

A COMPREHENSIVE FRAMEWORK FOR UNDERSTANDING THE CONTEXTUAL,
STRUCTURAL AND CULTURAL PREDICTORS OF POLICE OFFICERS' PERCEPTIONS
OF ORGANIZATIONAL JUSTICE

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ABSTRACT OF DISSERTATION

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ABSTRACT

Police agencies in the U.S. face external pressures to change culturally and structurally in order to improve service delivery to communities, in addition to decreasing misconduct and racial bias in police actions. However, it is important to note that agencies are constrained by their external environment – both immediate and distal. One of the keys to understanding how to positively impact police culture and propose effective structural changes is to understand the interplay between an agency’s immediate environment, an agency’s internal structure, and an agency’s internal cultural practices and beliefs. Accordingly, this dissertation examines how agency internal structure and culture interact with important environmental correlates to produce differentiation in individual police belief systems that have consequences for the delivery of service. Police belief systems, such as how an officer should comport themselves, how an officer approaches crime, and how an officer perceives their own agency, might be impacted by these factors. Here, police belief systems are represented by organizational justice, which is the perception that an employee is treated with care, respect, and equality at the workplace.

To accomplish this task, data is compiled from the National Police Platform, American Community Survey, and the Law Enforcement Management Administrative Statistics. Multilevel path modeling is used to estimate direct, mediating, and moderating effects of police agency adherence (through averaging officer responses) to traditional police cultural values, police agency structure, and police agency environmental context on individual officer perceptions of organizational justice. This was conducted in the Mplus software (Muthen & Muthen, 1998).

Results indicate that there is a strong impact of organizational culture on beliefs in organizational justice. Cultural variables were important in predicting levels of organizational justice

throughout analyses. Environmental factors also played a key role in officers' beliefs in organizational justice and impacted structural and cultural factors in mediation models. Concentrated disadvantage was associated with agency-level increases in officer adherence to traditional police culture and agency increases in hiring officers of color.

There is also evidence of partial mediation and moderation of context, culture, and structure. Mediation analyses show that a pathway of effects from organizational context, to structure, to culture, and finally to organizational justice, lending evidence to the hypothesized order of effects. Moderation analyses display evidence that agency traditional police culture might impact the relationship between concentrated disadvantage and organizational justice.

Implications of these findings are that police agencies undergoing significant reform in operations should understand the importance of cultural change and the constraining elements provided by the policing environment.

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DEDICATION

I dedicate this work to my father, an exonerated victim of prosecutorial and police misconduct.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS5

DEDICATION6

TABLE OF CONTENTS7

TABLE OF FIGURES9

INTRODUCTION.....10

LITERATURE REVIEW: CONCEPTUAL AND HISTORICAL BACKGROUND16

A BRIEF HISTORY OF CONTEMPORARY POLICING ERAS.....17

EMPHASIS ON INDIVIDUAL POLICE ATTITUDES.....20

DEFINING ORGANIZATIONAL JUSTICE22

OUTCOMES RELATED TO ORGANIZATIONAL JUSTICE.....24

ENVIRONMENTAL FACTORS AND ORGANIZATIONAL JUSTICE27

STRUCTURAL FACTORS AND ORGANIZATIONAL JUSTICE.....30

POLICE AGENCY CULTURE AND ORGANIZATIONAL JUSTICE.....33

**BRINGING THE LITERATURE TOGETHER: TOWARD A COMPREHENSIVE
FRAMEWORK.....35**

CONCEPTUAL PATH MODEL.....37

HYPOTHESES38

DIRECT EFFECTS – ENVIRONMENTAL CONTEXT38

DIRECT EFFECTS – ORGANIZATIONAL STRUCTURE41

DIRECT EFFECTS – ORGANIZATIONAL CULTURE.....46

SIMPLE AND MULTIPLE MEDIATING PATHWAYS.....47

MODERATING EFFECTS51

RESEARCH METHODS54

DATA54

THE NATIONAL POLICE RESEARCH PLATFORM, PHASE 2, LEO A55

AMERICAN COMMUNITY SURVEY, 2012 – 2016 5-YEAR.....56

2016 LAW ENFORCEMENT ADMINISTRATIVE STATISTICS57

FINAL SAMPLE CREATION.....58

MEASURES59

ORGANIZATIONAL JUSTICE59

ENVIRONMENTAL INFLUENCES61

<i>ORGANIZATIONAL STRUCTURE</i>	62
<i>ORGANIZATIONAL CULTURE</i>	63
<i>CONTROL VARIABLES</i>	64
ANALYTIC STRATEGY	65
RESULTS	69
<i>NULL MODEL</i>	69
<i>DIRECT EFFECTS</i>	69
<i>MEDIATION EFFECTS</i>	74
<i>MODERATION EFFECTS</i>	80
DISCUSSION	83
<i>THEORETICAL REVIEW</i>	83
<i>REVIEW OF FINDINGS</i>	87
<i>DIRECT EFFECTS: CONTEXT AND ORGANIZATIONAL JUSTICE</i>	87
<i>DIRECT EFFECTS: STRUCTURE AND ORGANIZATIONAL JUSTICE</i>	91
<i>DIRECT EFFECTS: CULTURE AND ORGANIZATIONAL JUSTICE</i>	96
<i>MEDIATION ANALYSIS REVIEW</i>	97
<i>MODERATION ANALYSIS REVIEW</i>	101
<i>IMPLICATIONS FOR POLICE AND PUBLIC POLICY</i>	103
<i>THEORETICAL IMPLICATIONS</i>	106
REFERENCES	110
APPENDICES	146

TABLES AND FIGURES

Figures

<i>Figure 1: Conceptual Path Model</i>	<i>37, 68</i>
<i>Figure 2: Mediation of the relationship between context and organizational justice through organizational structure</i>	<i>74</i>
<i>Figure 3: Mediation of the relationship between context and organizational justice through organizational culture</i>	<i>76</i>
<i>Figure 4: Mediation of the relationship between structure (% full-time officers nonwhite) and organizational justice through organizational culture</i>	<i>77</i>
<i>Figure 5: Mediation of the relationship between structure (logged budget) and organizational justice through organizational culture</i>	<i>78</i>
<i>Figure 6: Mediation of the relationship between environmental context and organizational justice through organizational structure and culture</i>	<i>79</i>

Tables

<i>Table 1: Multilevel Path Model Relating Organizational Context with Control Variables Added to Officer Perceptions of Organizational Justice</i>	<i>70</i>
<i>Table 2: Multilevel Path Model Relating Organizational Structure and Control Variables to Officer Perceptions of Organizational Justice</i>	<i>70</i>
<i>Table 3: Multilevel Path Model Relating Organizational Culture and Control Variables to Officer Perceptions of Organizational Justice</i>	<i>73</i>
<i>Table 4: Moderation Analysis of Culture x Context Interaction in Full Model with Context, Culture, Structure, and Control Variables</i>	<i>83</i>

CHAPTER I

INTRODUCTION

Modern policing in the United States faces multiple challenges – the institution is grappling with calls for change while concurrently confronting its own role in systemically oppressing people of color (DeAngelis, 2021) while simultaneously experiencing difficulty in recruitment, an increase in resignation and retirement rates (Karch, 2024), and a lack of trust from communities they police. Police morale is overall low, and more officers are voluntarily leaving the profession (Cantu, 2019). Consistent media attention and evidence of wrongdoing has spurred yet another police legitimacy crisis. U.S. democracy requires citizens and police to work together to achieve safety. Without citizen cooperation due to lack of legitimacy among those that they serve, police hamstringing themselves and the public safety becomes more precarious.

Researchers and practitioners have devised ways to increase legitimacy with mixed effectiveness. These reforms build on each other over time, with each subsequent reform being a response to the inadequacies of the former reform. community policing became a popular policy reform in the late 1970s as a method to improve citizen perceptions of police legitimacy that was lost as a consequence of the professionalization reforms. However, the efficacy of community policing in producing positive outcomes is mixed (Kerley & Benson, 2000; Reisig & Parks, 2004; Rukus et al., 2018). Problem-oriented policing (Goldstein, 1979) another police reform idea, has shown to be effective in reducing crime (Hinkle et al., 2020; Reisig, 2010) but has experienced issues with effective implementation (Weisburd & Braga, 2019). Procedural justice (Tyler, 1990, 2003), which is a concerted attempt to engender respectful police practices toward citizens, has promising implications (Mazerolle et al., 2013) but is yet to be widely adopted.

Relatedly, some researchers suggest that officer adherence to procedural justice in practice is not entirely sufficient to solve the police legitimacy crisis, and that other methods of producing legitimacy (such as effectiveness) are also important (Bottoms & Tankebe, 2012, 2020).

While much research focuses on the effectiveness of *work-related* processes in improving officer behavior, such as procedural justice initiatives, body-worn cameras, and community policing, less research has observed the role of and potential for reform in internal processes, such as organizational structure, police cultural formation, and the relationship between these and the police patrol environment. To date, no attempt has been made to combine these three areas into a cogent framework for studying police officer and agency behavior. This dissertation argues that part of building a better police force is ensuring that, just as officers are expected to treat citizens fairly, officers should also be treated fairly by their own working organization. Accordingly, to better understand the etiology of police behavior to effect more positive police interactions with citizens, this dissertation examines the interplay between environment, culture, and agency structure in relation to organizational justice.

Organizational justice is defined as fair treatment of employees in distribution of resources, fairness in procedures, and fairness in employee interactions (Greenberg, 1990). Factors that may impact organizational justice are divided into three areas: environmental factors, agency structural factors, and agency cultural factors. Together, these influences are hypothesized to jointly impact individual officer beliefs, in the form of belief in organizational justice. For example, an officer patrolling a highly disadvantaged area may be more likely to ascribe to the traditional police culture than an officer patrolling a less disadvantaged area due to the increased difficulty of the task environment (that is, the local and institutional environments in which worked must be accomplished) in which an officer finds themselves. Traditional police

culture is a set of beliefs, behaviors, and attitudes formed in response to a challenging work environment that are overall damaging to police legitimacy (Chan, 2007). Additionally, the impact of agency structure on perceptions of organizational justice could depend on the level of concentrated disadvantage in an area. An agency operating in disadvantaged areas may need to be more complex, increase in size, or add more elements of control to operations due to the challenging task environment, all of which may impact officer perceptions of organizational justice. Agencies in these areas experience just as many, if not more calls for service than less disadvantaged areas (Cihan, 2014; Schaible & Hughes, 2012). Organizations grow in complexity in response to new challenges that inspire organizational reconfiguration (Katz, 2001). Organizational structure and culture may also interact to impact organizational justice within an agency. The effect of an officer's belief in traditional police culture may be reduced when working in a more just organizational structure and operation. These questions suggest the possibility of interactive effects between factors that represent the environment, agency structure, and organizational culture.

In addition to interaction effects, I also examine mediation effects. For example, the proposed negative impact of concentrated disadvantage on organizational justice may operate (partially) through traditional police culture. A negative relationship between social disorganization and organizational justice may be partially or fully explained by traditional police culture, which would imply a focus on changing police culture rather than attempting to change the physical patrol environment. Further, the impact of environmental-level factors on perceptions of organizational justice may be explained by organizational structure. A more challenging task environment might influence organizational structural adaptations (Katz, 2001) and these adaptations may explain the relationship between environmental factors and

perceptions of organizational justice. Lastly, the proposed impact of organizational structure on organizational justice might be explained by adherence to organizational police culture. A more just organizational structure may impact perceptions of organizational culture, which in turn affects perceptions of organizational justice. If officers are situated in more structurally just agencies, formation of traditional police culture might be restricted, therefore impacting perceptions of organizational justice.

I am not aware of any studies, to date, that attempt to systematically study the interplay between an officer's environment, agency structure, and agency culture in impacting officer beliefs and behavior. This dissertation provides an in-depth analysis on direct, mediating, and moderating effects of these factors on officer belief in organizational justice and is applicable to policy-making decisions.

The goal of researching fairness in police organizations is to understand the best strategies for producing an organizationally just work environment for police employees, since content officers are more likely to possess positive attitudes toward serving citizens (Myhill & Bradford, 2013). If the institution of policing is to become more just, the *entire pathway to work* must be just, from beginning to end. By increasing perceptions of organizational justice, officers may also treat citizens with more respect (Carr & Maxwell, 2018). Officers must be treated fairly in their workplace, just as officers must treat citizens fairly and according to constitutional rights. This is important given that officer morale in recent years is low (Cantu, 2019). Police are under immense pressure to perform their duties professionally and in accordance with the law. The price of failure is high, such as in the case of Kim Potter who mistakenly fired her gun thinking it was her taser, resulting in the unjust killing of Daunte Wright and her subsequent conviction for manslaughter (Sullivan & Wamsley, 2022). By focusing on the organizational, cultural, and

environmental factors that impact officer's perceptions of organizational justice in their agency, useful information will be gained about both more stable factors (e.g., areal concentrated disadvantage, local crime rate) and more mutable factors (e.g., officer culture, organizational structure) and their relationship with organizational justice, which can be used to formulate strategies for improving organizational justice while taking into account an agency's unique situation and context. Increasing perceptions of organizational justice in police officers may increase officers' commitment to the organization, resulting in increased compliance with organizational directives and increased positive views of community policing (Bradford et al., 2014).

More generally, this dissertation will provide a framework for studying officer beliefs and behaviors within police agencies. This framework may be applied to other police behaviors and beliefs, but here I focus on organizational justice as the primary outcome of interest. This research further explores the relationship between an organization's physical environment and organizational structure, which needs to be untangled as this relationship is not well-understood (Maguire, 2003). This dissertation also provides a framework to study and understand actions of police agencies and officers as a product of qualities of local physical environment, the culture an agency engenders, and the structure and practices an agency employs to accomplish work. While other studies have explored the relationship between these three factors with an outcome independently, researchers have yet to study these constructs together in a single study. There may be mediating and/or multiplicative effects between these factors that should be understood.

This dissertation also provides useful insight for police practice and policy. For example, while it is difficult to change one's environment to impact police beliefs and behavior, it is more achievable to change hiring practices or agency structure to impact officer culture. Further, there

may be improved officer behavior toward citizens if officers are treated justly by their agency (Carr & Maxwell, 2018; Myhill & Bradford, 2013; Wolfe & Piquero, 2011). I am proposing a “downstream justice effect” where officer treatment by agency correlates with beliefs and behavior. To understand the nature of this proposed effect, we must first understand how to change agency structure, practices, and culture to improve perceptions of organizational justice and treatment. Organizational justice is an often ignored component of producing a more just police force given associated positive research outcomes (Nix & Wolfe, 2016; Rosenbaum & McCarty, 2017; Silver et al., 2017; Trinkner et al., 2016; Wolfe & Piquero, 2011)..

Organizational justice may be a key missing component in understanding how to best reform the police.

The dissertation will proceed as follows. In chapter two, I review literature and establish the relevance of environmental, organizational, and officer cultural factors on organizational justice. In addition, I discuss relevant historical eras of policing, and the justification for focusing on individual police attitudes. I will define organizational justice, discuss outcomes related to organizational justice, and then discuss prior connections of environmental, structural, and cultural factors in impacting organizational justice. In chapter three, I present my research framework and discuss and justify hypotheses, research methods, and measures used in the study. In chapter four, I present my choice of analytic strategy and detail how direct, mediation, and moderation effects are estimated. In chapter five, I present analytic models and results of the multi-level path analysis. In chapter six, I discuss the meaning and implications of results to policy and relate the results to the broader research literature on police organizations. In chapter seven, I provide a short, detailed conclusion and summary of the dissertation and findings.

CHAPTER II

LITERATURE REVIEW: CONCEPTUAL AND HISTORICAL BACKGROUND OF POLICING IN THE REPUBLIC

Police, or more generally agents of order, have been theorized to be a necessary part of the human condition if any more advanced societal structure is to be achieved (Bloom, 1968). The origins of order can be traced back to the arguments documented in Plato's *The Republic*, which discusses the meaning of justice in human societies. *The Republic* presents a perfect city as one in which all people agree who should rule, and the ruler acts solely in beneficence to the people for which he is responsible toward. The construction of the city is based on the "social contract" which necessitates that individuals must give up their capability to perform certain actions (e.g., steal and murder) to construct and maintain a society where their needs are met.

The Republic discusses the role of agents of order and political figureheads (guardian classes) in an example city. Their role is to ensure that the city is safe and orderly, which supports the status quo of a "just" city. Being that police are representatives of the state, they are a part of this guardian class (called auxiliaries). The auxiliaries are responsible for the maintenance of order, defending of the city from foreign invaders, and ensuring that the will of the guardian class in the form of rules and laws, is maintained.

As society grew more complex, so did our understanding of how it should be ordered. Modern democracies place importance on the civic participation of citizens to effect societal change. However, the necessity of keeping order in a society can sometimes be at odds with the values of democracy. For example, the 2001 Patriot Act passed as a response to the 9/11 terror attacks in the U.S. was seen by some as overstepping constitutional privacy protections ("Surveillance Under the USA/PATRIOT Act," 2001). The freedom associated with most

modern democracies also allows citizens to openly criticize agents of order and state leadership, which could lead to losses of legitimacy if no action is taken to remedy complaints. Therefore, agents and associated organizations of control in modern democratic societies have an imperative to increase their own legitimacy in the eyes of stakeholders, lest the organization fail and disintegrate.

People do not agree on who should rule, but the idea of the “guardian class” and the use of “auxiliaries” maintains through history. The nature of the police as citizens who enjoy elevated legal authority, along with the perceived necessity of maintaining them as agents of order in advanced societies puts the police in a precarious social position. The police are subject to high levels of criticism, leading to institution-wide burnout and declining numbers of people choosing to work as police officers (S. Hyland, 2018). In sum, the necessity of having a guardian class remains, and has been translated into the modern day as the institution of policing. Under a critical lens, the problem of the “bastardization” of the working class into police, modernly encapsulated in the term “ACAB” (interpreted as: all cops are bastards), endures. Though there is no simple method to alleviate the problem inherent in elevating normal citizens to a protected status, there is still opportunity for reform. In the next section, I detail a brief history of policing eras in the U.S. to display the problem of police legitimacy and how this study addresses this problem.

A BRIEF HISTORY OF CONTEMPORARY POLICING ERAS

The contemporary history of the institution of policing in the U.S. is at least partially characterized by unjust practices toward communities of color, corruption, and numerous attempts by the institution to reckon with its past (Durr, 2015; Potter, 2014). The institution has

attempted to keep itself legitimate amongst periods of societal upheaval, often partially caused by its own actions. Policing in the southern U.S. was an evolution of slave patrols, who were tasked with catching runaway slaves in the antebellum south (Parks & Kirby, 2021; Potter, 2014). In the northern U.S., agents of order emerged in the form of constables and night's watchmen. Responsibilities for these lawmen centered around protection of commerce and goods (Potter, 2014). As police departments evolved into more organized workplaces, they often acted as enforcers for local politicians. Police would break strikes, enforce prohibition, perform order-maintenance policing, and act in other ways that incited public rage. Up to this point, police have largely served the wealthy and powerful at the expense of those less fortunate.

The first modern institutional reform for police was the police professionalism movement between 1900-1970. The basis of this solution was to modernize the police force into an efficient, more bureaucratic entity. The goal of this effort was to redefine the social meaning of police; rather than being political enforcers, police would become professional crime fighters to aid in reestablishment of legitimacy that fell during the political period. This reform aimed to increase legitimacy by putting on the appearance of police being capable and cutting-edge in their tactics, which would hopefully amount to decreases in crime. Infamously, this movement backfired since "professional" practices were implemented in ways that infringed upon the constitutional rights of citizens of color. For example, stop and frisk in New York City was considered to be a "professional" practice but has since been vilified as a racist and regressive policing approach (Butler, 2014; Potter, 2014). Practitioners during this time believed that the issues policing was facing was a result of cultural changes to the profession (Crank, 2003). That is, that the professionalism movement alienated officers from their patrol environments and the citizens they were policing (For example: the emphasis on using patrol cars).

The subsequent eras of policing are also fraught with setbacks. The community policing movement came after the professionalism era and was a response to the errors made during the professionalism movement. This philosophy proposes the idea that police should be seeking to include the community in solving local problems and empowering those same communities to solve problems without the need for police, but interpretations of community policing widely vary (Maguire, 1997). For example, community policing may range from encouraging officers to patrol on foot (commonly known as a park, walk, and talk) to community crackdowns on drug use. Further, the tenets of the community policing model requires both structural and cultural change, yet there is scant evidence of these changes occurring (Maguire, 1997; Maguire & Katz, 2002; Maguire & Mastrofski, 2000). Although there were little to no substantive changes in practices, community policing has become an institutionalized practice in public safety. Despite the widespread popularity of the community policing ideology, the institution could not prevent the onset of additional legitimacy crises.

Numerous contemporary high-profile scandals continue to cast doubt on the legitimacy of police. For example, the police killing of George Floyd in 2020 caused a worldwide condemnation of the institution. In response, the institution has been called upon to again make large structural and cultural changes. The changes include the use of unarmed rapid response teams, adoption of body-worn cameras, and defunding and re-allocating funds from the police to local programs meant to address social and economic inequality. The outlook of these reform ideas is not ideal and would require complicated changes to not only police departmental policy, but also policy changes for municipalities looking to change the strategy of policing in their city (Lum et al., 2021). It is probable that these changes will not alleviate tensions between U.S. citizens of color and the police.

The failure of these reforms to achieve harmony between citizens and police show the complexity of upholding the legitimacy of agents of control in a free society. Throughout U.S. history, the role of police have been to control (physically and socially) the least powerful and most segregated groups in society, who are often seen as a threat to the livelihood of the powerful (Hoggard & Lutchman, 2024; Parks & Kirby, 2021; Potter, 2014) while simultaneously serving an important role in the maintenance of society-wide safety. This observation is a contradiction: how can police uphold legitimacy, while also enforcing the law, while some of those laws disadvantage the most weak and vulnerable in society?

Clearly, the institution of policing in the U.S. requires more maintenance. However, before significant change can be achieved in the work that police do, the organization itself from the *inside* must be changed. That is, the work that officers do is related to how they are treated in their own workplace. To be clear, I am implying that a fairer and more just workplace for police officers will impact officer behavior toward citizens (Bradford et al., 2014; Myhill & Bradford, 2013) which may also raise levels of perceived police legitimacy in the eyes of citizens. For this reason, I focus on individual police officer attitudes as the vehicle of change toward a more just police force and as the main variable of interest in this dissertation.

EMPHASIS ON INDIVIDUAL POLICE ATTITUDES

This dissertation focuses on individual police attitudes as the primary outcome. This decision is guided by the institution-as-rules framework (Crawford & Ostrom, 1995). Under this theoretical framework, institutions are the purveyor of rules in which social interactions operate within (e.g. the Church, the School System, the Government). However, it is the collective of

individual thought and action of members of the institution that dictates which rules are created and crystallized (Greif & Kingston, 2011; Hodgson, 2006).

It is important to understand the theorized mechanism behind institutional rule change. If members of the institution (e.g. police officers) perceive current rules to be adverse, an individual-focused cost-benefit analysis ensues where the new rule under consideration is debated. If a theoretical “minimum coalition” is achieved, a rule change may occur. The minimum coalition is defined as the minimum number of individuals necessary to effect change (Greif & Kingston, 2011). For example, this could take the form of a group of parishioners ceding from mainstream religious doctrine to practice their own interpretation. In another example, the minimum coalition may only be one person, such as in the case of an executive decision made by a king or autocrat on behalf of a government (Greif & Kingston, 2011). The rule change is assumed to reflect the interests of the “minimum coalition”, which may vary by size, but not by power.

The idea of institutions-as-rules applies to the policing institution. Organizations are viewed under this framework as miniature institutions, which also play a role in the broader institution that an organization is a part of (North, 1990) (e.g., a police organization is a part of and subject to institutional formal and informal rules regarding policing). Ultimately, institutional-level change is driven by individual attitudes, culture, and behavior of those who are subject to it. Therefore, it is important to understand the etiology of individual thought and behavior of police officers if institution-wide change is to be affected.

The policing occupation is distinct – the job is uniquely stressful to the point of physiological and psychological harm (Abdollahi, 2002). Much of this stress derives from the fact that policing is a more public-facing profession than others, in addition to being much more

dangerous. They must cope with a variety of stressors, including stressors related to dealing with the public, a perceived constant threat of being violently confronted, and navigating an unpredictable and difficult workplace. Officers that perceive fair treatment by their agency increase alignment with community policing and satisfaction with their agency as a place of work, and therefore tend to have more positive views of the public they serve (Myhill & Bradford, 2013). It is logical then to identify factors that contribute to making policing a stressful job to assess where to focus efforts for improvements to quality of service and to ensure constitutional rights of citizens are upheld.

One promising way to change the perceptions and behaviors of police is through the cultivation of organizational justice – an individual-level perception of how fair a police agency or workplace treats its employees. The next section will define organizational justice and review literature on the outcomes of organizational justice before focusing on the environmental, organizational-structural, and agency-cultural factors that relate to organizational justice. The goal is to illustrate the importance of broader social and more proximate organizational factors for police officer individual behavior and perceptions.

DEFINING ORGANIZATIONAL JUSTICE

The idea of organizational justice derives from the management sciences, where organizational justice can be defined as the presence of fairness in the workplace (Greenberg & Colquitt, 2005). The logic behind studying organizational justice is that, when engendered, organizational justice creates a more prosperous, fair, and morally sound working environment (Cropanzano & Rupp, 2003) which results in better services and higher-quality products. There are three components of organizational justice: distributive, procedural, and interactional.

Distributive justice is rooted in equity theory, which states that people in the workplace will assess inequity by comparing their work inputs (ex. effort) and resulting work outcomes (ex. pay) with another (Adams, 1963). Distributive justice is defined as the extent in which work-related outcomes align with implicit standards of resource allocation (Colquitt, 2001). For example, a police officer may see it as unjust if an underperforming specialized unit receives more funding than another unit that consistently performs well. In another example, a police officer who is female and paid less than coworkers in the same job title may perceive a lack of distributive justice in their organization.

Procedural justice focuses on the fairness of the processual aspects of dispensing outcomes. The idea of procedural justice is grounded in the work of Thibaut and Walker (1975), who found that in the process of resolving legal disputes, people who perceived the process of dispute resolution to be fair were more likely to accept a negative outcome. While the book focuses on perceived fairness in outcomes involved in legal decision making, this work became the basis for later ideas about procedural justice as it pertains to policing and law (see Tyler, 1990). Procedural justice in the management context is defined as perceived fairness in the process of determining outcomes (Cohen-Charash & Spector, 2001). In a police department, procedural justice would be relevant in disciplinary proceedings or rules for using force, for example. Another way to engender procedural justice is through voice – incorporating the feedback and addressing concerns of employees in which the decision will impact.

The last component of organizational justice, interactional justice, derives from work by Bies and Moag (1986). Interactional justice is demonstrated by the fairness, integrity, and completeness of information communicated to employees, in a respectful manner free of bias. Interactional justice is relatively straightforward and is engendered by courteous treatment of one

another in an organization. For example, in an event where a supervisor delegates work to an employee, explaining the reasoning behind the work, providing a complete explanation of the task, and doing so in a respectful and timely manner would theoretically increase the employee's perceptions of interactional justice in their organization. Another example of interactional justice is treating employees with respect in interpersonal interactions; this means speaking to people without aggression, rudeness, and hostility.

OUTCOMES RELATED TO ORGANIZATIONAL JUSTICE

Organizational justice has been shown to produce favorable outcomes for both workers and organizations. Justice has been shown to improve job satisfaction and commitment (Bakhshi et al., 2009; Fulford, 2005). Employees that experience high-quality interactions with their supervisors alongside perceptions of organizational justice are more likely to perform better at their job (Walumbwa et al., 2009). Additionally, organizational justice may aid workers in balancing work and home priorities, resulting in lower stress (Judge & Colquitt, 2004) which can support better work performance. Organizational justice improves trust and identification with the organization, leading to more commitment (Aryee et al., 2002; Chen et al., 2015). Relatedly, perceptions of organizational justice may indirectly decrease workplace turnover (DeConinck & Johnson, 2009). Increases in organizational justice have been linked to increased employee organizational citizenship behavior: a collection of prosocial behavioral patterns that support organizational function (Jafari & Bidarian, 2012). Perceived organizational justice is correlated with better work performance, lowered counterproductive work behaviors such as lowering of trust, greater anger towards the organization, and social withdrawal, in addition to reduction of

organizational conflict and tendency to support other work roles outside one's own (Cohen-Charash & Spector, 2001).

Organizational justice is a product of the management sciences, and it has been used in a variety of different labor contexts. The concept has been applied to guidance for school administrators in creating a just workplace for school employees and students (Hoy & Tarter, 2004; Yılmaz & Taşdan, 2009), hotel employees (López-Cabarcos et al., 2015), nurses in hospital settings (Laschinger, 2004) and criminal justice organizations (Wolfe & Lawson, 2020). However, I am specifically focusing on factors influencing organizational justice in police departments.

One dimension of research involves examining police behavior and attitudes toward their own agency. Officers that perceive their agency as organizationally just display more job commitment and satisfaction with their agency (Crow et al., 2012; Piotrowski et al., 2021; Rosenbaum & McCarty, 2017; Sun et al., 2021). Police that perceive higher amounts of organizational justice are more likely to agree with organizational directives, such as body-worn cameras (Kyle & White, 2017) though this effect varies by agency (Huff et al., 2020; Lawshe et al., 2019). A second dimension of research focuses on the impact of organizational justice on individual outcomes. Increases in perceptions of procedural justice may produce better-performing, more emotionally stable, well-rounded officers that obey supervisors, endorse more democratic forms of policing, and treat citizens they police with more respect (Trinkner et al., 2016). Organizational justice was found to be protective against personal beliefs engendering police corruption (Lawson et al., 2021) Relatedly, organizational justice may lower officer misconduct and beliefs supportive of misconduct (Fridell et al., 2021; Wolfe & Piquero, 2011). Higher levels of organizational justice have been correlated with experiencing less burnout

(Kaygusuz & Beduk, 2015). Results displaying a link between organizational justice and increased officer trust and respect toward citizens is promising and requires more follow-up (Carr & Maxwell, 2018; Myhill & Bradford, 2013).

Organizational justice might also provide implications for police self-legitimacy (Bottoms & Tankebe, 2012) and police organizational cynicism. For example, police self-legitimacy has shown to increase when officers personally identify with the organization as a result of positive perceptions of supervisor adherence to procedural justice practices (Bradford & Quinton, 2014; Tankebe & Meško, 2015). Similarly, police perceptions of organizational justice increase job satisfaction and organizational commitment (Crow et al., 2012; Sun et al., 2021). Therefore, the benefits of increasing organizational justice might aid in officer retention and recruitment.

Current evidence shows that increasing perceptions of organizational justice in police officers has benefits with little to no downside. If police officers are treated better by their workplaces, they may treat citizens better in turn due to lower amounts of occupational stress. This follows the idea that traditional police culture, a problematic cultural adaptation associated with poor outcomes such as coercive behavior (Terrill, Paoline, et al., 2003) and is a byproduct of workplace stressors (Chan, 2007). By decreasing work-related stress derived from one's agency practices and structure, traditional culture (which includes an "us vs. them" attitude toward citizens and supervisors) may not form as readily, leading to improved citizen-police interactions. Since organizational justice is associated with important positive outcomes related to increasing police legitimacy, it is important to understand the etiology of organizational justice. What factors influence perceptions of organizational justice inside a police agency, and

are those factors controllable by agencies? In today's policing climate, it is urgent to research actionable solutions for police reform.

Organizational justice may be part of the solution to police legitimacy issues, but what factors influence differentiation? Evidence shows differing perceptions of organizational justice in police by agency (Kyle & White, 2017; Lawshe et al., 2019). Investigating why this is the case is important in moving the institution of policing toward a more just form. Grounded in previous research, I argue that there are three main contributors to belief in organizational justice, and any individual-held police belief more generally: environmental factors related to the working environment, agency-structural factors, and agency-cultural factors. I discuss the importance and justify the inclusion of each below.

ENVIRONMENTAL FACTORS AND ORGANIZATIONAL JUSTICE

This dissertation focuses on social disorganization theory as the main environmental framework for understanding police officer attitudes toward organizational justice. Social disorganization is the inability for a community to produce informal social control to quell antisocial and criminal behavior (Sampson & Groves, 1989). A host of community-level factors, such as socioeconomic disadvantage, residential mobility, and racial/ethnic heterogeneity are believed to lead to a breakdown of commonly held norms and values, thereby contributing to delinquent and criminal behavior within a community (Kubrin, 2009; Sampson & Groves, 1989; Shaw & McKay, 1942a). These findings have not attenuated over time and the social disorganization perspective continues to be a useful and empirically sound explanation of crime and delinquency at the community level (Bellair, 2017).

Social disorganization in patrol environments is instructive in differentiating police attitudes and behaviors. Areas characterized by social disorganization experience an elevated amount of crime and delinquency compared to more socially organized areas (Shaw & McKay, 1942a). Disorganized areas experience more police attention, as indicated by increased police activity in these areas (Lautenschlager & Omori, 2019). Policing styles also differ in socially disorganized regions. Increases in job-related stress has been correlated with increases in using force (Cheong & Yun, 2011). Police arrest more people and initiate more contact with suspicious persons in areas with high social disorganization (Smith, 1986). Residents in areas characterized by concentrated disadvantage also show lower levels of police trust (Burgason, 2017; Wu et al., 2009).

Areas with high amounts of concentrated disadvantage produce challenging patrol environments for officers, are more stressful to patrol, and are associated with a higher likelihood of police use of force. For example, research has demonstrated that police officers working in more disorganized areas are more likely to quit their jobs (Andreescu & Vito, 2021; Smith et al., 2014). Research also shows that the environment police work within directly impacts how they perform their work on the individual-level. For example, local environment has an impact on police use of force (Hays, 2011; Lawton, 2007; Terrill & Reisig, 2003) police disrespect toward citizens (Mastrofski et al., 2002), and traffic enforcement behavior (Novak & Chamlin, 2012). It is probable then, that policing organizations are also impacted by environmental forces. For example, pressure from stakeholders may necessitate change in organizational structure (Crank, 2003). Environment also plays a role in the creation of specialized units (Katz, 2001) and adoption of body-worn cameras (Lawshe et al., 2022). Given that areas characterized by higher amounts of disadvantage lead to more voluntary resignations, perceptions of organizational

justice has been shown to be protective against turnover (De Gieter et al., 2012; Sokhanvar et al., 2016). Officers that work in areas with higher levels of disadvantage are also more likely to use force (Terrill & Reising, 2003) and using force is associated with increased officer stress and burnout (Kop & Euwema, 2001) though findings regarding this association are mixed (Manzoni & Eisner, 2006). Officer proclivity to use force is also associated with higher levels of officer cynicism (Burke & Mikkelsen, 2005). Taken together, these findings illustrate that officers who work in more disadvantaged areas are more likely to experience burnout and are more likely to use force, which also may be associated with increased stress and/or burnout. What is less clear is the relationship between perceptions of organizational justice and environmental context.

Do officers perceive different levels of organizational justice as a result of their working environment? For example, do officers that work in disadvantaged areas perceive a lower base level of organizational justice as compared to officers that work in less disadvantaged areas? There is little to no research available on this topic. It may be the case that agencies with difficult task environments may need to support their officers to a greater degree than agencies that operate in less challenging environments, as shown in the above paragraph. By understanding the relationship between disadvantage and perceived organizational justice, researchers and practitioners may take the increased (or decreased) difficulty of the environment into account when making decisions that impact officer work. This would lead to direct benefits to citizens who should, overall, be treated more respectfully by officers who perceive that they are treated fairly by their agency (Carr & Maxwell, 2018; Myhill & Bradford, 2013).

There is evidence to show that the patrol environment impacts police officer beliefs and behavior. However, to only consider the importance of environment is limiting. Police officers

operate within a highly-structured organization that can constrain and influence beliefs and behavior.

STRUCTURAL FACTORS AND ORGANIZATIONAL JUSTICE

The importance of organizational structure in predicting both organizational behavior and individual behavior has been extensively documented. Much of what we know about police organizations is derived from Maguire's (2003a) seminal study on the nature of police organizational structure, which provides a theoretical basis for further inquiry on police organizations. Using a nationally representative sample of police agencies, Maguire (2003a) argues that police organizational structure can be categorized into three different concepts: organizational complexity, organizational context, and organizational control. Complexity refers to the density of organizational structures – these factors are thought to impact the difficulty of organizational coordination. Examples include vertical height (how many ranks are there) and number of specialized units (task differentiation). Context in this sense does not refer to the physical environment, but instead refers to the context of the organization – put another way, these factors dictate the internal environment in which the organization grows out of. Examples of factors include organizational size, age, and budget per employee capita. For example, a police organization of smaller size is likely to develop differently over time than a larger agency solely due to manpower. Control refers to mechanisms that inhibit individual employee action in the interest of organizational survival. Examples of control mechanisms include formal rule-making, extent of administrative oversight, and type of decision-making body (individualistic and centralized vs group-oriented and dispersed). Maguire (2003a) finds that the most important aspects of organizational structure are organizational size and age. He also finds that

organizational control is dictated by organizational complexity and context, where the degree of control increases when complexity increases, and context indirectly influences control through complexity.

While Maguire (2003a) focuses on structure in police organizations, there is research in the management sciences on organizational justice and organizational structure that can be applied to police agencies. For example, one consistent link that appears in the literature is that workplaces that have “wide” rather than “tall” structures tend to be perceived as more just by employees (Marjani & Tohid Ardahaey, 2014). Applying this concept to Maguire’s (2003a) framework, agencies with less vertical differentiation (that is, less hierarchy) and less centralization should be perceived as more just. Some evidence shows that different facets of organizational justice will be more salient in certain structural arrangements. For example, employees working in organizations that are mechanistic (tall, rule-oriented, bureaucratic, such as police agencies) believe that justice in procedures is more important, reflecting the importance of procedural justice. Alternatively, organizations with an organic form (with more flexible and decentralized structures) tend to grow wider rather than taller. In these cases, interactional justice becomes the most important facet of organizational justice due to the increased importance placed on human interaction in these structural adaptations (Ambrose & Schminke, 2001, 2003). As organizations grow, evidence shows that there are decreased perceptions of interactional justice. As organizations become more centralized, they are seen as possessing less procedural justice (Schminke et al., 2000). Some research shows that certain structural qualities are more salient in producing certain types of justice than others – for example, the degree of formalization (use of formal channels of communication, efficacy in formal rules) was found to be correlated with procedural, distributive, and interactional justice, but centralization (the

degree in which decision-making is concentrated to higher-ups) was not related to any component of organizational justice (Özsahin & Yürür, 2018). More generally, the idea of designing workplace organizations justly is not new – researchers have argued theoretically that structural design is integral to producing organizational justice (Greenberg, 1993; Sheppard et al., 1992).

The management literature clearly shows a link between organizational justice and structural qualities, but what can criminal justice sciences learn from it? Most police and criminal justice are bureaucracies: there are strict rules, chains of command, and tall as opposed to wide organizational structures. Management literature characterizes organizations such as this as “mechanistic”. According to management sciences, mechanistic organizations should seek to promote justice in procedures, since procedures essentially construct the backbone of a bureaucracy (Ambrose & Schminke, 2003; Weber, 1947). Evidence shows that procedural justice is more salient in these types of organizations (Ambrose & Schminke, 2001).

There is value in further untangling the relationship between organizational structure and organizational justice. From both an empirical and logical standpoint, structure is important in producing organizational justice. Organizational structure is the context in which organizational justice operates. Decisions surrounding practices that could impact organizational justice (e.g. pay, promotions, change in operating procedures) may impact it in different ways, dependent on structure. For example, a change in procedure for a small agency will be implemented and controlled differently than in a large agency. While the management literature tends to focus on centralization and formalization when accounting for structure in organizational justice studies, in organizational studies involving the police, criminal justice researchers have relied on Maguire’s (2003a) analysis of police agencies to inform the nature of police agency structure.

Maguire's (2003a) analysis includes the concepts of formalization and centralization under the sub-category of organizational control. Prominent scholars in this area (Ambrose & Schminke, 2003) have stated that it is necessary for researchers to further investigate the link between organizational structure and perceptions of organizational justice. Organizational structure also may play a role in dictating another important factor in predicting organizational justice – organizational culture.

POLICE AGENCY CULTURE AND ORGANIZATIONAL JUSTICE

Police culture is an important facet in understanding police behavioral adaptations, attitudes, and beliefs and is thought to be a reaction to experiencing numerous occupational, organizational, and health-related stressors in the policing profession (Abdollahi, 2002; Chan, 2007). Research on police culture has evolved across time. Some of the earliest efforts characterized police culture and identity by the ability to lawfully use force and coercion to make citizens do what they want (Bittner, 1970). Other early work characterized police culture as a monolithic unchanging construct, where new officers are subject to socialization within the culture (Manning, 1977; Van Maanen, 1973, 1975). In more recent years, police culture is increasingly seen as multi-dimensional and distinct across, and even inside of police agencies across workgroups (Ingram et al., 2013, 2018a; Paoline, 2003a).

Officers must reconcile with their position of being, essentially, a civilian with temporary powers of state and what that means for others they police. They must also persevere through an unpredictable and insular bureaucracy where rules must be followed. In addition, the mistake of one officer can lead to the distrust of many, therefore raising the stakes for officers to not make mistakes. Lastly, policing is a dangerous and depressing job – police interact with people in

depressing, violent, volatile, and unpredictable situations. Altogether, these stressors are theorized to elicit a reaction in police officers and is the basis for the formation of traditional police culture, a set of ultimately legitimacy-damaging beliefs and attitudes meant to protect individual officers from physical and psychological harm formed in response to hostile work environments (Chan, 2007; Paoline, 2003; Silver et al., 2017). The result of the culture is increased social isolation and loyalty to the police working group (Paoline, 2003). In this way, it is a defense mechanism – security is obtained through relationships with the working group (Skolnick, 2011) and social isolation from citizens, reinforcing the group bond (Chan, 2007). These factors have been referred to as the cover-your-ass (CYA) orientation that discourages interaction with groups that may be threatening to your job and livelihood, which includes supervisors but also includes citizens, arguably the main subject of their job.

Police cultural formations may be linked to perceptions of organizational justice. Increased feelings of organizational justice have been shown to increase police officer positive attributions to citizens (Carr & Maxwell, 2018; Myhill & Bradford, 2013). Justice also increases organizational commitment in police officers (Crow et al., 2012) in addition to job satisfaction and compliance with directives (Rosenbaum & McCarty, 2017). The power of organizational justice also extends to insulating officers from social forces – such as the “Ferguson Effect” (Nix & Wolfe, 2016). This is especially important since the history and nature of policing has set the institution on a path fraught with risks posed to their legitimacy.

Existing research shows that perceptions of organizational justice are linked with opinions and behaviors that are protective against facets of traditional police culture. Producing a just organization is a method of demonstrating to employees that the organization they work for is trustworthy and is there to protect them rather than exploit them, which would counter feelings

associated with traditional police culture. Due to evidence that shows perceptions of organizational justice improves officer opinions of citizens (Carr & Maxwell, 2018) decreases propensity to commit misconduct (S. Wolfe & Piquero, 2011), and comply with directives (Rosenbaum & McCarty, 2017), it appears that perceptions of organizational justice may be protective against the deleterious effects of traditional police culture. These outcomes may be compared against aspects of traditional police culture, such as resentment toward organizational directives, a cover-your-ass orientation, and unquestioned loyalty toward fellow officers at the same rank (a street-cop culture).

More directly, organizational justice is the antithesis of traditional police culture. Elements of organizational justice run directly opposite from elements of traditional police culture. For example, the ideal of interactional justice is incongruent with traditional police culture. To produce interactional justice, communications should be clear, frequent, complete, and respectful. This is opposite of the traditional police culture, where officers are distrustful of their advisors and the organization at large. Hence, by taking action to produce interactional justice, officer attachment to the traditional culture may be lessened. Additionally, by taking steps to increase procedural justice and distributive justice, officers that prescribe to the traditional culture may soften their views on the motivations of the agency.

BRINGING THE LITERATURE TOGETHER: TOWARD A COMPREHENSIVE FRAMEWORK

A comprehensive effort to understand the effects of environmental influences, cultural influences, and workplace structural influences on perceptions of organizational justice has yet to be undertaken. One cannot consider these factors in a vacuum; rather, they must be considered

concurrently to understand their theoretical interplay, to rule out spuriousness, to consider interaction effects, and to consider mediating pathways. Ultimately, I posit that a combination of internal structure, culture, and external environmental factors coalesce to produce differentiation in officer attitudes toward organizational justice.

Prior efforts in understanding police behavior and belief systems utilize a similar, but incomplete integrative approach. For example, Corder (2017) explores the impact of individual officer qualities and agency affiliation on several aspects of police culture, including misconduct, views on citizens, and views on administration. They found that there is substantial variation in perceptions of culture across agencies, but not across personal characteristics. Silver and colleagues (2017) found that agency size and agency type (municipal, county, etc.) significantly impact police officer endorsement of traditional police culture. Additionally, officer support for traditional police culture was positively related to support for use of force, and negatively related to support for procedural justice in policing. In a last example, McDevitt and colleagues (2011) examined police perceptions of misconduct across city size alongside individual factors and found no observable differences. While these efforts are a thoughtful and useful start to understanding police beliefs, this work advocates an even more wholistic view of police beliefs. For example, Silver and colleagues' (2017) results might have attenuated due to not accounting for environmental factors, such as concentrated disadvantage. These past studies account for combinations of environmental, structural, and cultural factors, but never all three in the same analysis. This is important because these past studies have shown that these concepts have implications for one another, but they have yet to be studied systematically.

The framework presented here is a proposed model for evaluating police officer beliefs and behaviors. This research framework accounts for some, but not all factors that could impact

police behavior and beliefs, perhaps besides individual factors and history effects. That is, police cultural formations, agency structure, and difficulty of proximal task environment all play a role in officer behavioral and belief differentiation.

CONCEPTUAL PATH MODEL

In Figure 1, a path model is presented that details the predicted direct and intervening relationships between each factor and organizational justice. Each path corresponds to a different hypothesis. The path model displays direct and mediation effects implying a process where local environmental conditions impact development of police agency structure and culture concurrently, while also directly influencing perceptions of organizational justice. Further, organizational structure is posited to impact formation of culture. Structure and culture also directly impact organizational justice. The sections that follow justify each pathway in the model.

[Figure 1 about here]

CHAPTER III

HYPOTHESES

DIRECT EFFECTS - ENVIRONMENTAL CONTEXT

Path A posits a direct relationship between environmental qualities and police beliefs in organizational justice. Environment represents local socio-economic and demographic factors: concentrated disadvantage, residential instability, the GINI index, Blau's index, and the total population size. Social disorganization theory is used to guide questions on how the environment impacts officer attitudes toward organizational justice. Disorganized environments are challenging to police, more stressful to patrol, and officers are more likely to use force. Socially disorganized neighborhoods suffer a higher amount of violent crime, a lower amount of collective efficacy, and presence of legal cynicism (Sampson et al., 1997; Sampson & Bartusch, 1998; Shaw & McKay, 1942b). Community problems in these areas become difficult to solve due a breakdown in community trust between residents, and between residents and law enforcement (Burgason, 2017; Wu et al., 2009). Disorganized neighborhoods also suffer higher amounts of violent crime relative to more organized neighborhoods, which also is correlated with increased likelihood to use more serious forms of force (Terrill & Reisig, 2003). In areas with high amounts of disorganization, police make more voluntary contacts and arrests (Smith, 1986). Jurisdictions in highly disadvantaged areas require a greater amount of police resources and may utilize practices that increase perceptions of organizational justice to combat the negative outcomes associated with policing these areas. Concentrated disadvantage and the associated increase in police activity in these areas has been related to police turnover (Andreescu & Vito, 2021; Smith et al., 2014). Employee turnover is associated with lowered organizational justice, job satisfaction, and organizational commitment (Parker & Kohlmeyer, 2005). Therefore, it may

be the case that physical environment plays a role in contextualizing employee intent to voluntarily leave their job. This leads to the first hypothesis represented by Path A:

H1a: Concentrated disadvantage will have a negative relationship with police beliefs in organizational justice.

Alongside concentrated disadvantage, residential instability may also impact organizational justice. While this is an understudied connection, there is face logic in considering this relationship. Disadvantaged areas experience a weakened ability to create strong social ties and capital due to the relatively transient population living in these areas (Sampson et al., 1997). Residents in these areas may feel alienated from civic and public works, including law enforcement agencies. Similarly, police in these areas must work with a transient population that likely does not trust them (Sampson & Bartusch, 1998) making it more difficult for police to operate effectively. Additionally, residents in areas characterized by high amounts of residential instability tend to have difficulty producing social capital (Clark, 2010), which can make investigations for police more difficult due to lack of cooperation from citizens. Operating in these areas may require more organizational support for officers due to the increased difficulty of the task environment. Therefore, I also predict the following for Path A.

H1b: I posit that a relationship exists between residential instability and police perceptions of organizational justice, but without specification of a direction of effects.

Additionally, economic inequality is considered as an important contextual variable when considering police behavior and perceptions of organizational justice. The GINI index represents another aspect of local environment – income inequality. It is a measure of income dispersion that ranges from 0 to 100, with 100 representing perfect inequality and 0 representing perfect equality. The index grows as the distribution of wealth grows increasingly unequal. The GINI

index has been shown to display a positive relationship with crime internationally (Fajnzylber et al., 2002). The GINI index may also have a relationship with organizational justice. Income inequality may decrease civic participation of those impacted (Lancee & Van de Werfhorst, 2012; van Holm, 2019) which is indicative of weaker ties between citizens, local government, and police in an area. Again, this means that police agencies must provide additional organizational support to officers in these areas. This relationship is represented in Path A and corresponds to the following hypothesis:

H1c: The GINI coefficient will have a negative relationship with organizational justice, whereas the GINI coefficient increases and areas become more economically unequal, perceptions of organizational justice will decrease due to increased difficulty of the task environment.

Racial diversity of an area may also play a role in differentiating police perceptions of organizational justice. Tension and lack of trust between communities of color and police are well-documented (Gallup, 2023). In communities of color (typically low-income, racially heterogeneous communities), officers have trouble gaining the trust of citizens, which makes law enforcement more difficult. Democratic societies like the U.S. rely on the trust and perceptions of legitimacy from the public to operate at maximum efficiency (Goldsmith, 2005). Therefore, police may experience a more difficult task environment in communities of color due to a breakdown in communication between police and residents. Racial diversity is measured using Blau's index which measures the probability of two individuals selected at random out of a group to be of different race, ethnicity, or ancestry (Blau, 1977). As Blau's index increases toward its maximum value of 1, racial diversity increases. Therefore, I hypothesize the following:

H1d: As areal racial diversity increases via Blau's index, officer perceptions of organizational justice will decline due to increased difficulty of the task environment derived from weaker social ties between communities of color and police.

Lastly for contextual direct effects, the effect of total population of an area on organizational justice is estimated. The total population of an area may impact perceptions of organizational justice due to the more challenging nature of policing a large population.

H1e: Total population of an area will be negatively related to organizational justice.

DIRECT EFFECTS - ORGANIZATIONAL STRUCTURE

The next set of hypotheses justifies an examination into the relationships between structural factors and organizational justice, represented by Path B. The selection of measures corresponds to Maguire's (2003a) theory of policing organizations, which is used in other research that involves measuring police agency structure (Nowacki & Willits, 2018; Willits, 2014; Willits & Nowacki, 2014). His framework takes concepts unique to management sciences, such as centralization, and applies them to police agencies. Maguire (2003a) reviews literature that show aspects of structure – that is, context, complexity, and control, as relevant to predicting variation in organizational outcomes, such as degree of hierarchical differentiation and proportion of civilian employees hired (King, 1999). These qualities may impact police beliefs and behavior. For example, as size of an organization grows, it may be more difficult to achieve officer perceptions of high levels of organizational justice. Larger organizations are more difficult to control and necessarily increase in complexity, therefore perceptions of organizational justice and treatment might be lowered.

A small amount of research has tested connections between structure and employee attitudes toward organizational justice. The relationship is complex. For example, while centralization decreases perceptions of procedural justice – an aspect of organizational justice (Schminke et al., 2000), it may have no effect on perceptions of organizational justice (Özsahin & Yürür, 2018). Further, degree of formalization was found to be related to increases in all facets of organizational justice (interactional, procedural, and distributive) (Özsahin & Yürür, 2018). Due to the complexity and varying results of this corpus of research and the new setting that structure and organizational justice is being investigated in (police agencies), some caution is required in predicting results.

Organizational context is represented by logged budget and age of an agency in this study. Organizational context refers to the “context” in which an organization develops and is represented by size, age, technology, and physical environment (Maguire, 2003; Nowacki & Willits, 2018). Organizations develop differently depending upon their context. For example, larger agencies indicated by higher budgets will be more structurally complex, require more control to manage effectively and may have different perceptions of organizational justice than a smaller agency. Older organizations typically have more formalized rules and a heavier administrative component, but overall, outcomes associated with organizational age for police agencies is understudied (Maguire, 2003). Some research suggests a connection between organizational age and structure in police agencies (King, 1999, 2009; Maguire, 2003). However, beyond this there is not much research involving studies of correlates with organizational age in police departments. Therefore, a hypothesis is not appropriate for organizational age. The following hypothesis is associated with organizational context:

H2a: Police agency budget will be negatively associated with officer perceptions of organizational justice.

Another component of police organizations is organizational complexity. Organizational complexity refers to structural components such as the style in which labor is divided amongst organization members, the height of an organizational hierarchy, and how tasks are distributed spatially (Maguire, 2003). Complexity in this study is represented by one type of component of complexity: occupational differentiation. This is defined as the percentage of full-time nonsworn employees in an organization similar to other studies (Nowacki et al., 2021; Nowacki & Willits, 2018; Nowacki & Willits, 2019). Organizational complexity may be related to perceptions of organizational justice. Police departments that hire more full-time civilian workers are seen to be following the recommendations of community policing advocates to civilianize the police workforce with the goal of providing better standards of service (Maguire, 2003). More complex organizations may be able to serve employees better by fulfilling more roles in the organization due to the increase of specialized civilian roles. Given this observation, the following hypothesis applies:

H2b: Occupational differentiation will be positively associated with officer perceptions of organizational justice.

The last component of organizational structure in police agencies is organizational control, which the extent that an organization exercises authority over its workers (Maguire, 2003). This is represented by two measures: percentage of full-time officers that are of sergeant rank or above and presence of a foot pursuit policy (Mrozla & Hellwege, 2020; Nowacki & Willits, 2018; Nowacki & Willits, 2019). As organizations grow in size, they become more complex and require more elements of control (Maguire, 2003). However, more organizational

control may be related to officer perceptions of organizational justice. One of the key recommendations for instituting community policing is to rid police agencies of unnecessary rules and regulations and simplify officer work (Maguire, 2003). These unnecessary rules were perceived to make policework more challenging. Hence, the next set of hypotheses relates organizational control to organizational justice:

H2c: As percentage of full-time officers sergeant rank of above increases, organizational justice perceptions will decrease due to a higher concentration of mid-level management.

H2d: Officers in police organizations with foot pursuit policies will perceive less organizational justice than in those agencies that do not have a foot pursuit policy.

There are a few more hypotheses associated with organizational structure, but do not explicitly correspond Maguire's (2003b) study of police organizations. First, there may be a relationship between a department's tendency to hire nonwhite full-time officers and perceptions of organizational justice. Incorporating more diversity into police agencies, especially in leadership positions, may increase perceptions of organizational fairness among African-American police officers (Alderden et al., 2017). Diversification efforts also may increase the trust between communities of color and police (Weitzer & Tuch, 2004). An increased level of trust would benefit both officers and citizens and provide a less stressful environment for both parties. Given these findings, the following hypothesis is tested:

H2e: Increasing proportions of nonwhite full-time officers in agencies will be positively associated with officer perceptions of organizational justice.

Second, the effects of being represented by a police union are tested in the formation of perceptions of organizational justice. Police unions serve to protect the interests of police officers and historically have served as barriers to change in policing by protecting problematic officers,

inhibiting formation of citizen advisory boards, and may prevent innovations from being instituted (Walker, 2008). Conceptually, police unions utilize tactics like trade unions, such as collective bargaining and political lobbying. Unlike citizens that work in trades, police enjoy a level of power that the unsworn citizen does not. Due to the relative power that police wield, police unions have been criticized as methods to maintain a political power differential (Rad et al., 2023). The introduction of police unions have been related to increases in violent misconduct in police officers in Florida, possibly due to the loss of deterrence in committing police misconduct as officer expect to be protected by the union (Dharmapala et al., 2022). Recall that officer burnout may be correlated to increases attitudes favorable toward using force against citizens (Kop et al., 1999; Kop & Euwema, 2001). Given this information, union representation could either increase or decrease perceptions of organizational justice. An increase in positive perceptions in organizational justice among officers could occur due to feeling more protected by a police union. Alternatively, police unions may be an insidious force that adds difficulty to police work by allowing officers too much freedom in dictating how difficult situations that could involve use of force are handled.

H2f: Presence of a union among police agencies will be related to officer perceptions of organizational justice.

The last element of structure examined in relation to organizational justice is police professionalism. Professionalism in policing can be described as hiring practices and ongoing training efforts for police to create legitimacy in the eyes of constituents. This is attempted by hiring officers with certain qualifications, such as an associate's or more rarely, a bachelor's degree. Agencies also keep officers up to date with technology, investigative techniques, and law in more professionalized agencies. One aspect of professionalism, a commitment to having

educated officers, is associated with less incidence of citizen-officer violence and less citizen complaints alleging improper use of force by officers (J. A. Shjarback & White, 2016). Educated officers with four-year degrees are also less likely to use verbal and physical coercion, while officers with at least some college are less likely to utilize verbal coercion (Paoline & Terrill, 2007). When taking into account that burnout might be positively correlated with attitudes favorable toward using force against citizens (Kop et al., 1999; Kop & Euwema, 2001) the prospect of hiring more educated officers whom may use less force is an important consideration in producing organizational justice. Higher-educated officers may perceive more organizational justice in their agency due to less proclivity to use force against citizens. Put another way, education might serve as a protector toward downstream feelings of burnout and anger due to job stressors. The following hypothesis is tested:

H2g: Officers with higher education will be more likely to hold positive perceptions of organizational justice in their agency.

DIRECT EFFECTS – ORGANIZATIONAL CULTURE

While the term, “police culture” escapes an exact definition, researchers have documented a problematic and self-sabotaging “traditional police culture” that is associated with negative outcomes such as distrust toward citizens, a “cover-your-behind” attitude, and a greater likelihood of using coercion in citizen encounters (Silver et al., 2017; Terrill, Paoline, et al., 2003). These qualities associated with the culture are counter to the ideals of organizational justice. In fact, organizational justice perceptions are associated with trusting and respecting citizens (Carr & Maxwell, 2018). It may be the case then, that belief in values of traditional police culture is associated with poorer outlooks on organizational justice. Given findings of past

research showing that traditional police culture is associated with deleterious outcomes such as increased tendency to use coercion (Silver et al., 2017; Terrill, Paoline, et al., 2003) increased tendency to search citizens (Paoline & Terrill, 2005) and aggressive patrol behavior (Ingram et al., 2018), it is probable that belief in traditional police culture will be associated with negative perceptions of organizational justice. This link is important when taking into account additional prior research showing positive impacts of organizational justice, including increased rule compliance (Rosenbaum & McCarty, 2017) and increased positive perceptions of citizens (Carr & Maxwell, 2018). Traditional police culture is a reaction to a hostile work environment (Paoline, 2003) – it may be the case that in agencies where employees perceive greater levels of organizational justice, officers may not adhere as closely to the culture. I explore this relationship in the following hypotheses:

H3: Officer beliefs in traditional police culture will be related to perceptions of organizational justice whereas belief in traditional police culture increases, perceptions of organizational justice decrease.

SIMPLE AND MULTIPLE MEDIATING PATHWAYS

The idea that the environment dictates police structure and culture dates back to Wilson's (1963) work on local political environment and police agency organizational typology. Modern tests of Wilson's theory do not find that local political environment significantly influences policing styles (Liederbach & Travis, 2008; Zhao et al., 2006; Zhao & Hassell, 2005). It is believed by organizational theorists that the physical environment impacts the structure of organizations (Maguire, 2003). For example, larger police departments typically hire greater proportions of civilian personnel than smaller departments (Reaves, 2015). Additionally, there is

evidence showing that perceptions of local crime problems impact police organizational structure, such as the addition of a gang unit (Katz, 2001). Higher amounts of concentrated disadvantage in an area lead to more officer responses (Lautenschlager & Omori, 2019), and turnover (Smith et al., 2014).

Given this information, there is a possibility that elements of structure may at least partially mediate the relationship between concentrated disadvantage and perceptions of organizational justice. For example, the potential negative relationship between disadvantage and organizational justice might be partially explained by the proportion of nonwhite officers hired. Agencies located in disadvantaged areas might hire more officers of color, and these officers tend view the organization more negatively than white officers (Bolton & Feagin, 2004) which may manifest as lower perceptions of organizational justice. The proportion of nonsworn personnel an agency hires may also at least partially explain the relationship between disadvantage and organizational justice. Agencies with more disadvantaged areas to police may hire additional nonsworn personnel to address increasingly complex workloads and to meet the demands of the task environment. Nonsworn personnel are commonly paid lower salaries than sworn officers and generally experience adversarial relationships with sworn officers, which may lead to lower levels of organizational justice for this group.

The logic of testing this pathway is that agencies with more challenging operating environments may raise officer morale by understanding and incorporating more just organizational structure. This is represented in the following hypothesis (represented paths D & B):

H4a: The negative relationship between disadvantage and organizational justice will be mediated by organizational structure.

The local policing environment should also impact local officer cultural adaptations. One line of research shows that local environment impacts officer behavior and culture. For example, officers are more likely to use excessive force in neighborhoods characterized by high levels of concentrated disadvantage (Hays, 2011; Terrill & Reisig, 2003) and turnover is higher in agencies that police areas with high amounts of concentrated disadvantage (Smith et al., 2014). Further, other evidence suggests that police traditional police culture is formed as a defense mechanism against stresses of the job (Chan, 2007). Altogether then, I expect that areal concentrated disadvantage will be related to individual-level police belief in traditional police culture.

Police cultural adaptation might also be related to organizational justice. This is because the ideals of organizational justice run counter to qualities of traditional police culture. Specifically, traditional police culture is indicative of not trusting agency leadership, taking institutional rules less seriously, and a greater likelihood of using coercion in police encounters (Chan, 2007; Silver et al., 2017; Terrill et al., 2003).

Therefore, mediation may be tested where the adherence to traditional police culture mediates the effect between social disorganization and organizational justice. Officers in disadvantaged areas may have an increased adherence to traditional police culture. When officers have an increased belief in traditional police culture, they also have lowered perceptions of organizational justice. It is possible that a negative relationship between social disorganization and organizational justice is partially or fully explained by traditional police culture, which would imply a focus on changing police culture rather than attempting to change the physical patrol environment, which is much more difficult. This is tested in the following hypothesis (represented by paths E and C):

H4b: The relationship between social disorganization and organizational justice will be partially or fully mediated by internal culture represented by belief in traditional police culture.

Organizational structure is the setting in which culture is developed. For example, one paper shows that individual officer cultural perspectives vary significantly across agencies, and directly states:

“Structural characteristics such as agency size, police department vs. sheriff’s office, the presence or absence of a union, or region of the country might account for some systematic differences [in cultural perspectives]. Factors in the external environment, such as the jurisdiction’s governing structure (city manager vs strong mayor, for example), the economic and demographic makeup of the population, and the level of crime and disorder might influence a police organization’s culture” (Cordner, 2017, p. 22).

Policing is a diverse institution; the idea of a monolithic police culture is waning, and instead the idea that police culture is more diverse than first observed is taking hold (Paoline, 2003). Literature shows that there is great interest in exploring the link between organizational justice and organizational structure (Greenberg, 1993; Marjani & Tohid Ardahaey, 2014; Sheppard et al., 1992). I posit that aspects of organizational structure (context, complexity, and control) (Maguire, 2003) may impact officer belief in traditional police culture. This is represented in path F. If there is a relationship between structure and culture, then a process will be tested where the relationship between organizational structure and organizational justice is mediated by traditional police culture. In more concrete terms, the relationship between organizational structure and organizational justice may in fact be explained by officer belief in traditional police culture. This would imply that rather than attempting to revise organizational

structure to increase perceptions of organizational justice, the agency would instead focus on decreasing officer belief in traditional police culture. Put simply, elements of organizational structure may impact the nature of traditional police culture, leading to differentiation in organizational justice. The associated hypothesis is the following (represented by paths F and C).
H4c: The relationship between elements of police agency structure and organizational justice will be fully or partially mediated by police belief in traditional police culture.

The proposed model implies the existence of multiple mediation. It is possible that environmental, structural, and cultural factors work concurrently to produce differentiation in organizational justice. Environment may impact organizational structure, which then may affect organizational culture, followed by an impact on perceptions of organizational justice. The last step of testing mediation is to test the relationship between these three factors. This last mediation hypothesis is represented by the whole of Figure 1.

H4d: The relationship between context and organizational justice is partially mediated by organizational structure and organizational culture.

MODERATING EFFECTS

The final portion of the analysis tests for interaction effects between context, structure, and culture on perceptions of organizational justice. First, I consider the possibility of an interaction effect between elements of agency structure and the level of social disorganization in the environment. It is important to understand if there are interactive effects between social disorganization and elements of agency structure. For example, disadvantage might moderate the impact of agency size on organizational justice. In highly disadvantaged areas, the negative impact of size on organizational justice perceptions might increase due to the more challenging

environment that a disadvantaged area provides. To test this theory, two sets of interactions are observed: budget and disadvantage and nonwhite officer percentage and disadvantage. For budget and disadvantage, the predicted negative relationship between budget and organizational justice may be multiplied by the degree in which an area experiences concentrated disadvantage. In other words, the setting of an area characterized by concentrated disadvantage may exacerbate the negative relationship between budget and perceptions of organizational justice due to the more challenging setting that the agency developed in. For nonwhite officer percentage, the predicted negative relationship between nonwhite officers' proportion and organizational justice may be impacted by concentrated disadvantage present in the jurisdiction. While nonwhite officers are already more likely to view the police department as less fair, working in an area characterized by concentrated disadvantage might multiply this impact due to challenges associated with policing in these areas that might necessitate additional support from an agency.

H5a: The effect of agency budgetary size on organizational justice is conditioned by social disorganization.

H5b: The effect of nonwhite officers working within an agency on organizational justice is impacted by social disorganization.

The importance of the environment should also be considered when testing the relationship between agency traditional police culture and organizational justice. Due to the operational challenges that policing highly disadvantaged areas presents, such as increased officer chances of using force (Terrill & Reisig, 2003), it is possible that a stronger traditional police culture could manifest at agencies in these areas, resulting in a multiplicative effect on perceptions of organizational justice. In other words, the negative impact of traditional police culture on organizational justice may be more pronounced in areas characterized by high

amounts of disadvantage, which are stressful for officers to patrol. It is important to test this interaction for practical reasons - it is more attainable to change agency culture than it is to change an area's level of disadvantage. Traditional police culture has been theorized to be a response and defense mechanism to unique police job stressors (Terrill, Paoline, et al., 2003). Evidence for this hypothesis is also bolstered by research showing that police officers are more likely to voluntarily leave jobs in more highly disadvantaged areas (Smith et al., 2014). Given this information, the following hypothesis will be tested:

H6: The proposed negative impact of concentrated disadvantage on officer perceptions of organizational justice is multiplied by adherence to traditional policing culture.

The possibility of an interactive relationship between traditional police culture and organizational structure is also tested. The impact of police structure on organizational justice may differ at different levels of belief in traditional police culture. For example, a mechanistic organizational structure, such as that seen in police agencies, is more likely to produce employee belief in procedural justice (Ambrose & Schminke, 2001). However, in agencies with high amounts of traditional police culture, this effect might be lessened. Some research shows in organizations with more organic structures, interactional justice was related to trust in supervisors (Ambrose & Schminke, 2003). Beyond this link, much is still unknown about the link between organizational structure and culture (Ambrose & Schminke, 2003).

Given that belief in traditional police culture is associated with other negative outcomes, such as using greater amounts of force than expected (Terrill, Paoline, et al., 2003) it is possible that traditional organizational police culture could dampen the impact of organizational structure on belief in organizational justice. This is an important interaction to test since police agencies have the capability to change organizational structure and culture. If evidence of an interaction is

found, the implications are that agencies should focus on changing organizational culture and structure to improve perceptions of justice for employees. To test this, the interactive relationship between organizational budget (size) and officer belief in traditional police cultural practices is examined. The expected relationship between budget (size) and organizational justice perceptions may be different depending on cultural practices of the agency, whereas large agencies with larger budgets that require more organizational control could be more difficult to manage traditional police cultural attitudes.

H7: The negative effect of budget (size) on organizational justice is conditioned by traditional cultural beliefs of an agency.

CHAPTER IV

RESEARCH METHODS

DATA

This dissertation utilizes four administrative sources of data: the Law Enforcement Officer A 2013-2015 Phase 2 National Police Platform Data; 2012-2016 American Community Survey 5-Year averaged place-level data; 2016 Law Enforcement Management and Administrative Statistics (LEMAS) data; and county-level and agency-level Uniform Crime Report (UCR) data. To merge this data together, I use 2012 Law Enforcement Agency Identifiers Crosswalk data, and 2008 Census of State and Local Law Enforcement Agencies (CSLLEA) data which includes multiple identifiers for United States police agencies along with the date of founding, which is used to measure organizational age. Starting with LEO A data, I merge this set to the 2012 Crosswalks, followed by ACS 2012-2016 data, 2016 LEMAS data, and ending

with the 2008 CSLLEA data. The nesting structure of the final data is representative of individual officers within agencies.

THE NATIONAL POLICE RESEARCH PLATFORM, PHASE 2, LEO A

The Law Enforcement Officer A police platform data phase 2 data (Rosenbaum et al., 2016) were collected between July and November, 2013 and were distributed through the Qualtrics Inc. survey platform (Rosenbaum & McCarty, 2017). Surveys were sent by email to officers through their supervisors and were reminded to take the survey via reminder emails for one month. A total of 15,236 sworn personnel were surveyed within 88 unique agencies with an average within-agency response rate of 45% (Rosenbaum & McCarty, 2017). The sampling frame comprised of self-representing agencies in the 2007 LEMAS survey (agencies with equal to or greater than 100 sworn personnel), with the exclusion of agencies with over 3000 sworn personnel (Rosenbaum & McCarty, 2017). 12 agencies were eliminated from the set because they were included as recognition from being involved in Phase 1 (Cronin et al., 2017; Rosenbaum & McCarty, 2017). The remaining 88 agencies in the sample were randomly selected. Sampling was conducted by stratifying into four categories based on size and sampled an equal number of agencies from each category until 100 were selected and contacted for inclusion. If an agency declined to be included, then another agency of similar size would be randomly selected for replacement (Cronin et al., 2017). The LEO A version of the survey contained 65 items and inquired about work satisfaction, opinions of supervisors, and work culture, and is the first attempt to collect nationally representative data on police culture, therefore making this data extremely valuable to study (Cronin et al., 2017; Rosenbaum &

McCarty, 2017). LEO A is the source of measurement for the dependent variable, organizational justice, in this study.

This set of data is part of a larger study on police culture, structure, and practices (McDevitt et al., 2016; Rosenbaum et al., 2016). The Police Platform data set has two phases, with phase 2 having three versions administered at different time frames: LEO A, LEO B, and LEO C. Phase 1 served as a validation for measures, while phase 2 improved upon measures and structure used. Phase 1 collected data from 2009 to 2011, while Phase 2 began in 2013. This dissertation uses phase 2 LEO A data, which was collected between July 8th, 2013 to November 24th, 2013. LEO B was conducted between September 9th, 2013 and January 27th, 2014. Lastly, LEO C was used between October 20th, 2014, and February 14th, 2015. Each version utilized different indicators and assessed varying issues within policing.

AMERICAN COMMUNITY SURVEY, 2012-2016 5-YEAR ESTIMATES

Contextual variables were accounted for by leveraging place-level 2012-2016 5-year averaged American Community Survey (ACS) data. This version of ACS data is considered to be the most reliable, and has a larger sample size due to the inclusion of geographic areas with less than 65,000 residents (U.S. Census Bureau, 2020). 5-year data is used through 2016 to match up with the 2016 Law Enforcement Management Statistics data, which is the most up-to-date data on police structure. Importantly, LEO A data collection takes in place in 2013. Demographically, agencies do not change much between 2013 and 2016 (Hyland & Davis, 2019; Shjarback, n.d.) therefore allowing use of the latest data. The ACS is a periodic survey that collects demographic information from a random sample of addresses obtained from the Census Bureau's Master Address File (MAF). This data is used since it provides complete coverage of

all U.S. place-level census tracts. This demographic information includes age, sex, race, national origin, but contains other information useful for constructing social disorganization measures such as marital status, educational attainment, income, housing characteristics, employment status, and poverty status. The file contains information for 29,322 U.S. cities, towns, and census designated places when excluding Puerto Rico. This data is merged with police agency information using unique state-place combined FIPS codes, therefore providing place-level demographic information for each agency. Residents who have lived at or will live at the sampled address for two months or more are contacted. The average response rate from 2012 to 2016 for the ACS was approximately 95% (American Community Survey Office, US Census Bureau, 2017).

2016 LAW ENFORCEMENT MANAGEMENT ADMINISTRATIVE STATISTICS

The 2016 LEMAS is used to provide information on structural characteristics of police departments. The 2016 LEMAS will provide the most up to date information on internal structure of U.S. police agencies. LEMAS data were chosen since they are nationally representative of U.S. police agencies and recognized as the premier source of data on U.S. police agency policies and structure (Matusiak et al., 2014). The 2016 LEMAS set is constructed by sampling from the Law Enforcement Agency Roster (LEAR). Agencies in the LEAR with 100 or more sworn personnel were automatically included in the LEMAS sample (i.e. self-representing agencies). All other agencies were stratified by type (county, municipal, state) and size and randomly sampled from strata. Agencies were excluded from sampling if they were part-time local agencies, special jurisdictions, or had outsourced work operations. A

representative of the agency filled out the survey either in paper or online. The 2016 LEMAS had a response rate of 80%. The LEMAS series of data is the most appropriate set to use for this research because it is the longest running nationally representative survey that captures the information needed to construct measures of structure of U.S. police agencies. There are many examples of LEMAS being used to measure police agency structure (e.g. Matusiak et al., 2014; Nowacki & Spencer, 2019; Nowacki & Willits, 2018; Willits & Nowacki, 2016). Important information included in the LEMAS series of data include: number of sworn and citizen personnel, budget, number of specialized units, and racial and ethnic diversity.

FINAL SAMPLE CREATION

To create the final data set, data sets were merged using different identifiers. The initial Platform data set has 15,236 observations and 88 agencies represented. The Platform data is merged with Crosswalk data utilizing 7-digit ORI (Originating Agency Identifier) numbers, which uniquely identify police agencies. Crosswalk data is used to gain access to unique state-place FIPS codes. All agencies are merged successfully. Second, a unique FIPS code is created by combining the state and place FIPS codes. These FIPS codes are used to identify place-level data within the ACS data. The combined Crosswalk-Platform data was then merged with place-level ACS data. This merge results in the loss of 4,289 cases and 22 agencies, which were state- and county-level agencies. Hence, the sample reflects only municipal agencies. After this merge, the sample now has 10,947 observations for 66 different agencies. The next step merges 2016 LEMAS data by using 9-digit ORI numbers that uniquely identify agencies, resulting in retaining 9127 observations and 57 agencies. The last step was to merge the 2000 CSSLEA which contains information regarding organizational age. Merging with this data resulted in retaining a

total of 8559 observations and 54 agencies. 8 additional cases were dropped from the sample because officers answered a question asking about age with improbable ages, bringing the total to 8551 officers within 54 agencies.

MEASURES

Three different types of measures are included in this study: police officer cultural measures, environmental contextual measures, and police agency structural measures. Cultural measures will be measured using the Phase 2 LEO A Police Platform Data; environmental measures will be created using ACS data; and structural measures will be accounted for by leveraging LEMAS. Cultural measures are included at the individual- and agency-levels, while environmental and structural measures are agency-level only. Environmental measures are only available at the agency-level because when merging data, each place was associated with a single police department, resulting in a 1-to-1 mapping of places to agencies. Descriptive statistics and information for study variables are in Appendix 1.

ORGANIZATIONAL JUSTICE

There is no consensus of best practice to measure organizational justice in police officers in the research literature. Highly cited studies that account for police officer perceptions of organizational justice account for measurement differently, but with similar themes. For example, Wolfe and Piquero (2011) measure procedural justice with two items: “when a police officer appears before the Police Board of Inquiry, the officer will probably be found guilty even when he/she has a good defense” and “The rules and regulations dealing with officer conduct are fair and sensible” (Wolfe & Piquero, 2011, p. 340). To compare, Myhill and Bradford (2013)

measured procedural justice with six items including: “senior managers are open to different views” and “the force acts fairly regarding career progression and promotion” (Myhill & Bradford, 2013, p. 355).

To measure organizational justice, indicators resembling procedural, interactional, and distributive justice were standardized and combined into a single summed, continuous score ($M = -0.049$, $SD = 7.350$, $\alpha = 0.850$). This measure closely resembles Rosenbaum’s and McCarty’s (2017) organization-wide justice measure, with one key difference. Rosenbaum’s and McCarty’s (2017) diversity justice measure (“employees are treated the same regardless of gender”, “employees are treated the same regardless of race”) is integrated into the organizational justice measure. Conceptually, equal treatment between genders and races speaks to distributive justice, which is the perception in which resources are distributed equally regardless of race, gender, or social status. The following items are used to account for distributive justice using a 4-point Likert scale indicating level of agreement with each of the following statements: “employees who consistently do a good job are rewarded”, “getting good assignments depends on whom you know, not on merit” (reverse-coded), “employees are treated the same way regardless of gender”, and “employees are treated the same regardless of race.” Interactional justice was measured with the following items using a 5-point Likert scale indicating level of frequency in which an event occurs: “when sending important information up the chain of command, how often does it reach the top timely and accurately” and “when introducing something new, how often are the reasons communicated clearly.” The next set of indicators for interactional justice use 7-point Likert scales that assess the frequency of witnessing an event: “how often do you hear jokes or negative comments about females”, “how often do you hear jokes or negative comments about minorities”, “how often do you hear jokes or negative comments about sexual orientation.” The

last portion of organizational justice, procedural justice, is measured using 4-point Likert scales indicating agreement with the following statements: “officers are treated with respect during disciplinary investigations”, “in this agency, the disciplinary process is fair”, and “officers who consistently do a poor job are held accountable.” Overall, this measure is representative of each dimension of organizational justice: distributive, procedural, and interactional.

ENVIRONMENTAL INFLUENCES

This dissertation examines social disorganization as the main environmental factor influencing agency culture, structure, and officer perceptions of organizational justice. Social disorganization is measured by accounting for concentrated disadvantage, residential instability, income inequality and racial heterogeneity. The total population of place-level census tracts is also included as a contextual measure and was rescaled by dividing the total population by 10,000 to combat variance inflation. Concentrated disadvantage is measured as a factor score with the following characteristics: proportion of population aged 18-64 living under the poverty line, proportion of civilian workforce unemployed, proportion of the population aged 25 years and older with less than a high school degree, proportion of single female-headed households with children, proportion of the population aged 15 or older and married, and median household income ($M = 0.001$, $SD = 1.000$). Residential instability is measured as a factor with two indicators: the inverse of the proportion of the population that lived in owner-occupied housing and the proportion of residents that moved in 2010 or later (Sampson et al., 1997) ($M = 0.000$, $SD = 1.000$). Blau’s (1977) index is used to measure racial and ethnic heterogeneity ($M = 0.579$, $SD = 0.131$). This index is achieved by summing the squared proportion of each racial and ethnic group in the population and subtracting from 1. The index ranges from 0 to 1, where higher

values signify more racial diversity. The GINI index is a measure of dispersion that can be used to approximate income inequality (US Census Bureau, 2024). GINI ranges from 0 to 1, where high values signify a greater degree of inequality in income among the population ($M = 0.476$, $SD = 0.034$).

ORGANIZATIONAL STRUCTURE

Organizational structure consists of Maguire's (2003a) conceptualizations of context, complexity, and control, and are accounted for by leveraging LEMAS data. The measures of structure used for this study have seen use in a variety of police organizational studies (Maguire, 1997, 2009; Maguire & Katz, 2002; Maguire & Mastrofski, 2000; Nowacki & Spencer, 2019; Paoline & Sloan, 2003; Willits & Nowacki, 2016) and is the most widely accepted method of accounting for structural differentiation in police agencies. All organizational measures are at the agency level. Organizational context was measured using department budget (logged) and age of the agency. The natural log of the department budget was used due to a large right skew in the data. The age of an agency was measured by accounting for the year in which an agency was formed ($M = 1870.767$, $SD = 38.983$). Organizational complexity was measured by accounting for the proportion of full-time nonsworn employees out of all full-time employees, which encapsulates degree of civilianization (or occupational differentiation). Organizational control was approximated with two separate indicators: whether an agency has a foot pursuit policy (69.7%, $n = 38$ agencies) and the percentage of full-time officers that are of sergeant rank or above ($M = 18.694$, $SD = 4.67$). The final three measures of structure do not fall into complexity, context, and control, but may impact perceptions of organizational justice. First, the proportion of full-time officers that identify as nonwhite were included as a measure of workplace diversity,

which may be indicative of a more just and equal police agency ($M = 23.965$, $SD = 13.654$).

Second, a binary variable for union membership was included, where a 1 indicates if all or some of the full-time sworn officers are represented (88.3%, $n = 48$ agencies). Last, a binary measure of professionalization was used where a 1 signifies an agency requirement of having any further education beyond a high school degree (39.8%, $n = 21$ agencies).

ORGANIZATIONAL CULTURE

Organizational culture is measured by beliefs in several items that ask about officer opinion of their supervisor and attitudes toward fellow officer misconduct from the police platform data. These items provide two indicators of traditional police culture (Silver et al., 2017; Terrill, Paoline, et al., 2003). Officers that support ideas congruent with traditional police culture would show more negative attitudes toward their supervisor and see officer misconduct as less serious due to the ideal of loyalty to fellow officers. For attitudes toward supervisors, a factor was created using the following items measured on a 5-point Likert scale and asked how often: “supervisor inspires me to work to the best of my abilities”, “supervisor does good for organization not just themselves”, “supervisor sets a good example for everyone”, “supervisor makes clear what is expected”, “supervisor avoids dealing with problems” (reverse coded), “supervisor gives inexperienced direction and guidance” (reverse coded) ($M = 0.00$, $SD = 1$). These items had high internal consistency, showing evidence of reliability ($\alpha = 0.93$). These items have been used in previous research to create a similar scale measuring perspectives on supervisors (Cordner, 2017; Patterson & King, 2023)

The second aspect of traditional police culture measured is officer attitudes toward improper police conduct. In the Platform data, officers were asked to evaluate two scenarios and

answer three questions after reading them. The first scenario depicted an officer making a false drug report and asked “how serious do you consider an officer making a false drug report” (5-point Likert scale), “how many officers would report a fellow officer making a false drug report” (all or almost all, the majority, about half, some, a few, none) , and “what discipline would follow for an officer making a false report” (none, verbal reprimand, written reprimand, fine/suspension/without pay, demotion in rank, dismissal, dismissal & prosecution). The questions regarding seriousness have been used in past research to measure officer perceptions of seriousness of misconduct (Maskaly et al., 2017). The second scenario depicted an encounter where an officer pulled over a fellow officer who happened to be driving while under the influence of alcohol. The questions asked regarding this scenario have the same structure and scale as the questions for the false drug report scenario, but address seriousness for not acting against an intoxicated fellow officer that is driving. These indicators were standardized and summed together to create a score ($M = 0.00$, $SD = 1.00$) where higher values indicate more seriousness. These items had lower, but passable internal consistency ($\alpha = 0.620$). Therefore, traditional police culture is represented by two variables.

CONTROL VARIABLES

Organizational justice may be correlated with the personal characteristics of officers. For example, one study found that gender was linked with organizational justice perceptions, where females perceived less distributive justice (Ramamoorthy & Flood, 2004). To combat bias, I control for a range of individual officer characteristics measured in the police platform data: gender, highest level of education, rank, racial/ethnic background, and age. Gender is measured by a binary variable where a 1 signifies an officer identifying as female (13.4%, $n = 1146$). Race

is measured with a binary variable where a 1 indicates an officer identifying as white, and a 0 indicating Black, Hispanic, Asian/Pacific Islander, Native American, bi/multiracial, and other (81.2%, $n = 6943$). Highest level of education equals 1 when an officer indicates possessing an undergraduate degree or higher level of degree (55.1%, $n = 4712$). Officer rank is controlled for where a 1 indicates an officer being a trooper, officer, or detective, while a 0 indicates an officer having the rank of master police officer, corporal, sergeant, lieutenant, captain, major, or above (61.3%, $n = 5242$). Officer age is also included as a control variable ($M = 41.886$, $SD = 8.505$).

ANALYTIC STRATEGY

Multi-level path modeling with multiple imputation was used to estimate effects. Path modeling is theory-driven and involves regressing variables in a closed, sequential system. Path modeling is considered to be a special case of structural equation modeling, except that the variables involved are observed instead of latent (Barbeau et al., 2019).

Multiple imputation was used due to missing data in some level 1 variables and to retain cases otherwise lost by complete case analysis (Rubin, 1987; Schafer, 1997). Chained equations imputation was performed in Mplus version 8.9 (Muthen & Muthen, 1998) and results were averaged across 50 multiply imputed data sets. Data was complete for 71.51% of cases, while 11.68% of cases was missing information for a single indicator. 16.81% of cases were missing more than one indicator. Missingness was present only in level-1 variables. Each of the 54 agencies included in the sample had at least some missing data present in one or more variables. Only level-1 study variables with missingness were included in the imputation (organizational justice, level-1 supervisor opinion, level-1 traditional police cultural beliefs, race, gender, college experience, and rank) including the dependent variable organizational justice, which had 12.8%

missingness in values. Other indicators with missing data were level-1 supervisor opinion (5.2%), level-1 traditional police culture (10.8%), race (14.9%), gender (13.1%), education level (11.3%), age (19%) and rank (10.2%). Predictor variables were grand-mean centered before estimation to increase interpretability of intercepts, except for the level-1 and level-2 versions of the two cultural variables (traditional police cultural beliefs and officer opinions of supervisor), which were adjusted by subtracting level-2 values from level-1 values to combat multicollinearity.

Multi-level path modeling is useful for concurrently testing all theorized paths in addition to mediation and moderation effects, while also accounting for the nested nature of the data with officers clustered within police agencies. I expect environmental factors to influence structural factors (all at level-2), which will impact cultural factors (levels-1 and -2), resulting in changes in perceptions of organizational justice (measured at level-1). Path modeling is preferred over regression in this analysis due to the ability to estimate effects of multiple predictor variables on dependent variables of interest (Barbeau et al., 2019). Path analysis has similar statistical assumptions to regression, including normality of the dependent variable, lack of multicollinearity, and lack of outliers (Barbeau et al., 2019). The equation for a multi-level model resembles the following for a two-level random intercept model (Johnson, 2010):

$$\text{Level 1: } Y_{ij} = \beta_{0j} + \beta_{1j}X_{ij} + r_{ij}$$

$$\text{Level 2: } \beta_{0j} = \gamma_{00} + u_{0j}$$

Here, Y_{ij} represents the individual-level outcome, which is perceptions of organizational justice. β_{0j} represents the level-1 intercept which is estimated as an outcome in the level-2 portion of the equation and can be substituted into the level-1 part of the equation. X_{ij} represents

an individual-level covariate. γ_{00} represents the level-2 intercept. u_{0j} represents the level-2 error term, while r_{ij} represents the level-1 error term.

The analysis tests each of the hypotheses outlined above. After imputing, an unconditional model where no predictors are included is examined to estimate the intraclass correlation coefficient (ICC) which is detailed in the following equation:

$$p = \frac{\tau_{00}}{(\sigma^2 + \tau_{00})}$$

This equation explains that the ICC is a function of between-group variance divided by the sum of within- and between-group variance. Larger ICCs are desired in multi-level analysis as larger coefficients indicate a greater proportion variance in the outcome (organizational justice in this study) is due to variance between groups at level 2. After unconditional model estimation, direct, mediation, and moderating effects are estimated and examined. To understand how effects are related, groupings of predictor variables were added sequentially and estimated separately. For example, a model where only context was estimated is compared to a model where context and structure are accounted for. Each model is evaluated by examining path coefficients for relationships between variables. Due to the nature of path modeling, each model is just-identified, which means that typical indices of fit, such as the Tucker-Lewis Index (TLI), comparative fit index (CFI) and root mean squared error of approximation (RMSEA), chi-square, and standardized root mean square residuals (SRMR) are not applicable. A just-identified model means that the degrees of freedom are 0 and model fit cannot be assessed. In lieu of these model fit statistics, relative model fit is examined through comparison of Akaike Information Criteria values (AIC) and Bayesian Information Criteria values (BIC), where smaller values indicate a better fitting model relative to a different model. Due to use of multiple imputation to replace

missing values, R^2 used to approximate variance explained in the organizational justice dependent variable is also unable to be estimated. Despite these drawbacks, the analysis still provides an accurate estimation of relationships between observed variables.

After estimating direct effects, a formal mediation analysis will be conducted where hypotheses 4a through 4c are tested. This is accomplished by estimating the appropriate mediation models in Mplus 8.9 (Muthen & Muthen, 1998) and evaluating the significance of direct and mediating effects on organizational justice. Lastly, interaction terms are created and examined to test hypotheses 5 through 7. If the interaction term is significant in simple models, the interaction is tested in the full model with controls. Hypotheses for interactions are evaluated by testing for the significance of interaction terms in the full model.

[Figure 1 about here]

CHAPTER V

RESULTS

NULL MODEL

The first step in estimating multi-level models is to calculate the intraclass correlation for the dependent variable of interest to establish the necessity of a multi-level approach. A two-level null model without predictors is estimated with organizational justice as the only variable of interest included. An ICC of 0.081 indicates that 8.1% of the total variation in officer perceptions of organizational justice is due to between-agency differences. This ICC is similar to the 9% found in another study that uses the police platform data to measure procedural justice (Li et al., 2024). The between-groups variance component was 4.456 while the within-groups variance component was 50.375. This supports an effort to examine organizational justice from a multi-level perspective.

DIRECT EFFECTS

The second step in the analysis was to estimate a total of 14 different models for direct effects, thereby considering every different combination of contextual, structural, and cultural factors. Here, only 3 models are shown that display results for context, structure, and culture separately (other models may be found in the Appendix). Direct effects are evaluated by examining the direction and significance of each individual path. Due to the use of multiple imputation, the analysis is unable to evaluate relative strength of effects of the paths. H1 through H3 detail each test involving a direct effect. Tables 1 through 3 display direct effects of context, structure, and culture on officer perceptions of organizational justice. Table 1 examines the relationship between environmental context and organizational justice with control variables.

Concentrated disadvantage was negatively related to officer perceptions of organizational justice ($b = -1.109, SE = 0.246, p < .01$). This finding supports rejecting the null hypothesis for H1a predicting a relationship between disadvantage and organizational justice. Residential instability was unrelated to organizational justice ($b = 0.088, SE = 0.318$) resulting in a lack of support for hypothesis H1b. The GINI index ($b = -17.560, SE = 8.766, p < .05$) was negatively and significantly related to organizational justice. Hypothesis H1c, predicting that the GINI coefficient would be negatively related to organizational justice, was supported by these results. Blau's index ($b = -1.125, SE = 2.168$) and total population ($b = -0.011, SE = 0.008$) were unrelated to organizational justice, resulting in a lack of support for hypotheses H1d and H1e.

[Table 1 about here]

For control variables, being a female officer is associated with having more negative perceptions of organizational justice ($b = -1.164, SE = 0.263, p < .01$). Officers that are of lower rank tend to also possess more negative perceptions of organizational justice within their agency ($b = -2.059, SE = 0.309, p < .01$). Conversely, officer race ($b = 0.449, SE = 0.276$) and officer college education ($b = 0.026, SE = 0.210$) were unrelated to perceptions of organizational justice.

Officer age was related to organizational justice at a higher level of significance ($b = 0.024$, $SE = 0.014$). Adding control variables to the context-only model resulted in a 0.004 increase of the ICC from 0.082 to 0.086.

Table 2 presents the direct relationship between structure and officer perceptions of organizational justice with control variables. Two structural variables were significantly related to organizational justice. The proportion of full-time nonsworn employees, a measure of organizational complexity, was positively related to organizational justice ($b = 8.523$, $SE = 2.933$, $p < .01$). This finding supports hypothesis H2b, showing evidence of a relationship between occupational differentiation and organizational justice. The proportion of nonwhite full-time officers was negatively related to perceptions of organizational justice where a one percent increase in the proportion results in a -0.045 ($SE = 0.018$, $p < .05$) unit decrease in officer perceptions of organizational justice. This finding is opposite of the prediction in hypothesis H2e, where a positive relationship is predicted. Other structural measures included were not significantly associated with perceptions of organizational justice. Logged budget, a measure of organizational context, was not related to organizational justice perceptions ($b = -0.463$, $SE = 0.299$) which runs counter to predictions in hypothesis H2a. Organizational age, another indicator of organizational context, was also not associated with officer perceptions of organizational justice ($b = 0.011$, $SE = 0.008$). The percentage of full-time officers at sergeant rank or above, a measure of organizational control, was unassociated with organizational justice ($b = -0.020$, $SE = 0.060$) showing lack of support for hypothesis H2c. Similarly, having a foot pursuit policy, another indicator of organizational control, was not associated with organizational justice ($b = 0.782$, $SE = 0.674$). This finding runs counter to expectations described in hypothesis H2d. Agency police union membership was not related to organizational justice ($b = 0.298$, $SE =$

0.711), showing a lack of support for hypothesis H2f. Lastly, agency-wide college education requirements were also unrelated to perceptions of organizational justice ($b = 0.063$, $SE = 0.534$). No support was found for hypothesis H2g. The ICC for this model was 0.087, resulting in a small decrease from the contextual model with controls.

[Table 2 about here]

Table 3 details the relationship between individual- and agency-level belief in traditional police cultural values: distrusting one's supervisor and displaying a proclivity toward protecting fellow officers who abuse their authority, alongside control variables. Among individual officers, having more positive perceptions of supervisors is associated with increases in organizational justice perceptions ($b = 2.481$, $SE = 0.109$, $p < .01$). Also, on the individual-level: as perceptions of seriousness of police misconduct rose, officers tended to view agencies as more organizationally just ($b = 0.456$, $SE = 0.031$, $p < .01$).

[Table 3 about here]

These results were also true for agency-level perceptions of supervisors and seriousness of police wrongdoing. On the agency level, as perceptions of leadership grew more positive, so did perceptions of organizational justice ($b = 0.832, SE = 0.231, p < .01$). Relatedly, agency-level perceptions of seriousness of police wrongdoing was positively correlated with agency-wide perceptions of organizational justice ($b = 0.539, SE = 0.180, p < .01$). These results lend support to hypothesis H3. For controls, identifying as white was associated with an increase in organizational justice perceptions ($b = 0.835, SE = 0.237, p < .01$). Similar to other models, being female was associated with a decrease in organizational justice perceptions ($b = -0.914, SE = 0.229, p < .01$). Lower ranking officers also perceived less organizational justice in this model ($b = -2.011, SE = 0.284, p < .01$). Having a college degree was unrelated to perceptions of organizational justice ($b = 0.139, SE = 0.168$). Officer age was significantly and positively associated with organizational justice perceptions ($b = 0.024, SE = 0.011$). The ICC for this model was 0.091, which was somewhat higher than the cultural model with controls.

The analysis of direct effects found strong relationships between culture, context, and organizational justice. The next step of the analysis is to test for mediation of effects by using the conceptual model in Figure 1 as a guide.

MEDIATION EFFECTS

Formal mediation analyses are carried out according to the hypothesized order of effects detailed in Figure 1 and hypotheses H4a through H4d. Three mediation analyses are conducted. First, a mediation model where structure (the percentage of full-time nonsworn employees) mediates the relationship between context (disadvantage) and organizational justice is tested to address hypothesis H4a. A visual display of this model is located in Figure 2. In this model, concentrated disadvantage was negatively and significantly associated with percentage full-time nonsworn personnel ($b = -0.027$, $SE = 0.005$, $p < .01$). Disadvantage was also negatively related to organizational justice ($b = -1.059$, $SE = 0.265$, $p < .01$). However, the percentage of full-time nonsworn personnel was not related to organizational justice in this mediation model ($b = 2.569$, $SE = 3.266$). There was no significant mediating effect of concentrated disadvantage on organizational justice through percentage nonsworn full-time personnel ($b = -0.069$, $SE = 0.09$). The lack of a significant mediating effect indicates lack of support for hypothesis H4a.

[Figure 2 about here]

The second set of models addresses hypothesis H4b, which posits that organizational culture will fully or partially mediate the relationship between place-level social disorganization and officer attitudes toward organizational justice. This analysis is shown in Figure 3. First, two models were estimated where level-1 supervisor opinion and level-1 perceptions of misconduct measures mediate the relationship between concentrated disadvantage and organizational justice. These models did not show evidence of mediation (not shown). Another model is tested where both level-2 supervisor opinion and level-2 perceptions of misconduct mediated the relationship between concentrated disadvantage and organizational justice. Results show evidence of partial mediation. In this model, there is a significant mediating effect of concentrated disadvantage on organizational justice through organizational culture measures ($b = -0.368$, $SE = 0.150$, $p < .05$). Concentrated disadvantage is negatively and significantly related to level-2 supervisor opinion ($b = -0.217$, $SE = 0.101$, $p < .05$). Disadvantage is also negatively related to level-2 perceptions of misconduct, whereas disadvantage increases, the agency-level perceived seriousness of officer misconduct decreases ($b = -0.576$, $SE = 0.185$, $p < .01$). Agency-level supervisor opinion is positively and significantly related to organizational justice ($b = 0.809$, $SE = 0.202$, $p < .01$). Agency-level perceived misconduct seriousness is also positively and significantly related to organizational justice ($b = 0.335$, $SE = 0.158$, $p < .05$). These effects support the prediction held in hypothesis H4b.

[Figure 3 about here]

The next two mediation models test the possibility of organizational culture mediating the relationship between structure and organizational justice, which addresses predictions in hypothesis H4c. The first model is an analysis where the effect of percentage of full-time nonwhite officers on organizational justice is mediated by agency-level belief in seriousness of police misconduct and agency-level opinions of supervisors. This model is displayed in Figure 4. There was no significant relationship between percent full-time officers nonwhite and agency-level traditional police cultural measures ($b = -0.017, SE = 0.014$; $b = -0.002, SE = 0.006$). There was a significant and negative direct effect of agency percent nonwhite officers on organizational justice perceptions ($b = -0.034, SE = 0.014, p < .05$). Level-2 perceptions of misconduct seriousness was positively related to organizational justice directly ($b = 0.470, SE = 0.179, p < .01$). Similarly, agency-level positive opinions of supervisors are directly related to officer perceptions of organizational justice ($b = 0.875, SE = 0.247, p < .01$). Although total effects from nonwhite officer to organizational justice perception is significant and negative ($b = -0.044, SE = 0.020, p < .05$), mediation effects were not shown to be significant.

[Figure 4 about here]

A separate mediation model tested the same pathway but replaced nonwhite officer percentage with logged budget. This mediation model is displayed in Figure 5. For this model, there was no significant relationship between logged budget and agency-level traditional police cultural measures ($b = 0.028, SE = 0.225$; $b = 0.123, SE = 0.137$). However, there was a significant and negative relationship between logged budget and perceptions of organizational justice ($b = -0.659, SE = 0.241, p < .01$). Further, this model showed a significant and positive direct effect of agency-level supervisor opinions and organizational justice ($b = 0.909, SE = 0.232, p < .01$). There was also a positive and significant relationship between agency-level perceptions of police misconduct seriousness and organizational justice ($b = 0.484, SE = 0.170, p < .01$). The model does not show evidence of significant mediation effects. There was no significant mediating effect from logged budget to organizational justice detected. Non-significant mediating effects in both models indicate that hypothesis H4c is unsupported in this analysis.

[Figure 5 about here]

The last mediation analysis tests the full model where the relationship between context and organizational justice is mediated by structure and culture with control variables. This analysis tests the veracity of hypothesis H4d. Results from this analysis are displayed in Figure 6. For direct effects, concentrated disadvantage was positively and significantly related to percentage of nonwhite full-time officers ($b = 5.930, SE = 1.876, p < .01$). Disadvantage was also negatively related to level-2 perceptions of misconduct seriousness, meaning that agencies with highly disadvantaged areas to police tend to view misconduct less seriously. Concentrated disadvantage was also negatively related to agency-wide positive perceptions of supervisors ($b = -0.239, SE = 0.122, p < .05$). The direct effect of concentrated disadvantage on organizational justice was significant and negative ($b = -0.647, SE = 0.254, p < .05$). For percent nonwhite officers, there was no detected relationship with agency-level supervisor opinion ($b = 0.004, SE = 0.006$). There was also no relationship between agency percent nonwhite officers and level-2 perceptions of misconduct seriousness ($b = -0.003, SE = 0.014$). Percent nonwhite officers are not related to organizational justice directly ($b = -0.017, SE = 0.012, ns$). For culture, the direct effect of agency-level perceptions of misconduct seriousness was not significant in this model ($b = 0.182, SE = 0.174, ns$). Agency-wide positive opinions of supervisors are positively and significantly associated with justice ($b = 1.018, SE = 0.221, p < .01$). One mediation effect in the

model was significant at a higher level ($p < .10$). The mediating effect of agency-wide positive supervisor opinions on the impact of disadvantage on justice was negative and significant at a lower level of significance ($b = -0.243$, $SE = 0.137$, $p < .10$). The mediating effect of percentage nonwhite officers on the impact of disadvantage on organizational justice was not significant ($b = -0.098$, $SE = 0.075$, *ns*). The mediating effect of nonwhite officer percentage and agency-level supervisor opinion on the effect of concentrated disadvantage on organizational justice was not significant ($b = 0.022$, $SE = 0.039$). Also, the mediating effect of percent nonwhite officers and perceptions of misconduct seriousness on the impact of disadvantage on organizational justice was not significant ($b = -0.003$, $SE = 0.015$). When taking all mediating effects into account, disadvantage significantly and negatively impacts organizational justice indirectly through structure and culture ($b = -0.424$, $SE = 0.173$, $p < .05$). The total effect of disadvantage on organizational justice with mediating and direct effects was significant and negative ($b = -1.070$, $SE = 0.334$, $p < .01$).

[Figure 6 about here]

MODERATION EFFECTS

Moderation testing is conducted to address hypotheses 5a and 5b through 7. In accordance with these hypotheses, several interaction terms are created and tested in simple models only including two variables and their interaction term. To address hypothesis H5a, a term was created where agency budgetary size was multiplied by concentrated disadvantage to obtain agency-level values. In a simple linear model with one interaction term and control variables, concentrated disadvantage was not related to organizational justice ($b = -5.218$, $SE = 4.040$). Logged budget was significantly and negatively related to perceptions of organizational justice ($b = -0.505$, $SE = 0.257$, $p < .05$). The interaction term was insignificant ($b = 0.234$, $SE = 0.222$).

To test hypothesis 5b, another interaction term was created by multiplying the proportion of nonwhite officers working at an agency by the concentrated disadvantage variable. This interaction term was tested in a simple model with control variables. Concentrated disadvantage was significantly related to organizational justice ($b = -1.017$, $SE = 0.469$, $p < .05$). The proportion of officers that were nonwhite in an agency was not related to organizational justice ($b = -0.018$, $SE = 0.019$). The interaction term between areal disadvantage and proportion of nonwhite officers at an agency was also insignificant ($b = 0.001$, $SE = 0.017$). There was no support for hypotheses 5a and 5b.

To test hypothesis 6, two interaction terms were created. One term multiplied values for agency-level officer opinions of supervisors by values for concentrated disadvantage. In this simple model with controls, agency-level supervisor opinions were positively and significantly related to organizational justice ($b = 1.047$, $SE = 0.202$, $p < .01$). Concentrated disadvantage in this model was also significantly and negatively associated with organizational justice ($b = -$

0.876, $SE = 0.201$, $p < .01$). The interaction between agency-level supervisor opinion and concentrated disadvantage was not significant ($b = 0.051$, $SE = 0.183$).

The second interaction term was created by multiplying agency-level officer perceptions of misconduct seriousness and concentrated disadvantage. These variables were inserted into a simple model with control variables and organizational justice as the outcome. In this model, agency-level officer perceptions of misconduct seriousness were positively related to perceptions of organizational justice ($b = 0.601$, $SE = 0.160$, $p < .01$). Concentrated disadvantage in this model was significantly and negatively related to organizational justice ($b = -0.554$, $SE = 0.250$, $p < .05$). The interaction between concentrated disadvantage and agency-level officer perceptions of misconduct seriousness was significant and positive ($b = 0.234$, $SE = 0.095$, $p < .05$).

Two additional models were estimated that tested interactions between level-2 cultural measures and concentrated disadvantage while including all level-2 cultural variables. This was done since both variables measure different aspects of belief in traditional police cultural values and should be considered in the same model. The first model tests the interaction between agency-level supervisor opinion and concentrated disadvantage while including both level-2 cultural variables. Agency-level supervisor opinion was found to be significantly related to perceptions of organizational justice ($b = 0.792$, $SE = 0.210$, $p < .01$). Level-2 belief in seriousness of police misconduct was also significantly and positively related to organizational justice ($b = 0.337$, $SE = 0.159$, $p < .05$). Disadvantage was negatively and significantly related to organizational justice ($b = -0.743$, $SE = 0.206$, $p < .01$). However, the interaction term in this model was not significant ($b = 0.063$, $SE = 0.174$).

A second model tests the interaction between level-2 officer misconduct seriousness perceptions and concentrated disadvantage while including both level-2 cultural variables in the

model. Concentrated disadvantage in this model was negatively and significantly related to organizational justice perceptions ($b = -0.570, SE = 0.219, p < .01$). The relationship between level-2 supervisor opinion and organizational justice was positive and significant ($b = 0.765, SE = 0.202, p < .01$). Also, level-2 officer misconduct seriousness perceptions were significantly and positively associated with organizational justice in this model ($b = 0.344, SE = 0.155, p < .05$). Further, the interaction between agency-level belief in misconduct seriousness and concentrated disadvantage was significant and positive ($b = 0.200, SE = 0.088, p < .05$). Due to this interactive effect's significance in two separate models, this interaction was tested in the full model with direct effects estimated which is found in Table 4. The interaction between agency-level officer perceptions of misconduct seriousness and concentrated disadvantage in a full model with all structural, cultural, environmental, and control measures was positive and significant ($b = 0.305, SE = 0.96, p < .01$). In this model, the slope for disadvantage was $b = -0.312, SE = 0.257$, while the slope for officer belief in misconduct seriousness was $b = 0.226, SE = 0.169$. This interaction indicates that as concentrated disadvantage increases, the positive impact of officer perceptions of misconduct seriousness on organizational justice perceptions increases, thereby lending support to hypothesis 6.

[Table 4 about here]

The final set of interaction effects address hypothesis 7. An interaction term was created by multiplying agency-level supervisor opinion and logged budget variables. A series of simple models were estimated to examine the significance of the interaction term. The first of these models tests the interaction between level-2 supervisor opinion and agency logged budget. The interaction between level-2 supervisor opinion and agency budget was negative and significant ($b = -0.498$, $SE = 0.225$, $p < .05$). Agency-level supervisor opinions were significantly and positively associated with organizational justice ($b = 10.103$, $SE = 4.010$, $p < .05$). The natural log of an agency's budget was negatively and significantly associated with police perceptions of organizational justice ($b = -0.795$, $SE = 0.236$, $p < .01$). The second model in this series tests for an interaction effect between agency-level perceptions of misconduct seriousness logged agency budget. The interaction in this model was not significant ($b = -0.126$, $SE = 0.211$). Agency-level perceptions of misconduct seriousness were not related to organizational justice in this model ($b = 3.010$, $SE = 3.755$). In this third model of this series, the interaction between agency-level supervisor opinion and logged budget is tested alongside the other agency-level cultural variable. In this model, the interaction term is non-significant ($b = -0.367$, $SE = 0.206$). All aforementioned models can be found in Appendix 2, except for the model in Table 4.

CHAPTER VI

DISCUSSION

THEORETICAL REVIEW

This study is the beginning of a line of research that addresses the issue of police reform by examining the locus of activity between the agency, the people inside of it, and the wider working environment outside of it. Much prior research only tests pieces of the puzzle I present

here, but never has there been an attempt to concurrently test these effects on individual officer beliefs. Researchers and practitioners must understand the etiology of individual officer beliefs and behavior to affect substantive change in law enforcement. In this dissertation, officer beliefs in organizational justice are meant to represent one specific set of beliefs, though the model and analysis presented here may be used with any type of individual-level police belief.

Organizational justice is a particularly important individual-level police belief to understand. A just organization enjoys a host of benefits, including increased worker positive engagement with work (Piotrowski et al., 2021), increased commitment to the work organization (Crow et al., 2012; López-Cabarcos et al., 2015), lessened positive attitudes toward police misconduct (Lawson et al., 2021) and lesser actual incidents of police misconduct (Wolfe & Piquero, 2011). Additional research also shows that police officers who perceive injustice in their agency are more likely to report that they would act in ways to undermine their agency (P. Reynolds & Helfers, 2019). Further, the positive effect of organizational justice is also found outside of criminal justice sciences. For example, distributive and interactional justice is correlated with job satisfaction in employees at a medical college (Bakhshi et al., 2009) and organizational justice increased organizational commitment, trust, and employee self-identification with their work in nursing staff (Chen et al., 2015).

Understanding organizational justice in the police profession is paramount to the police reform effort. Agencies are asked to enact complex operational changes in the name of reform, such as implementing body-worn cameras, providing unarmed crisis response teams for certain calls (Watson et al., 2019), and to structurally account for changes and/or reallocations in budget (“defunding” the police). In addition to needing to navigate the highly political landscape of police bureaucracy, officers must also successfully navigate unpredictable civilian encounters

while also exercising fairness and upholding civilian constitutional rights. The result is that policing is one of the most stressful occupations one may hold (Arter, 2007) and this stress is theorized to be the genesis of traditional police culture, which is said to be a defensive mechanism against police stress (Chan, 2007). In sum, due to the numerous positives that organizational justice provides, it should be understood as a necessary part of the police reform effort. For example, organizational justice seems to counter the negative impacts of traditional police culture, which may result when police are overburdened with work, under public scrutiny, and receiving lessened public support. Officers that are treated fairly by their agencies may in turn treat citizens with more respect.

The importance of supporting organizational justice in police agencies necessitates further understanding of its etiology. This dissertation categorizes factors influencing organizational justice as environmental, structural, and cultural. Each of these factors are important in predicting individual officer beliefs, however, this study found more support for the impact of culture and environment on organizational justice as compared to structure. One illustration of how important the environment is in predicting individual police attitudes and behavior is found in Hickman et al. (2011). In this pilot study, police were given wristbands that recorded their heart rates in beats per minute (BPM). Heart rates were recorded over the course of an officer's shift and were later recorded on a map of the police jurisdiction. Strikingly, high BPM was concentrated in two areas and was corroborated with the fact that the officer was responding to particularly distressful calls in both of those areas. Though that study is a pilot study, results implied that at scale, there may be areas where police stress is concentrated throughout a given city. Given our understanding that police stress is associated with increases in use of force (Cheong & Yun, 2011), increases in attitudes toward using force (Burke &

Mikkelsen, 2005), and unscrupulous acts (Arter, 2007), an in-depth understanding of environmental influences in police officer beliefs and behavior is crucial.

Structural factors in differentiating officer beliefs are also necessary to understand to enact meaningful police reform. Research evidence shows that organizational structure is a critical factor in predicting organizational fairness perceptions (Schminke et al., 2015). For example, certain components of organizational justice have been shown to be more salient depending on existing organizational structure. For example, in a highly bureaucratic, mechanistic organizations, nurturing procedural justice is important in predicting higher amounts of perceived organizational support (Ambrose & Schminke, 2003). In contrast, social interactions carry more weight in organizations with more freeform, organic structures. Therefore, in organically structured organizations, interactional justice, supervisor trust, and interpersonal interactions are more important in producing fairness (Ambrose & Schminke, 2003). Organizational justice has also been directly related to structure. In a sample that stretches across different types of work organizations, centralization (the degree in which decision-making power is concentrated to a few select individuals) was negatively associated with all components of organizational justice, and formalization (the degree of written rules and policies) was positively associated with all components of organizational justice (Schminke et al., 2002).

Police departments are more mechanistic and bureaucratic as opposed to organic and freeform which means that procedural justice may be the most salient component of organizational justice in that context. Agencies should review policies and procedures for fairness and clarity. Police may also consider creative administrative decision-making processes that include the concerns of as many organizational members as possible. Agencies may also seek to flatten the hierarchy of authority to theoretically improve organizational justice. Lastly,

agencies should consider formalizing important processes through explicit written procedure, especially if a common procedure is not yet codified. However, police departments must be careful to not have too many unnecessary rules, or this may result in a decrease of positive organizational justice perceptions (Schminke et al., 2000).

Lastly, understanding the formation of police culture is vital to meaningful reform. This dissertation focuses on traditional police culture, but there are arguably other approaches to characterizing police culture that researchers may take (Ingram et al., 2018). As discussed, traditional police culture is a mostly unproductive cultural adaptation that is associated with increased misconduct (Wolfe & Piquero, 2011) and increased coercive behavior toward citizens (Terrill, Paoline, et al., 2003) among many other deleterious effects (Chan, 2007). Important to this work is that holding views aligned with the traditional police culture is associated with distrusting your supervisors and organization (Chan, 2007). Logically, discouraging this culture from taking hold would be beneficial in the effort to reform.

REVIEW OF FINDINGS

DIRECT EFFECTS: CONTEXT AND ORGANIZATIONAL JUSTICE

A table denoting whether hypotheses were supported or not is in Appendix 3. In sum, structure, culture, and environmental context should play a key role in differentiating organizational justice. Findings from this dissertation show that all three were important in estimating organizational justice, though some more than others. In direct effects models, concentrated disadvantage and organizational-cultural phenomena were related to perceptions of organizational justice. There was also evidence of direct effects for some structural variables, but effects varied across models. For controls, officer rank, sex, and race were consistently

significantly related to perceptions of organizational justice. Mediation analyses showed one significant mediation model estimated, where a path of effects leads from concentrated disadvantage to agency proportion of nonwhite officers, to culture, and finally to organizational justice. Therefore, mediation models found that disadvantage has an impact on organizational justice through structure and culture. In moderation models, an interaction was detected where the impact of organizational culture on organizational justice operates differently depending on levels of environmental disadvantage. This relationship held in the full model.

The first set of hypotheses (H1a-H1e) address the relationships between aspects of the working environment and police perceptions of organizational justice. Hypothesis 1a stated that social disorganization would have a negative relationship with police beliefs in organizational justice. This was found to be true across models – concentrated disadvantage, but not residential mobility, had a significant negative relationship with officer perceptions of organizational justice. This relationship is supported by evidence that disadvantaged areas are especially stressful for officers to police, resulting in increasing amounts of turnover (Andreescu & Vito, 2021; Smith et al., 2014) perhaps due to increases in using force in these areas (Fridel et al., 2020; Lersch et al., 2008; Terrill & Reisig, 2003). Socially disorganized environments tend to receive more police attention, and produce more police calls for service (Schaible & Hughes, 2012). Agencies with jurisdictions containing highly disadvantaged areas, therefore, should consider strategies that might raise perceptions of organizational justice, including fairer management practices and giving officers the perception of voice in agency decision-making activities (Wycoff & Skogan, 1994). Additional research in this area might focus on mixed methods approaches to understanding what improves officer perceptions of agency support. For example, some qualitative research shows that officers tend to respond with anger to citizen

complaints investigations, officer-supervisor conflicts, and disciplinary actions. Police respond behaviorally with counterproductive work behaviors and self-protective actions associated with traditional police culture (Reynolds et al., 2018). Combining qualitative interviews involving police on the subject of organizational justice with quantitative information on agencies such as structural nature, cultural adaptations, and local environmental qualities could illustrate how practices differ by agency situation.

Hypothesis H1b stated that a relationship exists between residential instability and police perceptions of organizational justice, but no specific direction was predicted. The analysis showed that there was no relationship between residential stability and organizational justice in this study. One study indicates that residential mobility is correlated with legal cynicism (Sampson & Bartusch, 1998) resulting in less trust in the police. Conversely, another study found that long-time residents are *more* likely to view the police with suspicion, perhaps due to knowing how the agency operates more intimately across time (Lee et al., 2020). These two studies demonstrate how lack of close ties between residents (signaled by residential instability) and police might lead to more difficulties for police and therefore, lowered perceptions of organizational justice. The lack of a relationship indicates citizen movement within jurisdictions does not seem to impact police perceptions of organizational justice in their agency.

Hypothesis H1c indicates that the GINI coefficient will have a negative relationship with organizational justice, whereas the GINI coefficient increases and areas become more economically unequal, perceptions of organizational justice will decrease due to increased difficulty of the task environment. The GINI coefficient is initially negative and significant in models involving only context and controls. This means that increases in economic inequality result in more negative officer perceptions of organizational justice. However, the strength of

this finding is questionable because in the presence of structural and/or cultural factors the relationship between GINI and perceptions of organizational justice is rendered insignificant. This finding displays the importance of controlling for structural and cultural phenomena alongside environmental factors when studying police departments.

Hypothesis H1d predicts that as spatial racial diversity increases indicated by Blau's index, officer perceptions of organizational justice will decline due to increased difficulty of the task environment. This is based on the fact that communities of color have historically displayed a lack of trust in policing institutions (Gallup, 2023). The results of models testing direct effects did not lend support to this hypothesis. This means that racial diversity in a jurisdiction's area was not related to officer perceptions of organizational justice. The lack of trust these communities have for police may create a more difficult policing environment for officers, who depend upon information given by citizens to make cases. However, findings here show that racial diversity of an area did not matter for how officers view their agency's level of commitment to organizational justice.

Hypothesis H1e states that the total population of an area will be negatively related to organizational justice. Overall, a lack of support was found for this hypothesis. This hypothesis was tested off the assumption that areas with larger populations are more difficult to police adequately and efficiently. In two direct effects models, there was a significant negative relationship between total population and organizational justice: the context and culture model and the associated model with controls added. It is unknown why the effect of total population on perceptions of organizational justice amplified when appearing alongside cultural variables, but it most likely a product of the data, given that the cultural variables are highly significant

therefore decreasing standard error and perhaps resulting in the significant relationship between justice and population.

These results show that the physical environment impacts police perceptions of organizational justice. This is an important extension of research in this area, as no other studies have directly observed this relationship. One study, for example, concludes a relationship between disadvantage and citizen perceptions of police procedural justice (Gau et al., 2012). However, this study does not account for each dimension of organizational justice and does not capture justice perceptions of officers. Agencies with large, disadvantaged areas within their jurisdiction should understand the challenges that disadvantaged areas provide regarding lowering police morale.

DIRECT EFFECTS: STRUCTURE AND ORGANIZATIONAL JUSTICE

The second set of hypotheses (H2a-H2g) predict relationships between aspects of agency structure and police officer perceptions of organizational justice. Hypothesis H2a predicts that police agency budget would be negatively associated with officer perceptions of organizational justice. Police agency budget is thought to be an indicator of organizational context, which represents the environment in which an agency develops complexity in organizational structure in addition to mechanisms of control (Maguire, 2003). Agency budget is a proxy for agency size since these variables are so closely correlated. Agencies that are larger are also necessarily more complex and require more mechanisms of control to direct work activities (Maguire, 2003). It might be the case then, that in larger agencies perceptions of organizational justice are lowered simply due to the presence of more personnel and the presence of more methods of control in large agencies. Budget is significantly related to organizational justice only in the structure and

culture models in addition to the same models with controls added. The negative relationship indicates that as budget (and size) increase, officer perceptions of organizational justice tend to decrease. However, this relationship did not play out in other models, leading to the decision to retain the null hypothesis.

The next hypothesis, H2b, posits that occupational differentiation will be positively associated with officer perceptions of organizational justice. The relationship between organizational complexity and organizational justice is addressed through measurement of agency occupational differentiation, or the proportion of full-time nonsworn employees in an agency. Occupational differentiation is significantly and positively correlated with officer perceptions of organizational justice in models with structure only and context and structure. However, this effect did not hold when variables representing organizational culture are integrated. Therefore, in this study perceptions of traditional organizational culture might explain away the relationship between hiring nonsworn employees and increases in organizational justice. It is also notable that in the full model with all controls included, none of the structural variables are significantly related to organizational justice perceptions, with only disadvantage, cultural variables, and control variables showing significance. The importance of weighing structural, cultural, and environmental factors together when investigating police-related outcomes is again displayed when occupational differentiation is rendered insignificant by cultural explanations.

Hypothesis H2c indicates that as the percentage of full-time officers sergeant rank and above increases, organizational justice perceptions decrease due to a higher concentration of mid-level management, however, there was no indication of any relationship with this variable and the outcome. The other hypothesis regarding organizational control, H2d, indicates that

organizational control will predict that agencies with foot pursuit policies would receive less organizational justice than those that did not have a foot pursuit policy. This hypothesis is based off the idea that agencies should reduce elements of organizational control, such as unnecessary rules, to achieve better performance and trust with citizens (Maguire, 2003). It might also be the case that officers may feel threatened and more resentment if they are constantly monitored. Additional rules and regulations beyond the norm of police agencies might be indicative of having too many, which could cause increased stress among officers and lead to poor performance outcomes. However, this analysis did not find evidence that variables approximating organizational control predicted organizational justice perceptions in any capacity. There is not much guidance in the research literature regarding the relationship between organizational control and justice. Additional research regarding this relationship is needed as this is only one way to measure organizational control.

Hypothesis H2e indicates that increasing proportions of nonwhite full-time officers in agencies will be positively associated with officer perceptions of organizational justice. There are benefits to diversifying the police force, including increasing perceptions of organizational fairness (Alderden et al., 2017) and increased trust between police and communities of color (Ricucci et al., 2014; Weitzer & Tuch, 2004). Further, increasing representativeness of police has been connected to lower levels of police law enforcement actions taken against racial and ethnic minorities (Hong, 2017). In this study, organizational diversity was associated with perceptions of organizational justice only in certain models. Diversity was negatively correlated with organizational justice only when organizational context was not present in the model. One possibility is that the negative impact of diversity on organizational justice is rendered null when context is controlled. In practice, this means the impact of concentrated disadvantage explains

away the relationship between increased diversity and negative perceptions of justice. Therefore, these findings again emphasize the importance of studying police officer behavior and beliefs while considering the importance of broader context.

Hypothesis H2f predicts that the presence of a union among police agencies will be related to officer perceptions of organizational justice. Unions have been barriers to incorporating innovations and research-informed suggested changes to police operations (Walker, 2008). Police unions seem to act as a double-edged sword, both furthering police protections, while also possibly damaging the legitimacy of police due to this protection (Dharmapala et al., 2022). It is important to understand the impact that these unions have on police behavior, as they have been targets for abolition due to the belief that they protect misbehaving police officers. The analysis did not detect any relationship between union representation and perceptions of organizational justice.

Hypothesis H2g indicates that officers with higher education are more likely to hold positive perceptions of organizational justice in their agency. Officer-level education was not associated with perceptions of organizational justice, therefore there was no evidence of support for this hypothesis. Conventional wisdom is that highly educated officers would behave in a more just fashion than officers without higher education. However, some research shows that education does not differentiate between officers who receive complaints and those that do not (Manis et al., 2008), though other studies find that officers with higher education are less likely to hold attitudes that engender abuse of their given authority (Telep, 2011). Education is also associated with using less force, but not with tendency to arrest or search (Paoline & Terrill, 2007; Rydberg & Terrill, 2010). Although education is associated with generally favorable work

outcomes, it does not seem to have a relationship with organizational justice perceptions in this study.

The lack of a strong relationship between organizational structure and organizational justice is not unprecedented. Although some researchers find relationships between structure, police practices, and police work outcomes (e.g. Nowacki & Spencer, 2019; Nowacki & Willits, 2018b; Nowacki & Willits, 2019; Willits & Nowacki, 2016) other studies find limited to no support for a relationship between police organizational structure and police working outcomes (Zhao et al., 2010; Maguire, 1997, 2009; Matusiak & Frazier, 2024). The strength of police organizational structure, *as currently understood and measured*, in meaningfully impacting police work and cultural outcomes is debatable. Researchers would benefit from an effort to build upon Maguire's (2003) work. This effort might begin with the understanding that police agencies are living entities, constantly shaped by forces around them (King, 2009), but also shaped by internal cultural forces unique to each agency. Maguire and Uchida (Maguire & Uchida, 2000) separate measurement of police organizations by what agencies are, and what agencies do. I propose in future conceptualizations of structure, researchers consider these issues *in relation to the environment in which the agency is located*. For example, how have certain policies emerged across time and in response to what events? This requires an assumption that legitimacy is the primary goal of policing organizations. What structural changes are associated with the maintenance of legitimacy, and what type of events spur such structural changes? Rather than measuring purely physical attributes (e.g. vertical differentiation) of the organization, it is more advantageous to understand such measures as products of *the relationship between* local environmental qualities and police agency changes in reaction to changes in that environment.

DIRECT EFFECTS: CULTURE AND ORGANIZATIONAL JUSTICE

The last hypothesis concerning direct effects predicts the relationship between agency-level perceptions of traditional police cultural values and organizational justice. Hypothesis H3 reads that officer beliefs in traditional police culture will be related to perceptions of organizational justice whereas belief in traditional police culture increases, perceptions of organizational justice decrease. Support was found for the existence of a relationship between traditional police culture and organizational justice. Across models, a positive relationship is uncovered where less adherence to attitudes consistent with traditional police culture is connected to more positive officer perceptions of organizational justice. Due to the cross-sectional nature of this study, it is important for researchers to understand the order of effects in future research; do organizations that lack organizational justice develop problematic traditional police culture, or does traditional police culture contribute to lowered officer perceptions of organizational justice? In the full model with controls, both officer- and agency-level cultural variables are positively associated with organizational justice, except for agency-level perceptions of misconduct. The consistent relationship between officer perceptions of culture and organizational justice is sensible when considered alongside findings of past research on organizational justice; traditional police cultural attitudes run counter to attitudes consistent with perceptions of organizational justice.

These findings show the importance of understanding and addressing counterintuitive and problematic traditional police cultural values to effect more efficient and fair policing.

Traditional police culture is associated with a range of negative policing outcomes that impact the quality of interaction with citizens, such as distrust toward citizens and greater likelihood of using coercion (Silver et al., 2017; Terrill, Paoline, et al., 2003) in addition to displaying more

aggressive patrol behavior (Ingram et al., 2018). Therefore, the relationship found between traditional police culture and organizational justice is not surprising. Officers that perceive their agency leadership as transformative (by encouraging pro-social behavior) have been shown to increase organizational commitment through changes in several aspects of police culture (Shim et al., 2015). It is likely then that police culture plays an important role in reform and deserves more attention in understanding how to change it to increase perceptions of legitimacy.

MEDIATION ANALYSIS REVIEW

The next set of hypotheses predict mediation patterns. Hypothesis H4a explains that the negative relationship between disadvantage and organizational justice will be mediated by organizational structure. To test this, two separate models were estimated where percent full-time officers nonwhite and percent full-time nonsworn employees served as mediators between concentrated disadvantage and organizational justice. While direct effects were like other models, there was no evidence of significant mediation effects. Concentrated disadvantage maintains a direct relationship with officer organizational justice perceptions and this relationship does not operate through percent nonsworn officers or percent nonwhite officers. Although this part of the full mediation model was not significant, other parts of the mediation model were more promising.

Hypothesis H4b predicts that the relationship between social disorganization and organizational justice will be partially or fully mediated by internal culture. A series of models investigated the possibility of traditional police cultural values serving as a mediator between disadvantage and organizational justice. Models included considerations for cross-level mediation where officer-level supervisor opinion and officer-level perceptions of traditional

police culture mediated the relationship between disadvantage and organizational justice. These models did not find any evidence of cross-level mediation. However, simple mediation models for level 2 supervisor opinion and level 2 traditional police culture separately were tested, resulting in evidence of mediation effects. (found in Figures 3, 4, & 5). This means that the relationship between social disorganization and organizational justice is at least partially explained by adherence to traditional police culture. Social disorganization increases adherence to traditional police culture, perhaps due to challenges that come with policing such an environment. This increase in belief in traditional police culture decreases perceptions of organizational justice.

Another mediation model included both level 2 supervisor opinion and level 2 traditional police culture as mediators (Figure 6). This model showed evidence of mediation. This means that the impact of concentrated disadvantage on organizational justice partially operates through changing agency-level traditional cultural police values. Concentrated disadvantage impacts the cultural variables negatively, meaning that greater amounts of concentrated disadvantage is associated with a strengthening in traditional police cultural values, which is correlated with a more negative outlook on officer organizational justice. Disadvantage also exhibit a significant negative effect on organizational justice through cultural variables. This mediation model provides further evidence of a contextual effect on police agency operations. Agencies with higher amounts of concentrated disadvantage in their jurisdiction may be more at risk of developing problematic traditional police cultural values that decrease legitimacy and lead to poor outcomes, such as increases in officer use of force and de-emphasizing of procedural justice values (Silver et al., 2017). Police agencies with highly disadvantaged areas in their jurisdiction must take care to understand how demands of the job can impact police behavior and seek to

guard against the rise of traditional police cultural values. Some research suggests that traditional culture is a behavioral response to harsh police working environments (Chan, 2007). Overall, it is sensible that results support this past research finding.

Hypothesis H4c indicates that the relationship between elements of police agency structure and organizational justice will be fully or partially mediated by police belief in traditional police culture. Two models were estimated to test the relationship of two different structural factors in mediation models with cultural variables. Direct effects resembled earlier direct effects models, but there was no evidence of effects of structure on organizational justice operating through cultural variables. No support found for this hypothesis. Although there was no significant mediating effect of structure on organizational justice through culture, a full model where the impact of context will provide a more complete explanation of the nature of mediation is estimated next. There may still be significant contextual effects working through cultural pathways, and so a full mediation model is estimated that incorporates contextual, structural, and cultural variables and is predicted by the next hypothesis.

The last mediation hypothesis, H4d, predicts that the relationship between context and organizational justice is partially mediated by organizational structure and organizational culture. Figure 6 shows the mediation model between context, structure, culture, and organizational justice. Importantly, there was a negative and significant effect of concentrated disadvantage on organizational justice through organizational structure and culture. Concentrated disadvantage in this model is positively related to percentage nonwhite officers and negatively related to organizational culture. This means as concentrated disadvantage increases, agencies are more likely to hold overall beliefs supportive of traditional police culture and are also more likely to employ nonwhite police officers. In the model, percentage nonwhite officers were unrelated to

agency-level belief in traditional police culture and unrelated to organizational justice. Here, there is evidence of mediation where context impacts organizational culture causing downstream effects on officer perceptions of organizational justice. More specifically, the degree of concentrated disadvantage is negatively related to culture, which is positively related to organizational justice perceptions. At a lower level of significance, the pathways between disadvantage, agency-level traditional police cultural perceptions, and organizational justice were significantly related. However, the full pathways involving disadvantage, nonwhite officer percentage, cultural variables, and organizational justice were not significant.

At the same time, it is important for agencies to resemble the demographics of the population that they police. This is called representative bureaucracy, which is the tendency for a public institution to culturally and demographically represent their constituents with the goal of effecting legitimacy perceptions (Krislov, 2012). This theory displays the importance of racial/ethnic representation in public works, leading to increases in perceptions of audience legitimacy in policing (Riccucci et al., 2014), increases in officers' positive community-oriented attitudes in White officers who had comparatively lower positive perceptions of the community as compared to nonwhite officers (Lasley et al., 2011) and increases in perceptions of legitimacy of the police by racial/ethnic minorities, but may result in decreases perceptions of legitimacy among whites (Riccucci et al., 2018). Citizens are more likely to perceive police enforcement actions as legitimate if the officer's perceived race matches that of the citizen (Theobald & Haider-Markel, 2009). However, due to the strong pressure officers face to conform to the traditional police culture (Chan, 2007), and mixed results regarding the effectiveness of racial representation in police in decreasing force used against minority-status citizens (Headley & Wright, 2020), agencies and police displaying symbolic representativeness may not experience

expected gains in legitimacy, therefore traditional police culture is shown to be incredibly important for practitioners to decrease in their agencies.

MODERATION ANALYSIS REVIEW

The last set of hypotheses address the possibility of moderation of certain variables in predicting organizational justice. The first two hypothesis in this section address the possible interaction between organizational structure and social disorganization. The impact of structure on organizational justice may be more salient in areas with higher levels of social disorganization. For example, in areas with higher amounts of social disorganization, agencies may become more complex, grow in size, or add more elements of control due to the more challenging task environment, which may impact perceptions of organizational justice.

Hypothesis H5a indicates that the impact of agency budgetary size on organizational justice is conditioned by social disorganization. A simple regression showed no evidence of an interaction effect between social disorganization and agency budget on perceptions of organizational justice. This model displayed evidence of a direct and negative relationship of logged budget on perceptions of organizational justice, meaning that as budget or size increased, perceptions of organizational justice decreased. However, both concentrated disadvantage and the disadvantage-budget interaction term were not significant, leading to retaining the null hypothesis.

Hypothesis H5b predicts that the impact of nonwhite officers working within an agency on officer perceptions of organizational justice is conditioned by social disorganization. It has been previously established in this dissertation that there is ample evidence of mediation involving social disorganization, nonwhite officers percentage, and organizational justice

perceptions, where concentrated disadvantage impacts perceptions of organizational culture and qualities of organizational structure, leading to differentiation in officer organizational justice perceptions. At especially high levels of social disorganization, the impact of hiring more nonwhite officers on organizational justice may change, where after a certain level of disorganization, nonwhite officer hiring may not have as much of an impact. A simple regression model (not showed here) showed no evidence of this relationship, leading to retaining the null hypothesis.

Hypothesis 6 indicates that the proposed negative impact of traditional police culture on officer perceptions of organizational justice is multiplied by concentrated disadvantage. There was evidence found for a multiplicative effect of concentrated disadvantage on the relationship between culture and organizational justice. The interaction between level-2 traditional police culture and disadvantage was first tested in simple regression models, and then tested in the full model with all elements of structure, culture, and environmental variables. A positive interaction term indicates that the relationship between officer perceptions of traditional police culture and organizational justice intensifies as concentrated disadvantage levels increase. The interaction shows that the impact of perceptions of seriousness of police misconduct on organizational justice is especially important in producing organizational justice at high levels of concentrated disadvantage. This analysis shows the importance of addressing organizational culture, and how promoting a healthy organizational culture can be advantageous - especially for agencies with jurisdictions that include areas with high amounts of concentrated disadvantage, which has been shown in this analysis to decrease organizational justice perceptions. Even in challenging law enforcement environments, agencies can focus on combating traditional police cultural

adaptations to engender stronger perceptions of organizational justice, leading to improved police behavior in these disadvantaged communities.

Finally, the last hypothesis, H7, states that the negative impact of traditional police cultural beliefs on organizational justice is conditioned by budget (size) of an agency. A series of simple regression models show that while budget and supervisor opinion maintain significant direct effects on perceptions of organizational justice, there was no evidence of an interaction.

IMPLICATIONS FOR POLICE AND PUBLIC POLICY

This research supplies results that may be applied when considering how to approach institutional change in policing. A protective traditional police culture is one facet of policing that has been unchanging, and its presence makes substantive changes to policing operations and the application of reforms difficult to achieve (Johnson & Cox, 2004). Effects show that traditional policing culture is the most important and consistently significant measure in this analysis. The question then, is how can traditional police culture be discouraged? Some efforts involve addressing the recruiting process to draw in higher-quality candidates. Although, improving hiring practices is unreliable and has not had an appreciable impact on traditional police cultural sentiments (Johnson & Cox, 2004). The process of becoming a police officer begins with socialization with other like-minded individuals in the academy, where the antecedents of police culture form. Evidence shows that academy recruits are quickly socially isolated as the demands of the job and required lifestyle choices become apparent (Cox & Kirby, 2018). This social isolation extends into the career, impacting quality of life, work performance, and job retention (Swanton, 1980). Therefore, this social isolation might impact police-citizen relationships given that isolation impacts work performance. While it is difficult to solve the

problem of officer social isolation from others, at the very least the academy could prepare recruits for this eventuality. One recommendation to overcome poor outcomes associated with social isolation, police agencies need to be aware of the social consequences of being a police officer and provide ongoing support to officers and their families. Another popular recommendation is to incorporate procedurally just styles of policing, where officers emphasize fairness and clarity in law enforcement procedures (Tyler, 2003). Procedural justice used by police is associated with more positive public perceptions of police legitimacy (Sunshine & Tyler, 2003).

This study has implications for police self- and audience-legitimacy (Bottoms & Tankebe, 2012). While this dissertation has referred to “legitimacy” as a concept that is derived from citizen perceptions, “self-legitimacy” is the perception of one’s own legitimacy to exercise power. Organizational justice might have downstream impacts for both audience- and self-legitimacy. For example, organizational justice is associated with increases in job commitment and job satisfaction in police (Crow et al., 2012; Piotrowski et al., 2021; Rosenbaum & McCarty, 2017; Sun et al., 2021). This finding might be explained by increases in self-legitimacy associated with increases in organizational justice. When officers are treated well by their agency, this might induce more positive perceptions of their agency, which may include increases in self- and audience-legitimacy.

Mediation analyses to a couple of conclusions. It is evident that concentrated disadvantage is associated with an increase in agencies hiring nonwhite full-time officers, and increasing numbers of nonwhite officers at the agency-level are associated with negative views of organizational justice. Nonwhite officers are perceiving less organizational justice in their agency, resulting in a negative relationship between nonwhite officer percentage and

organizational justice. However, it is notable that more recent studies across years find that nonwhite officers indicate more job satisfaction than white officers (Cooper et al., 2014; Johnson, 2012; White et al., 2010). Nonwhite officers may be more satisfied with some aspects of their job, but still perceive the way they are treated by their agency as unjust. On the other hand, perceptions of organizational justice may be a function of racial diversity, whereas racial diversity increases perceptions of organizational justice may decrease. For example, nonwhite police officers may feel alienated from their white, middle-class co-workers and even experience prejudice within their own organization (Bolton & Feagin, 2004). This study finds more support for the alienation hypothesis, where officers perceive less organizational justice. Nonwhite officers may display more job satisfaction in other studies, but when taking into account other parts of organizational justice, nonwhite officers seem to perceive their agency as less just than white officers.

This analysis demonstrates an interesting dilemma where agencies with highly disadvantaged areas in its jurisdiction recruit more racial/ethnic minority officers which theoretically leads to gains in perceptions of police legitimacy for racial/ethnic minority citizens, but those recruits are less likely than white officers to perceive their agencies as organizationally just. This observation shows that agencies must recognize the cultural meaning of policing in disadvantaged, largely minority communities, and provide social support for racial/ethnic minority status officers. Agencies must be aware of the necessary organizational challenges to overcome when attempting to increase racial/ethnic diversity among officers. Agencies might increase organizational justice for racially diverse recruits by ridding agencies of racist behavior toward Black officers. There are many documented incidences of Black officers being ignored, fearing retaliation for speaking out against racism in their agency, and experiencing an overall

racist police culture (Rodriguez, 2021). To combat this culture, agencies should seek to hire and promote more minority-status officers to leadership positions so that officers feel more comfortable reporting racism in the department. Agencies may also hire selectively to create a more culturally balanced and smart workforce. This mediation analysis shows the importance of accounting for local environmental conditions when investigating organizational processes.

THEORETICAL IMPLICATIONS

The analysis illustrates some key findings: inquiries into police operational outcomes should account for the nexus of local environmental qualities, agency cultural adaptations, and agency structural adaptations in differentiating outcomes; the impact of concentrated disadvantage on organizational justice works at least partially through changes in organizational structure and organizational culture; and the relationship between concentrated disadvantage and police perceptions of seriousness of wrongdoing on organizational justice might be multiplicative where higher levels of concentrated disadvantage or higher levels of perceptions of seriousness of police wrongdoing lead to highly increased levels of organizational justice perceptions, which shows the importance of maintaining a healthy working culture.

Local environmental qualities, cultural adaptations, and organizational structure should be considered together when evaluating work-related outcomes. This assumes that organizational operations, lived environments, working culture, and structure of the workplace impact how an employee perceives their workplace. Research supports this idea. For example, qualities of the physical working environment, such as safety of working space, and support from supervisors impact nurse perceptions of their hospital service quality and overall commitment to working at the hospital (Janakiraman et al., 2011) Organizational culture has been connected to individual

employee behavior in both policing (Armacost, 2003; Workman-Stark, 2021) and healthcare settings (Chen et al., 2015; Lee, 2020). Qualities of organizational structure such as subunit size and organizational shape (tall or wide) are correlated with employee attitudes and behaviors, including job satisfaction, absenteeism, accidents, and performance (Porter & Lawler, 1965). Much research on connecting working environments (in general) to work-related behavior examines the impact of either structure, culture, or physical environment, but not all these qualities at the same time. Direct effects models show that even though structural variables seem to have a relationship with organizational at first, the effects weaken to non-significance when structure, culture, and environmental variables are included in the model. To put this problem into perspective, the structure-only model (Table 2) indicated a negative relationship with perceptions of organizational justice, meaning as the percentage of nonwhite officers increase, organizational justice decreases, however this effect is nullified in the full model and it is shown that cultural and environmental variables are more important in predicting organizational justice than structural variables. Without the additional contextual and cultural variables, one could come away from that analysis with an incomplete or incorrect understanding of the nature of those relationships.

Further, incorporating structural, environmental, and cultural variables allowed inquiry into the possibility of mediating and moderating effects, which proved fruitful. Formal mediation models showed evidence of partial mediation where the order of effects leads from contextual features, to structural features, to cultural adaptations, finally leading to differentiation in organizational justice perceptions. In these models, mediation paths involving structural variables were weak, but significant at a higher level of significance (.10). Total sum of mediation effects of disadvantage on organizational justice working through structure and

cultural variables was negative and significant, again showing the importance of including these considerations when predicting work-related behavior. Moderation models showed evidence of a nonlinear relationship between concentrated disadvantage and agency-level officer perceptions of misconduct seriousness, where increasing levels of concentrated disadvantage intensify the positive relationship between the cultural variable and perceptions of organizational justice. By examining direct, mediating, and moderating effects, the importance of culture and working environment in differentiating police perceptions of organizational justice is emphasized. These findings align with prior research indicating that traditional police cultural values are associated with negative work outcomes, such as increased use of coercive tactics (Terrill, Paoline, et al., 2003), increased social isolation (Chan, 2007) and loyalty to the working group (Paoline, 2003) that can undermine proper police behavior. Prior work implies that the (traditional) police culture is innate to the organization, and that once a new member has joined, they undergo a socialization process (Van Maanen, 1973, 1975) and that the police identity is defined by their monopoly on the use of force against citizens (Bittner, 1970). This work builds upon this prior work by incorporating the impact of the physical environment that police work within, while also accounting for differences in agency-wide belief in traditional police culture due to variation in environmental setting. This analysis shows that in agencies where officers take officer wrongdoing and corruption more seriously, gains in organizational justice can be made.

This analysis shows the importance of thinking about police behavior from a systems perspective. That is, we should consider the formation of police beliefs, and perhaps behavior, to be the result of a *process* where multiple influences coalesce to determine an officer's belief or action. While I strive to account for some of these influences, there are countless other factors that may be researched depending on data availability. For example, including an officer's

behavioral history on the job might be important to account for when considering organizational justice as an outcome. Second, the institution of policing could consider changes to internal structure in the interest of controlling belief in traditional police culture. For example, agencies might start to become less bureaucratic and more likely to include the concerns of lower-level officers in decision-making processes. This could occur by flattening command hierarchies and creating formalized rules regarding decision-making processes. Lastly, and most importantly, this research emphasizes the importance of agencies treating their officers in a more just way. The overarching idea of this dissertation is that by accounting for the importance of the environment, internal structure and internal culture, agencies may make smart decisions to improve the working environment for police officers. More research focusing on the positive effects of organizational justice, and the potential for its dampening effect on belief in traditional police culture, should be a priority for organizational policing researchers. A more just environment should extend benefits to citizens in the form of more just policing practices. Overall, this work displays the importance of organizational reform by focusing on structural and cultural processes within the policing organization while considering the broader impact of the environment in which police work.

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Table 1: Multilevel Path Model Relating Organizational Context with Control Variables Added to Officer Perceptions of Organizational Justice

Variable	Coefficient	SE	<i>p</i>-value
Disadvantage	-1.109	0.246	0.000
Residential Instability	0.088	0.318	0.783
GINI	-17.560	8.766	0.045
Blau's Index	-1.125	2.163	0.603
Total Population	-0.011	0.008	0.196
Race (white =1)	0.449	0.276	0.103
Sex (female =1)	-1.164	0.263	0.000
Education (college =1)	0.026	0.210	0.903
Rank (trooper =1)	-2.059	0.309	0.000
Age	0.024	0.014	0.089
Intercept	0.062	0.248	0.802

Table 2: Multilevel Path Model Relating Organizational Structure and Control Variables to Officer Perceptions of Organizational Justice

Variable	Coefficient	SE	<i>p</i>-value
Budget (logged)	-0.463	0.299	0.121
% Full-time officers nonwhite	-0.045	0.018	0.011
Year founded	0.011	0.008	0.143
% Full-time nonsworn employees	8.523	2.933	0.004
% Full-time officers sergeant rank or above	-0.020	0.060	0.740
Foot pursuit policy	0.782	0.674	0.246
Union	0.298	0.711	0.675
Professionalism	0.063	0.534	0.906
Race (white =1)	0.428	0.280	0.126
Sex (female =1)	-1.165	0.262	0.000
Education (college =1)	0.046	0.210	0.827
Rank (trooper =1)	-2.048	0.313	0.000
Age	0.024	0.014	0.091
Intercept	0.076	0.271	0.780

Table 3: Multilevel Path Model Relating Organizational Culture and Control Variables to Officer Perceptions of Organizational Justice

Variable	Coefficient	SE	<i>p</i>-value
Supervisor Opinion (lvl 1)	2.481	0.109	0.000
Traditional Culture (lvl 1)	0.456	0.031	0.000
Supervisor Opinion (lvl 2)	0.832	0.231	0.000
Traditional Culture (lvl 2)	0.539	0.180	0.003
Race (white =1)	0.835	0.237	0.000
Sex (female =1)	-0.914	0.229	0.000
Education (college =1)	0.139	0.168	0.408
Rank (trooper =1)	-2.011	0.284	0.000
Age	0.024	0.011	0.030
Intercept	0.193	0.234	0.441

Table 4: Moderation Analysis of Culture x Context Interaction in Full Model with Context, Culture, Structure, and Control Variables

Variable	Coefficient	SE	<i>p</i>-value
Traditional Culture (lvl 2) x Disadvantage	0.305	0.96	0.001
Disadvantage	-0.312	0.257	0.224
Residential Instability	0.331	0.256	0.195
GINI	-10.744	5.997	0.073
Blau's Index	-2.205	1.541	0.153
Total Population	-0.001	0.012	0.914
Budget (logged)	-0.352	0.356	0.322
% full-time officers nonwhite	-0.015	0.011	0.151
% full-time officers Sergeant rank or above	-0.019	0.048	0.698
Foot pursuit policy	0.282	0.442	0.523
Union	0.959	0.642	0.135
Professionalism	-0.126	0.362	0.728
Supervisor Opinion (lvl 1)	2.481	0.109	0.000
Traditional Culture (lvl 1)	0.456	0.031	0.000
Supervisor Opinion (lvl 2)	0.918	0.231	0.000
Traditional Culture (lvl 2)	0.226	0.169	0.180
Race (white =1)	0.789	0.241	0.001
Sex (female =1)	-0.890	0.228	0.000
Education (college =1)	0.111	0.165	0.501
Rank (trooper =1)	-2.016	0.286	0.000
Age	0.025	0.011	0.025
Intercept	-12.322	13.960	0.377

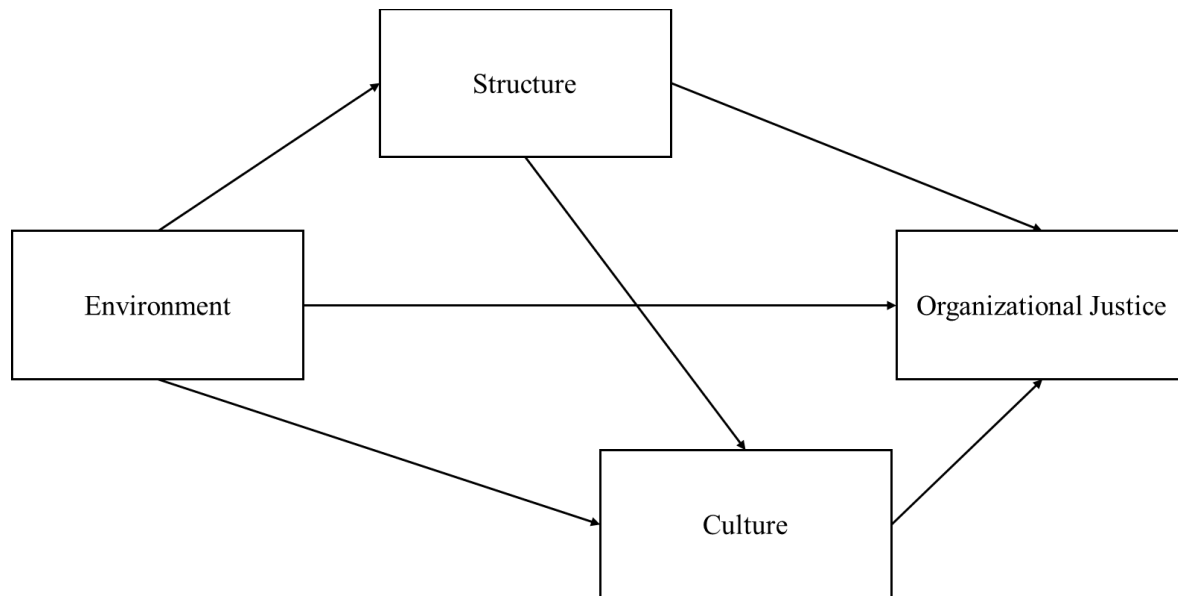


Figure 1: Conceptual Path Model

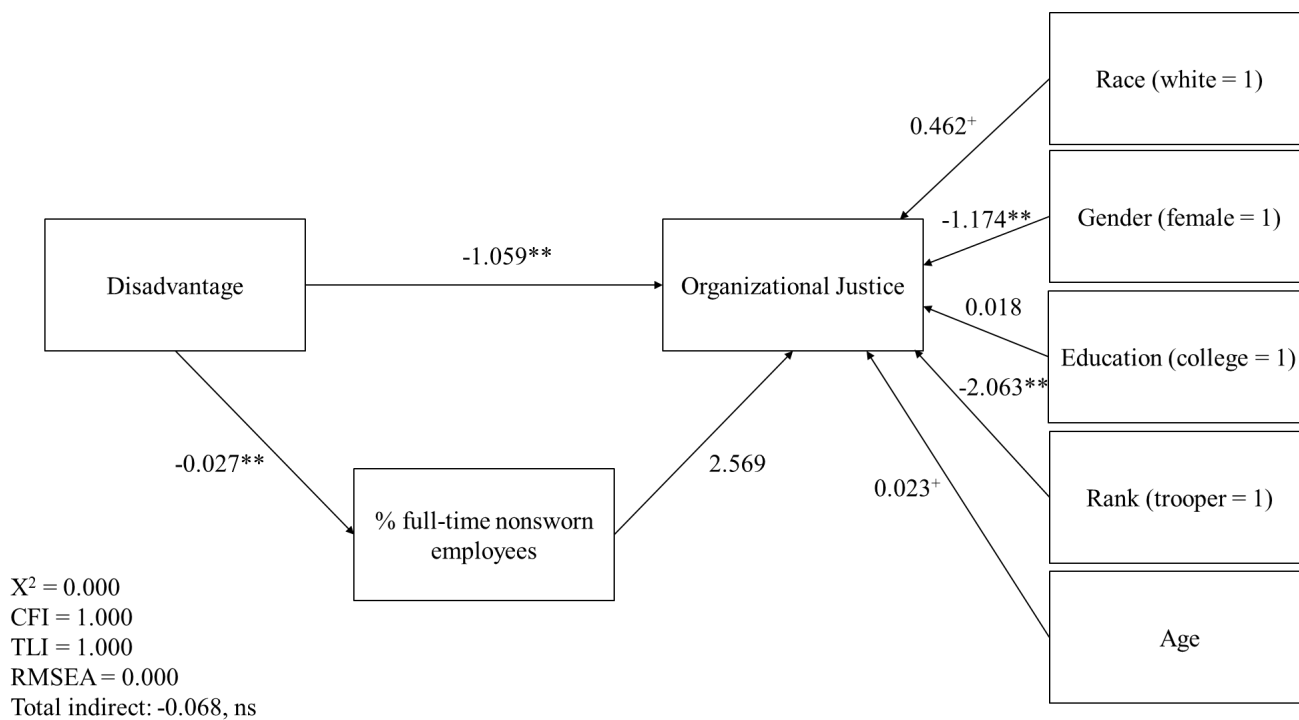


Figure 2: Mediation of the relationship between context and organizational justice through organizational structure

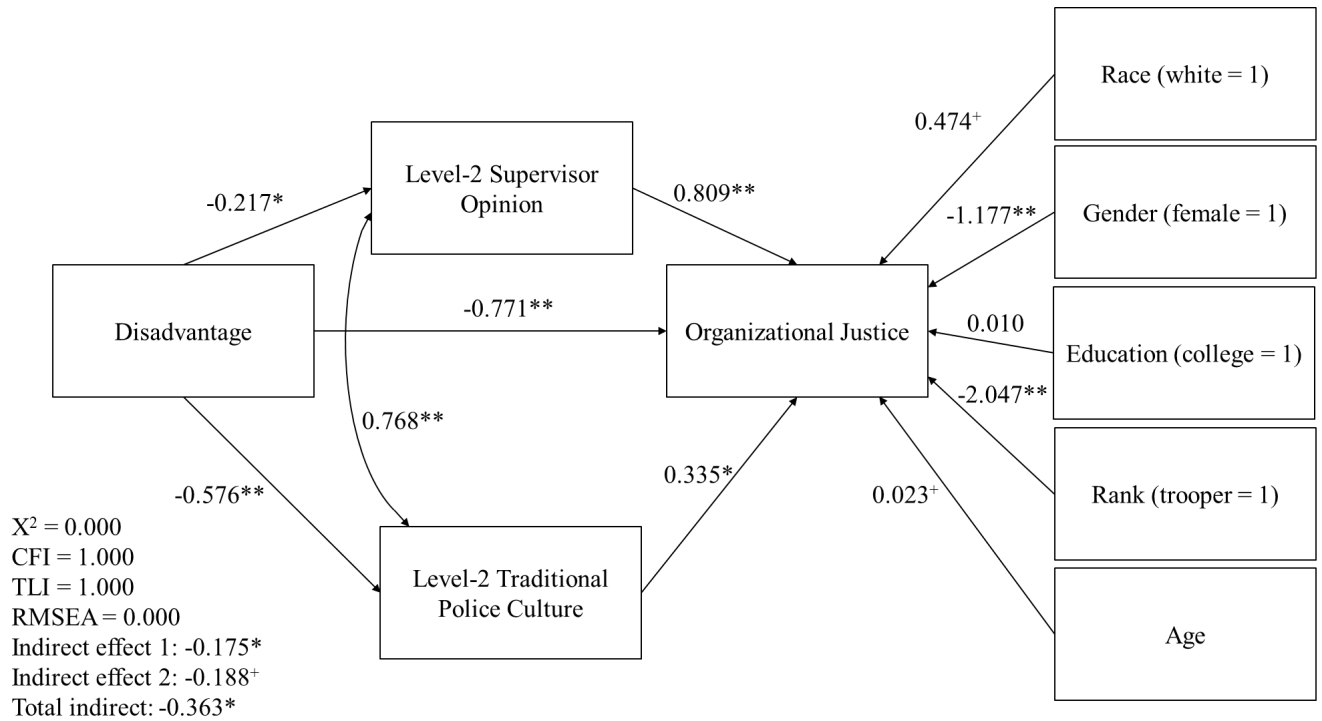


Figure 3: Mediation of the relationship between context and organizational justice through organizational culture

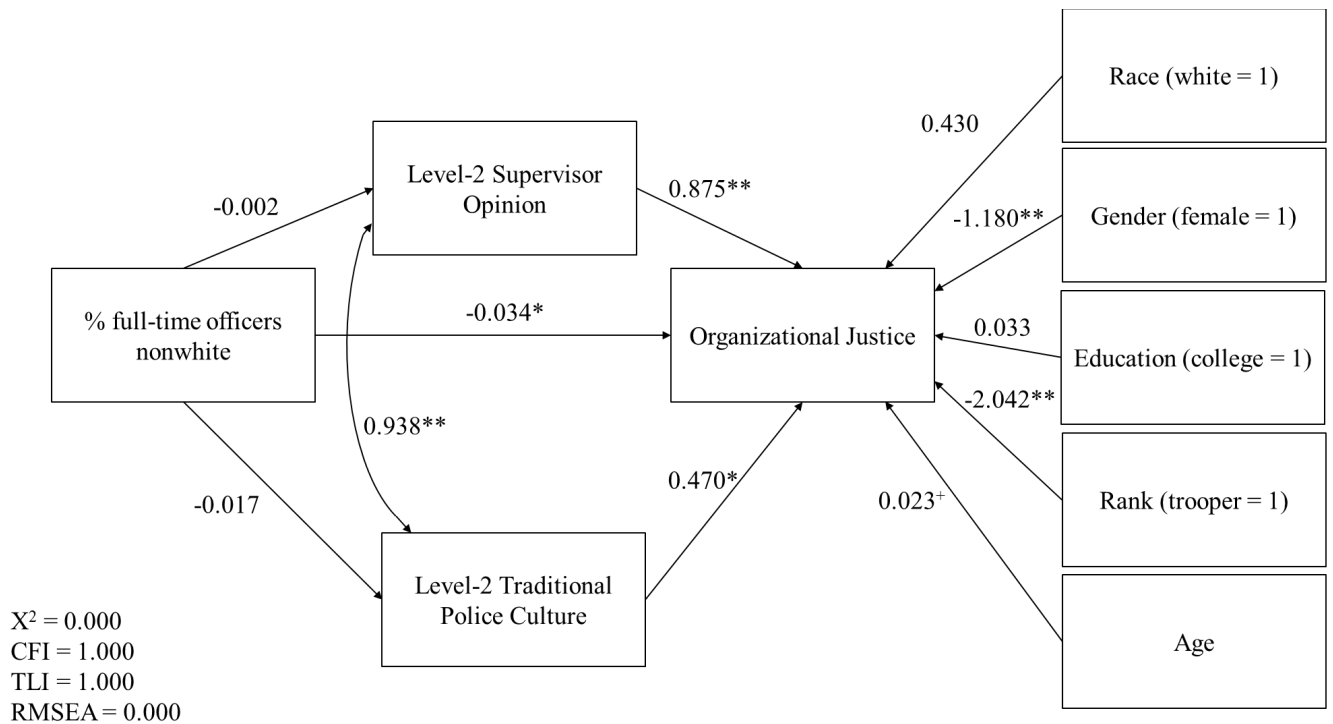


Figure 4: Mediation of the relationship between structure (% full-time officers nonwhite) and organizational justice through organizational culture

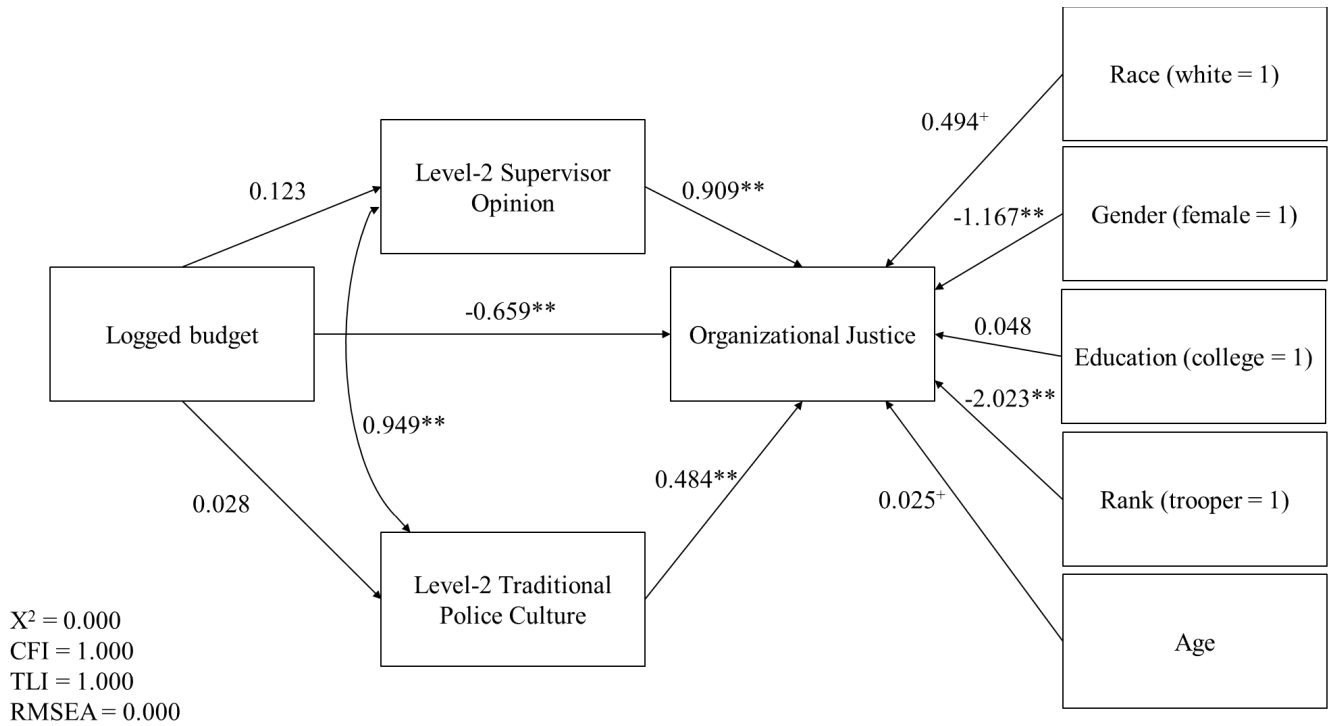


Figure 5: Mediation of the relationship between structure (logged budget) and organizational justice through organizational culture

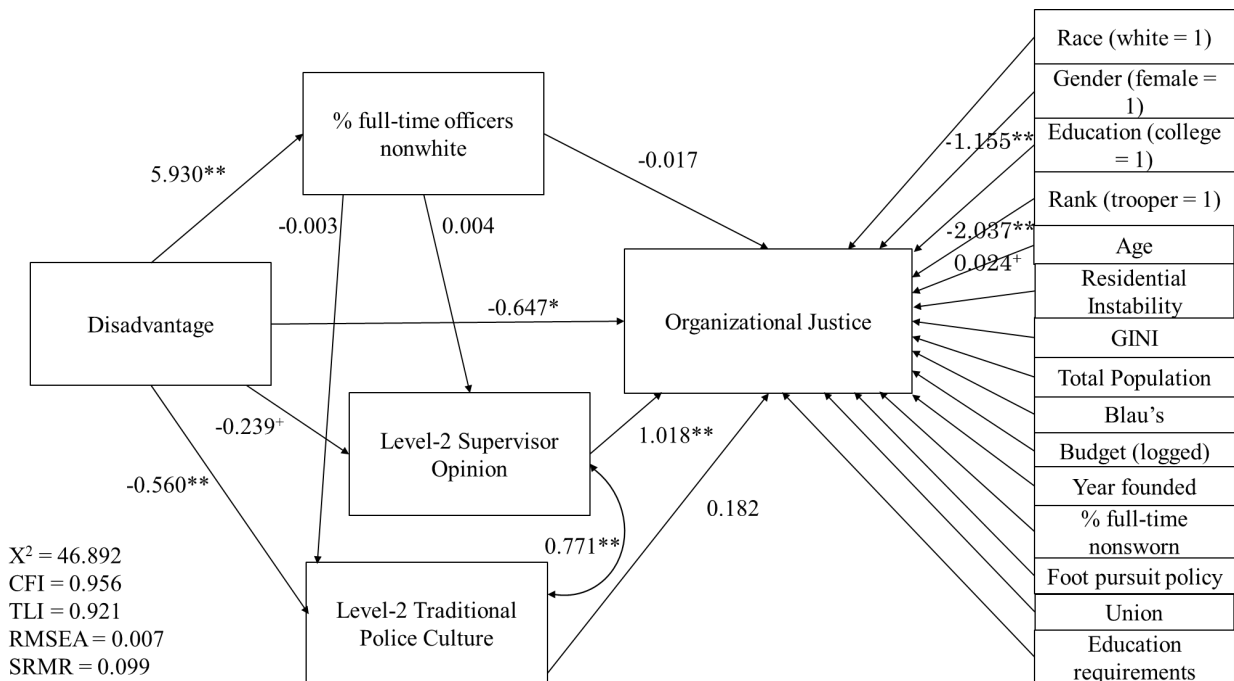


Figure 6: Mediation of the relationship between environmental context and organizational justice through organizational structure and culture

Appendix 1: Descriptive Statistics of Study Variables

Variable	M	SD	Range		α
Organizational Justice	-0.049	7.35	-30.917,	30.716	0.850
<i>Distributive Justice</i>					
<i>Employees who consistently do a good job are rewarded</i>					
<i>Getting good assignments depends on whom you know, not on merit (reverse-coded)</i>					
<i>Employees are treated the same way regardless of gender</i>					
<i>Employees are treated the same regardless of race</i>					
<i>Interactional Justice</i>					
<i>When sending important information up the chain of command, how often are the reasons communicated clearly</i>					
<i>When introducing something new, how often are the reasons communicated clearly</i>					
<i>How often do you hear jokes or negative comments about females</i>					
<i>Procedural Justice</i>					
<i>Officers are treated with respect during disciplinary investigations</i>					
<i>In this agency, the disciplinary process is fair</i>					
<i>Officers who consistently do a poor job are held accountable</i>					
Agency Context					
Disadvantage	0.001	1.000	-2.420,	3.658	
Residential Instability	0.000	1.000	-3.489,	1.999	
GINI	0.476	0.034	0.405,	0.549	
Blau's Index	0.579	0.131	0.165,	0.793	
Agency Structure					
Budget (logged)	18.228	0.987	16.227,	19.892	
% Full-time officers nonwhite	23.965	13.654	4.132,	97.040	
Year founded	1870.767	38.983	1797.000,	1962.000	
% Full-time nonsworn employees	0.209	0.074	0.028,	0.393	
% Full-time officers sergeant rank or above	18.694	4.469	6.845,	31.383	
Foot pursuit policy	0.697	0.459	0.000,	1.000	
Union	0.883	0.322	0.000,	1.000	
Professionalism	0.398	0.490	0.000,	1.000	
Agency Culture					
Supervisor Opinion (lvl 1)*	-0.006	0.996	-3.360,	3.691	0.930
<i>Supervisor inspires me to work to the best of my abilities</i>					
<i>Supervisor does good for organization not just themselves</i>					
<i>Supervisor sets a good example for everyone</i>					
<i>Supervisor makes clear what is expected</i>					
<i>Supervisor avoids dealing with problems" (reverse coded)</i>					
<i>Supervisor gives inexperienced direction and guidance" (reverse coded)</i>					
Traditional Culture (lvl 1)*	0.005	3.213	-19.063	15.106	0.620
<i>How serious do you consider an officer making a false drug report</i>					
<i>How many officers would report a fellow officer making a false drug report</i>					
<i>What discipline would follow for an officer making a false report</i>					

How serious do you consider a pass for a drunk officer
How many officers would report pass for drunk officer
What discipline would follow pass for drunk officer

Supervisor Opinion (lvl 2)*	0.000	1.000	-2.623	1.573
Traditional Culture (lvl 2)*	-0.014	1.427	-3.534	3.379
Control Variables				
Race (white =1)	0.812	0.391	0.000	1.000
Sex (female =1)	0.134	0.340	0.000	1.000
Education (college =1)	0.551	0.497	0.000	1.000
Rank (trooper =1)	0.613	0.487	0.000	1.000
Age	41.886	8.505	2.933	82.547

*Indicators are identical between level-1 and level-2 versions of these variables

Appendix 3: Hypotheses Support	
Hypothesis	Supported/Limited Support/Not Supported
H1a: Social disorganization will have a negative relationship with police beliefs in organizational justice.	Supported
H1b: I posit that a relationship exists between residential instability and police perceptions of organizational justice, but without specification of a direction of effects.	Not Supported
H1c: The GINI coefficient will have a negative relationship with organizational justice, whereas the GINI coefficient increases and areas become more economically unequal, perceptions of organizational justice will decrease due to increased difficulty of the task environment.	Limited Support
H1d: As areal racial diversity increases via Blau's index, officer perceptions of organizational justice will decline due to increased difficulty of the task environment derived from weaker social ties between communities of color and police.	Not Supported
H1e: Total population of an area will be negatively related to organizational justice.	Not Supported
H2a: Police agency budget will be negatively associated with officer perceptions of organizational justice.	Not Supported
H2b: Occupational differentiation will be positively associated with officer perceptions of organizational justice.	Not Supported
H2c: As percentage of full-time officers sergeant rank of above increases, organizational justice perceptions will decrease due to a higher concentration of mid-level management.	Not Supported
H2d: Officers in police organizations with foot pursuit policies will perceive less organizational justice than in those agencies that do not have a foot pursuit policy.	Not Supported
H2e: Increasing proportions of nonwhite full-time officers in agencies will be positively associated with officer perceptions of organizational justice.	Not Supported
H2f: Presence of a union among police agencies will be related to officer perceptions of organizational justice.	Not Supported

H2g: Officers with higher education will be more likely to hold positive perceptions of organizational justice in their agency.	Not Supported
H3: Officer beliefs in traditional police culture will be related to perceptions of organizational justice whereas belief in traditional police culture increases, perceptions of organizational justice decrease.	Supported
H4a: The negative relationship between disadvantage and organizational justice will be mediated by organizational structure.	Not Supported
H4b: The relationship between social disorganization and organizational justice will be partially or fully mediated by internal culture represented by belief in traditional police culture.	Supported
H4c: The relationship between elements of police agency structure and organizational justice will be fully or partially mediated by police belief in traditional police culture.	Not Supported
H4d: The relationship between context and organizational justice is partially mediated by organizational structure and organizational culture.	Limited Support
H5a: The effect of agency budgetary size on organizational justice is conditioned by social disorganization.	Not Supported
H5b: The effect of nonwhite officers working within an agency on organizational justice is impacted by social disorganization.	Not Supported
H6: The proposed negative impact of concentrated disadvantage on officer perceptions of organizational justice is multiplied by adherence to traditional policing culture.	Supported
H7: The negative effect of budget on organizational justice is conditioned by traditional police cultural beliefs of an agency.	Not Supported

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