as a fine or being arrested (Tyler & Huo, 2002). However, how the diminished negative effect of an unfavorable outcome is changed or, arguably, whether procedural justice actually absorbs the negative effect, is unknown. This study provides findings that reflect the mediation effects of procedural justice.

First, procedural justice mitigated the negative effects of all combinations involving Black civilians. Despite the combination of Black civilians and White officers, the dyads of Black-civilian-Black-officer and Black-civilian-Hispanic-officer, formerly had a significantly negative effect on police legitimacy, showed no effect on legitimacy in the presence of procedural justice. The mediating effect of procedural justice on Black civilians encountering police officers of color sends an encourage message to policy makers and police administrators as procedural justice can be instrumental in eliminating the perceptual divide of the police between Black civilians meeting Black and Hispanic officers and White civilians meeting White officers.

Second, procedural justice was found to enhance the positive effect of the combination of Hispanic civilians and White officers. The increased positive effect after controlling for procedural justice indicates that, compared to White civilians

encountering White officers, Hispanic civilians' existing positive evaluations of police legitimacy become stronger if they receive procedurally just treatment from White officers. Giving the fastest growth rate of Latino population in the United States (Rocio, Stacy, and Bensel, 2016), policing the Hispanic community becomes an important agenda of police departments, especially those departments serve the largest Latino communities. In this regard, this study provides evidence that the procedural justice approach plays an important role in gaining trust in the police from Hispanic civilians and improving police legitimacy in the eyes of Hispanic communities.

Last, tt is worth noting that procedural justice also mediates the effects of situational characteristics on police legitimacy and even changes the direction of certain effects. An officer's voice being raised or a ticket or fine being issued had a negative effect on police legitimacy, but such effects become positive after procedural justice is controlled. These effects changed from negative to positive implies that unpleasant experiences with the police are associated with positive perceptions of police legitimacy when procedural just treatment was ensured. The results seem to be counterintuitive, but they are in line with the propositions of process-based model of policing, which posit that people care more about fair treatment and decision making than favorable outcomes during their encounters with the police.

6.4 African-American Young Male's Perceptions of Procedural Justice and Police Legitimacy

Among studies on perceptions of the police, interactions among civilians' demographics carry considerable research interests. For instance, past studies examining the interaction of civilians' race and gender found that African-American men and women hold different perceptions of the police compared to their White

counterparts (Cochran & Warren, 2012; Weitze & Tuch, 2006). These results commonly show that this difference is large and that young African-American men express the least trust in the police compared to their white and female counterparts. This may be due to Black males having a disproportionately high volume of contact with, and mistreatment by, the police (Gau & Brunson, 2010). Although an examination of the intersectionality between civilian race, gender, and age is beyond the scope of this study, additional analyses were conducted to investigate the effects of African-American men and African-American young men on procedural justice and police legitimacy. These interactions were not included in the analysis for the model's parsimony. Nevertheless, the additional analysis showed that the two-way interaction of race and gender does not affect procedural justice and police legitimacy, but the three-way interaction of race, gender, and age does present an effect. That is, African-American young men aged 15 to 26 perceived a lower level of procedural justice and police legitimacy compared to other groups (i.e. African-American women, White men, and White women). Black males alone did not show a difference in the perceptions of procedural justice and police legitimacy.

This finding is worth mentioning along two aspects. First, the state of young Black male remains to be concerned regarding public perception of the police. African-American young men's low level of perceived police procedural justice and legitimacy reflects the reality that African-American young men receive the highest volume of police contact and are most likely to be mistreated by the police.

Second, age becomes a critical factor in shaping public perception of the police with its effect larger than that of gender and even race/ethnicity. This strong effect of age contributed to the significant and negative effect of African-American young men

on the perception of procedural justice and police legitimacy. This larger effect of age indicates that African-American young male's negative attitude toward the police may be less due to their race or gender, but mainly because of their young age. Kappeler (2011) found that younger people's risk-oriented lifestyle, as opposed to older people's safety-oriented lifestyle, were more likely to be subjected to law enforcement activity. In this regard, if other characteristics were held constant, African-American young male's negative perception of the police may diminish as they grow older and age out of a risk-oriented lifestyle.

6.5 Civilian Demeanor

This study found that civilian demeanor had a negative effect on procedural justice and trust in the police. This negative effect might seem counterintuitive, as it means that civilians perceived officers to act less procedurally just if civilians raised their voice during the encounter. However, this can be explained by the pattern of dialogic aggression that caused an escalated situation in a police contact. An unpleasant or unfavorable police contact can lead civilians to raise their voices as a negative response to the officer's unfair treatment (e.g., the officer's voice had been raised) and negative outcomes (e.g., a ticket, a fine, or police use of coercive force). That is, the civilian's voice being raised was a response to, rather than an initiator of, the existing unpleasant treatment from the officer.

Scholars have long suggested that building positive police-community relations requires mutual efforts by both the police and the public (see Weitze & Tuch, 2006). The process of establishing police legitimacy is dialogic and interactive, "involving claims to legitimacy by power-holders and responses by audiences" (Bottoms & Tankebe, 2012, p. 120). As both the police and the public inputs have

contributed to this ongoing dialogic relationship, future studies should attend to the complexity of the dialogic situation and investigate situational characteristics related to both parties to understand the context of a police-public encounter better.

6.6 General and Specific Police Legitimacy

Mazerolle and colleagues (2013) argue that public perception of police has the distinction of being both generalized and specific. General legitimacy refers to the idea that the police, as a social institution, are perceived to be proper for exercising authority; specific legitimacy refers to the specific assessment of the police about individual officers' behavior in a police-public encounter (Mazerolle et al., 2013). In general, if the police act more fairly, the police as an institution is perceived to be more legitimate (Elliott, Thomas, & Ogloff, 2011; Murphy et al., 2008; Reisig et al., 2007). However, general legitimacy is rarely assessed in a way that links it to specific assessment of procedural justice in a police-public encounter. Thus, it is worthy to investigate whether individual officers' fair treatment in a specific police-public encounter (specific procedural justice) has an impact on the general perception of police as a legitimate institution. In previous studies, such a link was often inferred but rarely tested (see Dai et al., 2011; Mazerolle et al., 2013).

Using general trust in the police as a proxy of general police legitimacy, this study found that a procedurally just encounter not only has a strong effect on general police legitimacy but also mediates the negative and positive effect of certain race/ethnicity-based situations embedded in an encounter. This finding highlights the importance of a procedurally just encounter in two aspects. First, it can benefit police officers in the long run. The criminological literature has long argued that that preexisting opinions of the police have much to do in shaping civilian perceptions of

their encounters with officers (see Hawdon, 2008; see also Rosenbaum et al., 2015). In this regard, a positive perception of police legitimacy that is formed through a procedurally just encounter is likely to, in turn, affect a civilian's specific attitude, perception, and assessment of the police in a future encounter. With an improved general orientation toward the police, the public should be inclined to display respectful attitudes toward the police and ensure civil communication in an encounter.

Second, a police agency is also benefited from procedurally just encounters. Skogan (2006) argues that police have little to gain from positive encounters with the public and much to lose from negative encounters. In contrast, this study finds evidence showing that the police have much to gain from short, positive encounters. By promoting the procedural justice approach of policing, police organizations not only receive a positive evaluation of their employees' behaviors on the street but also gain long-term and far-reaching general trust from the public and establish legitimacy as a social institution.

Chapter 7

ORGANIZATIONAL CHARACTERISTICS AND PROCEDURAL JUSTICE

7.1 The Negative Effect of Fair Treatment from Police Chief and Supervisor

The findings showed that fairer treatment by chiefs and supervisors was associated with less procedurally just behavior of officers in police-public encounters. Intuitively, officers who receive fair treatment from supervisors and the department will internalize such a positive experience and transmit it to civilians with whom they interact. That is, fair supervisory treatment that officers received within police agencies are likely to yield police procedural justice toward the citicenary on the street. However, the inverse relationship found in this study, between fairness of supervision and fairness of officer treatment, rejects this assumption. One possible explanation is that the measures used to create fair chiefs and fair supervisors do not only encourage fair treatment from management but also reflect a degree of cohesion in the police force. That is, a higher level of internal procedural justice may reflect a strong social network between individual officers and the leadership in a department; those measures may also include an underlying organizational culture in a department. Looking into the measures of internal procedural justice, the author found that all questions used for creating the factors of internal justice started with “How often head/supervisor…” (e.g., How often supervisor makes clear what is expected of employees) (see Table 3.3), which implies frequent contact between the leadership and individual officers. Therefore, the higher level of “fairness” of the supervisor and the

chief may also reflect the stronger social ties or cohesion between the management and the inferior officers within a department.

Criminological literature has documented that, conditioned by neighborhood characteristics, close social ties or extensive community networks are not necessary to be beneficial in preventing crime or serving common goods of the community. Strong network ties in high-crime neighborhoods enhance solidarity and cohesion among community members and facilitate criminal activities, including violence (Browning, Dietz, & Feinberg, 2004; Browning, 2009), burglary (Warner & Reuntree, 1997), and problem behaviors, such as drug dealing and use (Wilson, 2011, 2012). Sampson (2004) stated that "social networks connect do-gooders just as they connect drug dealers" (p. 159). Under certain circumstances, close social ties can be transformed into social resources that shield offenders from formal social control (Browning et al., 2004). Through this process, Browning and colleagues (2004) concluded that offenders reached a "negotiated coexistence" (p. 504) with local community members, and the rate of crime report in a high-crime neighborhood is usually low. Thus, close social ties within a community are not always desirable for preventing crime and disorder. However, it shall be noted that this particular association between strong social ties and high crime rate is conditioned by neighborhood characterized by high-crime rate and concentrated disadvantage; in White and middle-class neighborhoods, for example, studies found that close network ties and cohesion fostered strong informal social control, which facilitates the reduction in crime (Browning et al., 2004; Warner & Reuntree, 1997; also see Sampson, 2004).

In this regard, the perspective of "negotiated coexistence" can shed light on an explanation of the negative association between supervisory fairness and police fair

treatment on civilians. The "negotiated coexistence" approach suggests that, as network interaction and reciprocated exchange among members increase, interdependence between members strengthens and shields problematic activities and behaviors from formal social control (Browning et al., 2004; Browning, 2009). In this study, officers' close ties with supervisors and the chief, which is reflected by a high level of internal procedural justice, may provide social support to officers and reduce their fear of civilian complaints regarding the fairness of police treatment. That is, a close tie with supervisor can shield officers from the harms and internal punishments that are caused by a low evaluation of fairness from civilians. Without attending to civilian evaluations and complaints, officers have a low level of motivation to comply with departmental rules and thus generate a low score of procedural justice.

MacCoun (2005) suggested that organizational justice may, on the one hand, be conducive to officer compliance with positive cultural changes within police agencies, while on the other hand, organizational justice may also cause dull and compulsory compliance with directives that further exacerbate negative features of police culture, such as solidarity and the codes of silence that shield police misconduct. This kind of solidarity can be reflected an organizational culture that requires cohesion between employees. For example, if a police agency's culture is "toughness"-oriented and emphasizes on use of force as an effective way to deal with conflicts and take control of an escalated situation, police officers shall quickly resort to use of force and evade alternative approaches to address conflicts; organizational fairness will also serve this agency culture, reward those who stick to the culture, and ostracize the officers whose acts deviating from the culture. This idea received supportive empirical evidence (Bradfold et al., 2014). Due to these considerations, the

finding of the negative effects of supervisors' and chiefs' fairness on procedural justice are far from conclusive and shall receive further assessment in future studies.

7.2 The Positive Effect of Fair Departmental Rules

An important finding of this study concerning internal procedural justice is that fair department rules are found to be positively associated with police procedural justice. That is, the fairer the departmental rules treating police officers, the more likely that officers will act procedurally just on the street and receive a higher level of evaluation of procedural justice from the public. This finding contributes to the existing literature. Unlike prior studies on police internal procedural justice mainly focused on supervisory treatment (Van Craen & Skogan, 2017a, 2017b; Wu et al., 2017) and only inferred but not tested the effect of fair departmental rules on street-level procedural justice (Wu et al., 2017, p. 979), this study represents the first attempt to incorporate fairness of departmental rule into internal procedural justice and fruitfully links internal procedural justice within a police agency and street-level police procedural justice in a positive way.

Moreover, the author finds that this positive effect of fair departmental rules is more stable and robust compared to the negative effect of supervisory fairness: when internal procedural justice and other organizational characteristics were added into the HLM model in a stepwise manner, fairness of departmental rule showed significance across all steps, while the effect of fairness of chief and supervisor showed a significance at only several steps and in the full model at the last step, suggesting that the effect of fairness of supervisor and chief is unstable and flicker. This is also shown by the significance level of their negative effects was straddling the cut-off level of $p<.05$. Therefore, the departmental rule, as internal procedural justice, is found to have

a more stable and influential effect on police officer's behavior on the street compared to fairness of supervisor and chief.

This more stable and stronger positive effect has an important meaning. If the link between supervisory fairness and police procedural justice is far from conclusive because of the mixed findings provided by this study and prior studies, the significant and positive effect of fair departmental rules on procedural justice should receive more attention from scholars and police administrators. That is, if the effect of modeling supervisors' and chiefs' behavioral styles is unknown, designing and implementing fair departmental rules should become an important channel for rank and file officers to internalize organizational goals, carry out procedural justice on the street, and ultimately realize "fair policing inside out" (Van Craen & Skogan, 2017b, p. 845).

7.3 Policing Strategy and Size of Department

This study assessed four types of policing strategies commonly adopted by police agencies—community policing, broken-window policing, procedural justice policing, and crime-analysis policing—and their effect on public perception of procedural justice in traffic and pedestrian stops. Specifically, these four types of policing strategies were measured by the degree of departmental emphasis and personnel view and treated as organizational characteristics. The results showed that only procedural justice and crime-analysis policing across departmental emphasis and personnel view had a significant and positive effect on public perception of procedural justice. It is surprising to find that personnel view and support of community policing was strongly and inversely associated with procedural justice, and broken window policing had an insignificant effect. Community policing requires that the police develop strong partnerships with community members and organizations and use these

partnerships to address key issues or concerns (e.g., high property crime rate or drug-dealing problems). Because community policing underscores the participation of community members in police decision-making processes, it was originally assumed to have a positive effect on procedural justice, of which citizens' input in officers' decision-making is an important component. Also, broken window policing, considered to be an aggressive strategy that generated intrusive and racially-biased policing practices, such as "stop, question, and frisk," was assumed to be inversely related to procedural justice, but this study finds it has no effect on public perception of procedural justice. The author speculates that the general reason behind these two unexpected findings lies in the terms "community policing" and "broken window policing." These concepts are too general to capture distinct definitions and understandings adopted by different police agencies. Also, the specific measures of these two strategies used by police agencies vary to a large degree (Mastrofski & Maguire, 2000). For example, community policing is also commonly referred to as problem-solving or problem-oriented policing in which police agencies use different measures because local issues vary; broken-window policing includes many approaches, such as quality-of-life policing, order-maintenance policing, and zero-tolerance policing, which are all based on broken-window theory (Weisburd, Hinkle, Braga, & Wooditch, 2015). The simple questions— How much has the current top leadership in your department tried to get employees to adopt the community/broken window/procedural justice/crime analysis policing approach (1= not at all, 5= a top priority) and what is your view of the community/broken window/procedural justice/crime analysis policing approach (1=strongly oppose it, 5= strongly support it) —cannot capture the different understandings and measures of community policing

and broken window policing across police agencies. The negative effect of community policing and the insignificant effect of broken window policing may reflect a confounding effect of all the distinct definitions and operations of a similar policing strategy.

Nevertheless, procedural justice and crime analysis policing showed a positive and robust effect on public perceptions of procedural justice. This effect is an encouraging sign to police administration and management. Contrary to academic disagreement on the constructs of police legitimacy, procedural justice has four clear and distinct components (i.e., participation, respect, neutrality, and benevolence/trustworthy beliefs). These four elements facilitate the design and implement the specific goals and measurements of procedurally just policing. Intuitively, and now empirically supported by this study, procedural justice policing influences public perception of police procedural justice. With regard to crime analysis policing, its positive effect on procedural justice should also be noted. One possible explanation is that crime analysis emphasizes proper processes and measures in policing. Prior studies have confirmed the pivotal role of crime analysis in constructing evidence-based policing and have positively commented on the rigor of its process for diagnosing the nature of crime and disorder problems to obtain objective results and effective coping measures (Giblin, 2006; Piza & Feng, 2017; Strom & Smith, 2017). In this regard, crime analysis places an important emphasis on appropriate process and measures, similar to procedural justice policing. However, further investigation is warranted for a better understanding of the mechanism behind this positive association between crime analysis and procedural justice.

It is also worth noting that the size of department was inversely related to public perception of procedural justice; the larger the department, the less likely the public will perceive an officer from such a department as acting procedurally just in a police-public encounter. The possible explanation for this finding is that procedural justice imposes a set of higher standards on rank and file officers, which requires additional efforts for compliance. In a large department, when the supervisor's mentoring and control are distributed thinly to individual officers, the behaviors of officers in large departments may vary to a larger degree than those who are employed in small-sized department. Put it alternatively, officers from a smaller agency may have more intense and vigorous supervision than those from a larger agency because the number of supervisees for each supervisor are fewer. Therefore, in a larger department, officers may adopt a policing style that is easy to perform, instead of meeting the higher standards of a procedural justice policing.

7.4 Officer Self-evaluation of Procedural Justice, Toughness, and Perception of the Public

Originally, three factors at the organizational level were assumed to affect public perception of police procedural justice. However, additional HLM analysis found that none of these factors were significant and, thus, they were eliminated from the final HLM-models for parsimony of the analysis. Those factors are officer self-evaluation of procedural justice, toughness/aggressive working attitude/orientation, and officer perception of the public. A stepwise approach was also used to enter the three factors at Level-2 in the HLM analysis, but none showed a significant effect, either separately or together. This section discusses these four organizational factors in further detail.

First, previous studies used officer self-evaluation of procedural justice as a dependent variable for testing the effect of fairness of supervision/organizational justice (see Wolfe, Rojek, Manjarrez, & Rejek, 2018). Using different terminology, officer self-evaluation of procedural justice is also called external procedural justice (Van Craen, 2016a; Van Craen & Skogan, 2017a, 2017b). Although the LEO Survey B provided items related to external procedural justice (see table 7.1), these items did not load together to a single factor (egen value=.80; alpha=.40), and none of these items had a significant effect on public perception of procedural justice. The non-convergence of the four items for internal procedural justice (see table 7.1) contrast to the high internal reliability of the large numbers of items for procedural justice that used in this study (alpha=.98). When entered separately into the HLM analysis, none of the items for internal procedural justice showed a significant impact on procedural justice perceived by civilians. This finding is inconsistent with the author's expectation that officer self-evaluation of procedural justice should have a positive and significant influence on public perception of police procedural justice. This officer self-evaluation of procedural justice was assumed to play a linking role in bridging internal procedural justice and public perception of procedural justice, because previous studies found that the fairer the treatment from the supervisor, the more likely officers were willing to enact procedural justice on the street (Van Craen, 2016a, 2016b; Van Craen & Skogan, 2017a, 2017b; Wu et al., 2017). However, such a link was not supported by the findings of this study based on the non-significant effect. Future studies shall further explore the relationships between internal procedural justice, officer self-evaluation of procedural justice, and public perception of procedural justice, because these relationships can shed light on the mechanism of

how internal procedural justice is channeled or transit to public perception of police procedural justice and advance the understanding of “fair policing from inside out” (also see Van Craen, 2016a, 2016b).

Second, officer perception of the public was assumed to have an impact on public perception of procedural justice. It is broadly acknowledged that police-community relations develop from mutual trust between the community and police officer. As previous studies have emphasized, the part of police is as equally important as the part of civilians in police-community relations (Weitzer& Tuch, 2006); police officer’s perception of the public, such as police trust in the public, dialogues with the public perception of the police and play an important role in shaping the interaction between the police and civilians. The President's Task Force on 21st Century Policing (2015) also stressed the importance of building trust within a police department for developing positive police-community relations and suggested that trust must start from the inside before being sustained in communities. In this regard, the author speculated that the higher the level of officers’ trust in the public, the more positive the attitude officers hold toward the public, and the more likely officers will treat civilians in a fair manner. There are several items in the LEO Survey B captured officer perception of the public, including perception of most citizens, public understanding of police job, police-public relations, and media’s fairness (see table 7.1). Although those items loaded together and form a single factor (eigen value=1.14; alpha=.64), police perception of the public was not found to affect public perception of procedural justice significantly. This finding can be a positive message for police training, as officer’s perception of the public can be independent of the way officers treat civilians in public encounters. In other words, officers can deliver fair treatment

to civilians in an encounter regardless of their own perception of the public being positive or negative.

Third, the level of toughness of officers on the job was tested in the additional HLM analysis. Officers who are respectful and treat civilians with politeness are a key component of public perception of police procedural justice (Tyler, 2006). A tough attitude on the job can be perceived as disrespect to civilians in public encounters and ignoring civilians' civil rights. The items used for creating officer toughness had fairly high loadings and generated a factor (eigen value=1.45; alphia=.69). However, this factor that measures officer toughness on the job did not show a significant effect on public perception of procedural justice.

Table 7.1 Items and Factor Analysis for External Procedural Justice, Police Perception of the Public and Toughness

	Factor Loading	Eigen value	α
External Procedural Justice (1=Never, 2=Rarely, 3=Sometimes, 4=Often, 5=Always)		.80	.40
How often I give the driver a chance to tell his/her side	.36		
How often I explain why I stopped the driver	.62		
How often I explain what will happen next in the process	.59		
How often I have to get gruff with drivers who show attitude (reverse coded)	.15		
Police Perception of the Public Do you agree that…(1=Strongly disagree, 4=Strongly agree)		1.14	.64
Most people respect the police	.64		
The public doesn't understand what it means to be an officer	.37		
Relation between police and people of this city is very good	.63		
Media treat the police unfairly	.44		
Toughness/Aggressive Working Attitude/Orientation Do you agree that…(1=Strongly disagree, 4=Strongly agree)		1.45	.69
Officers have reason to be distrustful of most citizens	.62		

In areas of the city more useful to be aggressive than courteous	.55
Some people can only be brought to reason the hard physical way	.53
I've become more callous toward people since I took this job	.47
If officers don’t show they are physically tough will be seen as weak	.51

Chapter 8

CONCLUSION

8.1 Key Findings

Procedural justice and police legitimacy have become the core themes of policing in the 21st century, as racial and ethnic tensions continue to plague police-community relations. This research project investigated these themes and represents the first attempt to assess the effect of racial/ethnic combinations between civilians and officers on civilians' perception of procedural justice and police legitimacy, the role of procedural justice as a mediator in influencing the complex racial/ethnic effects on police legitimacy, and the impacts of key organizational characteristics of police agencies on public perception of procedural justice. Several important findings are summarized below.

First, the various racial/ethnic combinations between civilians and officers showed a disparity in public perception of procedural justice and police legitimacy. In general, Black civilians perceive that officers act less procedurally just and legitimate in public encounters regardless of officers' race and ethnicity, while Black officers were perceived less procedurally just in their acts and less legitimate during a police-public encounter. The combination of Black civilians and White officers yields the most unfavorable public evaluations of police procedural justice and legitimacy relative to the dyad of White civilians and White officers. Moreover, compared to other combinations involving racial/ethnic minority civilians and officers alike, the combination of Black civilians and White officers also showed a negative impact on

the perception of procedural justice and police legitimacy[6], making the dyad of Black civilians and White officers the most worrying status in terms of public perception of the police. Together, these findings suggest that future investigation should continue to focus on the nexus of Black civilians and White officers and its comparatively negative effect. For example, what factors may be associated with this divide of perception gap. Is it the relative subordinating feelings for a minority member of society that is amplified for Black civilians when encountering White officers and, in turn, produce the least favorable attitude toward legal authorities? Future studies ought to explore factors beyond the scope of this study that create this least favorable attitude, such as media effect, vicarious experience, and injurious feeling as a group.

Second, Hispanic civilians stopped by White officers were found to have a more positive perception of procedural justice and police legitimacy compared to their White counterparts who encountered White officers. This finding provided an innovative perspective to assess the racial/ethnic gradient theory suggesting that White civilians have the most favorable attitude toward the criminal justice system, followed by Hispanic and then Black civilians. The relatively positive perception of the police by Hispanic civilians compared to White civilians shuffled the existing rank regarding racial/ethnic minority perceptions of the criminal justice system and placed Hispanic civilians' perception of the police at the top, where they show the most favorable perception of the police when compared to White civilians. However, the underlying

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[6] This is found by additional analysis that treated the dyad of Black civilian and White officer as a reference group compared to the other racial/ethnic combinations between civilians and officers. The finding shows all combinations have a positive effect on procedural justice and police legitimacy.

reason for Hispanic civilians' comparatively positive perception of the police is unknown and warrants future investigation. The existing literature provides a perspective to explain this matter, but it can be only applied to Hispanic/Latino/Latina immigrants. This explanation suggests that the positive perception of the police by Spanish-speaking immigrants is attributed to these immigrants' comparative experience between the American police and the police in their home country. The police that Spanish-speaking immigrants encountered in their home country were reported to engage in aggressive and intrusive policing practices and thus were perceived to be less procedurally just or legitimate. Compared to the police in their home counties, the police that Hispanic immigrants encountered in the U.S. were considered more procedurally fair and legitimate and thus the public perception of U.S. police by Hispanic immigrants is generally positive. Although plausible, this explanation cannot be generalized to the entire Hispanic population in the United States, especially to Hispanic Americans who were born and raised in the United States and its territories and have different experience of interacting with the police from Hispanic immigrants.

Third, the benefits of procedural justice found by this study are pronounced. Procedural justice was found to neutralize the negative racial effect and reinforce the positive ethnic effect on public perception of police legitimacy. In addition to the mediating effect on racial/ethnic effect, procedural justice was also found to reduce the negative effect of police use of force in a public encounter and change the negative effect to be positively associated with an unfavorable outcome of contact (i.e., a ticket or a fine) on the perception of police legitimacy.

Fourth, several organizational characteristics of policy agencies were found to impact public perceptions of procedural justice. Although the fairness of chief and supervisor was not found to improve street-level police procedural justice as perceived by the public, fair departmental rules exerted a positive effect on public perception of police procedural justice. It is thus suggested that individual officers who were governed by fair departmental rules tend to internalize the fair process and then externalized it by treating civilians in a procedurally just manner. In addition, procedural justice and crime analysis policing strategies were found to enhance the public perception of police procedural justice, while personnel's view of community policing within a police agency and the size of department showed a negative impact on the perception of procedural justice.

8.2 Limitations and Future Research

Several limitations of the study should be mentioned. First, the obligation to obey and cooperate with the police, as two consequential associates of police legitimacy, was not tested in this study because of data limitation. The obligation to obey and cooperate with the police had only one question in the PCI survey, which caused weak measurability. Based on the measure's availability of data, the current study was able to test only general trust in the police as one dimension of police legitimacy. If valid measures are available for the obligation to obey and cooperate with the police, this study could examine how the racial/ethnic combinations of civilian and officer affect and condition the complex relations between police legitimacy and these correlates.

Second, data on specific trust in the police was not available to be tested in this study. Gau (2014) argues that trust in the police, as one dimension of police

legitimacy, has a distinction of comprising both specific and general trust in the police, which also exert a different effect on public cooperation with the police and other consequential associations with police legitimacy. That is, Specific trust in an police officer is determined by a specific procedurally fair treatment rendered by an individual officer, and associated with the treated civilian's cooperation with the specific officer, while a person's general trust in the police is predicted by his or her experience of being treated procedurally just by the police as an entire institution, and is linked to their willingness to cooperate with the police in general (Gau, 2014). Due to data limitation, the current study was not able to assess specific trust and legitimacy during a police-public encounter. There is only one question in the PCI survey–during the encounter, the officer seemed trustworthy (1=strongly disagree, 4=strongly agree)–that measures specific trust in the police. Not only is a single item insufficient to capture the variation of public trust in the police, but this item was also not found to load together with many other items of procedural justice and can be included in the dimension of trustworthy motives and benevolence comprising procedural justice (Rosenbaum et al., 2015). Future studies can attend to the possibly distinct effect of racial/ethnic combination on specific and general trust in the police.

Third, because of their flaws in the PCI dataset, two important variables deserve further explanations: household income of civilians and police stops involving Hispanic civilians. The variable household income contains a high rate of missing value in the PCI survey (1,406 cases or 20.34%) including the item would largely drop the cases that are valuable for analysis. Although household income is an essential indicator of a respondent's socioeconomic status, which is commonly used in previous

studies assessing public attitudes toward the police, the author chose to exclude it in the analysis due to its large number of missing values.

Also, the counts of traffic stops involving Hispanic civilians were considerably smaller than those involving White and Black civilians in the PCI dataset. The lower size of Hispanic civilian stops gave the three combinations involving Hispanic civilians even smaller counts. This data limitation may be the reason that most of the combinations involving Hispanic civilians did not show an effect on procedural justice and police legitimacy, especially the Hispanic civilian/Black officer and Hispanic civilian/Hispanic officer combinations. These non-significant effects may be due to the fewer cases of Hispanic civilians encountering Black or Hispanic officers, both of which are below 100. More cases of Hispanic civilians encountering officers of a different race would lend greater power to the study and may fully extend the Hispanic ethnic effect on public perception of the police.

Fourth, this study was unable to incorporate community characteristics to examine public perception of the police. Previous studies confirmed that racial compositions, crime rate, solidarity, and concentrated disadvantage of a community, neighborhood, or city impacted people's perception of the police (Hawdon & Ryan, 2003; Sun, Payne, & Wu, 2008; Wu, Sun, & Triplett, 2009). However, the data did not provide information about the neighborhood or jurisdiction that the participating agencies in charge of. Because the participating agencies are de-identified, the location and region of these agencies are also unknown and their place/region characteristics cannot be identified from another resource. Future studies could investigate the neighborhood factors' effects on the perception of police procedural justice and legitimacy if proper and nested datasets become available. In addition, media

influence on people was also not included in the current study, although research has found that media influence has a robust impact on public perception of the police (Callanan & Rosenberger, 2011; Wu, 2014; Wu, Sun, & Smith, 2011).

Fifth, individual officers can neither be identified nor linked with the traffic stops in the PCI dataset. The characteristics of officers were reported through the perspective of the civilians, but the officers were not assigned an identifier to link with each police-civilian contact. This lack of data is unfortunate because, if officers who initiate the stop can be identified, the PCI dataset could develop a three-order nesting structure with traffic stops/civilians nested in officers and officers nested in agencies. The HLM models could thus test how perceptions of procedural justice vary between and within officers who initiate traffic stops. The author speculates that the Intraclass Correlation (I.C.C.) between officers would be higher than that between police agencies (I.C.C.=.09), and the variance of civilians' perception of procedural justice can be explained more by the officer-level characteristics than the agency-level variables.

Sixth, the study was not able to capture the relationship between internal procedural justice and organizational culture. Research shows that organizational fairness serves different organizational cultures and goals. A culture that is generated among officers who work in high-pressure and high-discretionary environments can develop a subcultural belief that impedes positive changes in a police department (Bradford et al., 2014; Skolnick, 2002, 2005; Wolfe & Piquero, 2011). Specific organizational cultures were also found to be related to officer "cynicism, misconduct, racism, misogyny, and solidarity" (Sargeant, Antrobus, & Platz, 2017, p. 348), and compliance with supervisors led by organizational justice is also problematic if

subordinates comply with requests that promote a negative police culture (Sargeant et al., 2017). Unfortunately, information related to police agencies' culture in the LEO Surveys was too limited to generate valid measures that tap into organizational culture. The author suspects that organizational culture should moderate the relationship between organizational fairness and officer street-level procedural justice, especially the direction of this relationship. Future studies should address these measures of organizational culture and their moderating effects on the influences of other organizational characteristics within a police agency, such as organizational justice, on officer behavior. As the President's Taskforce on Twenty-First Century Policing (2015) recently highlighted, organizational culture is particularly relevant in policing because, regardless of what new policies or programs are implemented into a policing organization, "organizational culture eats policy for lunch" (p. 11).

Last, the current study only examined procedural justice and police legitimacy in one type of police contact: traffic and pedestrian stop. It is suggested that public perception of the police varies by the types of police contact (Rosenbaum et al., 2015). Procedural justice's effect on police legitimacy may be less salient in civilian-initiated contacts than its effect on police-initiated contacts. The purpose of civilian-initiated contact is to receive police service and, thus, other factors may be more salient than procedural justice in shaping perception of police legitimacy. Future studies shall investigate procedural justice and police legitimacy in civilian-initiated contacts, such as traffic accidents and crime reports.

8.3 Policy Implication

Based on the findings, this study offers the following policy implications for police administration and policy makers. First, in the post-Ferguson era, police-

community relations are still heavily plagued by racial tension between the police and racial minority communities. Thus fair treatment delivered by officers to the public has a salient meaning in model policing. By showing fair, respectful, equal, and trustworthy treatment to racial minority groups, the police can gain general trust and legitimacy from racial minority communities and the greater public alike. Procedurally just treatment reduces the disparity in perception of police legitimacy between Black and White civilians, who had the most alarmingly distinct attitudes toward the police and, in the long run, can develop a more egalitarian perception of the police across different groups. Moreover, the reinforcement of Hispanic civilians' more positive perception of police legitimacy by procedural justice should receive more attention from the academic community, the police administration, and the public alike. With the Hispanic/Latino/Latina population rapidly growing in the U.S., instilling procedural justice in policing is critical to establish rapport with, and gain support from, the Hispanic communities.

Second, the departmental rules and the organizational decision-making process should be implemented in a fair, respectful, and unbiased fashion. This study provides evidence that fair departmental rules and procedures promote officers' street-level procedural justice. From the standpoint of police administration, if the leadership wants officers to internalize desirable means and ends that can be performed in officers' daily jobs, these means and ends should be clearly communicated to, and understood by, the officers (Manzoni, 2006). Transparent departmental policy and impartial management practices can serve as a powerful driving force in illustrating these desirable means and ends, including procedural justice and police legitimacy. Also, because the organizational decision-making process is closely related to officers'

interests and career advancement within a police agency, departmental rule and processes have a far-reaching effect on officer behavior in a long run. Officers who have experienced fair treatment from the department can better understand the importance of fair treatment and, thus, are more likely to provide the same treatment and behavior style to others.

Third, police agencies should incorporate procedural justice policing and crime-analysis policing into their portfolio of policing approaches. As this study shows, these two types of policing tactics can promote procedural justice perceived in the public eyes and thus provide an important window of opportunity and direction for police agencies to establish and enhance a positive relationship with the local communities and the public. However, it should be acknowledged that designing concrete content and execute the measures of procedural justice and crime analysis policing may impose a range of challenges. For example, evidence shows that, due to the nature of policing where quick decision-making and instant response are often needed, applying procedurally just decision-making process may not always be realistic in police-public encounters (Robert & Herrington, 2013). Despite these potential difficulties, it is important for police agencies to adopt policing tactics that promote street-level procedural justice for improving police legitimacy in the public eyes and enhancing citizen cooperation.

8.4 Final Summary

This study addressed race/ethnicity-based situations created by both civilians' and officers' race and ethnicity during police-civilian encounters, assessed these situational effects on procedural justice and police legitimacy, investigated the mediation mechanism caused by procedural justice, and examined the organizational

effects of internal procedural justice, policing strategy, and size of department on procedural justice.

Five major findings contribute to the extant literature: (1) The combination of Black civilians encountering White officers remains the most problematic race-based situation in police-public encounters and showed a robust and negative effect on perception of police procedural justice and legitimacy; (2) Hispanic civilians' relatively positive perception of police legitimacy compared to White civilians challenged the racial/ethnic gradient thesis and provide a novel perspective suggesting that public perception of police legitimacy follows a gradient pattern of Hispanic/White/Black, from the most positive to the least positive degree; (3) Procedural justice reduced the negative effect of the combinations involving Black civilians and police use of force, enhanced the positive effect of the combination of Hispanic civilians encountering White officers on police legitimacy, and changed the effects of the officer's voice being raised and the outcome of contact from being negative to positive; (4) While fairness of chief and supervisor negatively impact police procedural justice, fairness of departmental rules positively influences police procedural justice; (5) Procedural justice and crime-analysis policing enhance police procedural justice, while officer view of community policing within a police agency and the size of the department were inversely related to procedural justice.

Future studies should investigate the negative effect of the Black-civilian/White-officer combination on police legitimacy that was not fully mediated by procedural justice. The nuanced Hispanic perception of the police among non-immigrants, immigrants, and those who came to the U.S. through illegal channels deserves future examinations; the dialogic and interactive features of police-civilian

relation/situation during a public encounter, the conditioned effect of fairness of chief and supervisor, and the effects of concrete measures of different policing strategies on procedural justice and police legitimacy should receive more scholarly attention in the future.

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