CITIZEN OVERSIGHT OF POLICE: ADOPTION, IMPACT ON RACIAL DISPARITIES IN POLICING, AND POTENTIAL SIDE EFFECTS

Mir Usman Ali

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Doctoral Committee

______________________________  ________________________________  ________________________________  ________________________________
Maureen Pirog, Ph.D.  Sean Nicholson-Crotty, Ph.D.  Claudia Nancy Avellaneda, Ph.D.  Coady Wing, Ph.D.

______________________________  ________________________________
Jeff Gruenewald, Ph.D.

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Despite the reduction in absolute global poverty over the last 40 years, there is substantial political, economic, and social oppression of the poor and minorities, in the United States and abroad. In my view, much of this oppression is carried out by humans of other humans on material, racial, and religious pretexts. Given the role that public administrators have played in addressing social inequities, and at times creating and exacerbating them, I believe it is incumbent upon public administration and policy scholars to gain a better handle on the circumstances in which administrators could alleviate existing patterns of social exclusion and oppression. This dissertation is my first stab in carrying out the above responsibility.

This dissertation addresses the factors which foster the adoption of citizen oversight agencies (COAs) for police, their impact on racial disparities in policing outcomes, and whether such agencies have negative side effects in terms of public and police officer safety. I hope that this endeavor inspires other public administration scholars, junior and senior, to ask penetrating questions about the role public administrators can play to achieve a more socially just society.

This work could not have been completed without the support of several people. I would like to thank the O’Neill School of Public and Environmental Affairs, an institution from which I and countless other scholars have learnt much, and to which I shall forever owe a debt of gratitude. I would also like to thank my advisor, Dr. Maureen Pirog, whose encouragement, support, and guidance I cannot forget, and who will continue to serve as a role model as I progress in my career. I am also deeply grateful for the guidance and support I have received from my Ph.D. committee members: Dr. Sean Nicholson-Crotty, Dr. Claudia Avellaneda, Dr. Jeff Gruenewald, and Dr. Coady Wing. I will also remain grateful to Dr. Joseph De Angelis at the University of Idaho for his help and guidance, which was always forthcoming.
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I would like to dedicate my dissertation to the poor and oppressed everywhere in the world, especially those who suffer in silence and have felt that their voices are not heard.

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CITIZEN OVERSIGHT OF POLICE: ADOPTION, IMPACT ON RACIAL DISPARITIES IN POLICING, AND POTENTIAL SIDE EFFECTS

This dissertation examines the factors associated with the adoption of citizen oversight agencies (COAs), their impact on racial disparities in policing outcomes, and whether such agencies have certain undesirable effects. Focusing on municipal COAs, I find that the adoption of COAs, particularly those which have the authority to independently investigate complaints of police misconduct, is facilitated by by federal government intervention, redistributive spending at the municipal level, as well as the capacity for civic mobilization. Moreover, their uptake is deterred by certain aspects of state law that seeks to protect the procedural rights of police officers. Regarding impact, we find such agencies to be associated with a reduction in racial disparities in disorderly conduct arrests as well as police homicides of citizens, especially when they have investigative authority. Finally, investigative COAs were also found to be associated with a reduction in the violent crime rate and line-of-duty police homicides. While other types of COAs were not observed to have such ameliorative impacts, they nevertheless were not found to be associated with an increase in the violent crime rate or homicides of police officers.

Chair, Maureen Pirog, Ph.D.

Sean Nicholson-Crotty, Ph.D.

Claudia Nancy Avellaneda, Ph.D.
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The Adoption of Accountability Agencies in Local Government: The Case of Citizen Oversight of Police

Abstract

Accountability is considered the sine qua non of democratic governance. While the public administration literature has many insights to offer about accountability, little is known about the factors that lead to the adoption of accountability institutions, particularly at the local level. In this paper, we examine the uptake of citizen oversight agencies (COAs) in one sphere where citizens have historically had little recourse to seek accountability from the government: municipal policing in the US. Using data on the characteristics of 283 municipal governments spanning 37 years, we use survival models to determine the factors associated with the adoption of COAs and assess whether distinct factors are associated with the adoption of COAs with different kinds of authority. While factors at all levels of government affect the uptake of COAs, we find that federal intervention, local redistributive spending, and grassroots civic capacity are associated with the adoption of COAs with broad authority, and elements of state laws that codify the rights of police deter the uptake of COAs. This study offers lessons for scholars, administrators, and activists about the enabling conditions that are needed for institutional change that aims to address social problems at the municipal level.

Background

Accountability studies continue to be an area of interest of public administration scholars (Bovens, Goodin, and Schillemans 2014). In a representative democracy, public accountability represents a dynamic process whereby those charged with fulfilling a given role (i.e., ‘account holders’) have the obligation to justify their actions and decisions to those being governed, or...
others acting on their behalf (i.e., ‘account seekers’). Accountability mechanisms provide account seekers the information to judge the fairness, effectiveness and efficiency of governance (Przeworski, Stokes, and Manin 1999), the opportunity to monitor the actions of the account holder, provide feedback on performance, set expectations for future performance, and apply rewards for good performance or sanctions for poor performance.

Scholars have argued accountability to be associated with a range of positive outcomes as well as having certain downsides. Some positive outcomes associated with accountability include increased transparency and openness (Schedler, Diamond, and Plattner 1999), opportunities for challenging and judging abuses of authority (Elster 2004), ethical behavior (Dubnick 2003), and improved quality of government services (see Thompson & Riccuci, 1998), whereas its downsides include the fact that an excessive focus on accountability may detract from core organizational strengths (Romzek and Dubnick 1987), lead to goal displacement (Pollitt 2003, 47), create red-tape (Behn 2001), trigger a range of counterproductive bureaucratic behaviors (Grizzle 2002), compromise organizational effectiveness (Koppell 2005), and further undermine the public’s confidence in government agencies (Flinders 2011). Nevertheless, despite this vigorous debate, one question that has not been sufficiently addressed by the field of accountability studies is as to which factors lead to the adoption and diffusion of accountability institutions in the first place, and whether distinct factors are associated with the uptake of different kinds of approaches to accountability (e.g., reactive versus preventative approaches (see Fox 2015, 353), or punitive forms of accountability versus trust-based forms (see Mansbridge 2014)).

In this paper, we consider the uptake of accountability bodies – citizen oversight agencies (COAs) – in one context where citizens have traditionally had few opportunities to seek
accountability from the government: municipal policing in the US. Specifically, we seek to determine the factors at the federal, state, and local levels that are associated with the adoption and diffusion of such agencies, and also investigate whether there are distinct factors associated with the adoption of different kinds of COAs.

Such research is warranted because the factors driving the emergence of institutional change within the context of police accountability are not well understood. For instance, recent research investigating the impact of COAs on racial disparities in policing outcomes asserts that COAs represent a form of institutional change. Specifically, Ali & Pirog (2019) used the gradual institutional change framework (Rocco and Thurston 2014; Mahoney and Thelen 2010) to predict the impact of COAs with different scope of authority on institutions that afford street-level police officers varying degrees of discretion, namely the use of force which leads to a police-involved homicide of a citizen, and disorderly conduct arrests. Ali & Pirog demonstrate that the degree of change in institutional outcomes is a function of both the scope of authority of the COA, as well as the degree of discretion afforded by existing policing institutions. Specifically, they find that the broader the scope of authority of the COA and the greater the opportunity for exercising discretion in interpreting existing institutions, the greater is the possibility of change in institutional outcomes. Nevertheless, their study does not identify the reasons as to why COAs, especially those with a broad scope of authority emerge in the first place.

By examining the factors associated with the adoption of COAs, especially those which are likely to lead to reductions in racial disparities in policing outcomes as well as improvements in public and police officer safety, we seek to identify the factors that facilitate institutional change. A clearer understanding of such factors would help scholars, public administrators, as
well as activists better understand the *enabling conditions* under which institutional change may occur in other policy contexts such as poverty alleviation, inequality reduction, housing expansion, and violence mitigation.

COAs are government-sanctioned agencies at the municipal level, which are external to police agencies and through which citizen complaints against police are reviewed by people who are not sworn officers (S. Walker and Bumphus 1992). COAs are intended to enhance accountability and transparency in policing and build community trust through citizen oversight. While they have gained prominence in recent years amidst the backdrop of several high-profile shootings of black citizens, they have been functional in the US since at least 1969 (when the still operational COAs in Kansas City, MO was established), and represent a long-standing demand of police reform advocates (ACLU 1997). Furthermore, as alluded to above, given the findings from recent studies that COAs are associated with reductions in violent crime and homicides of police officers (Ali and Nicholson-Crotty, 2019), as well as reductions in racial disparities in police homicides of citizens and disorderly conduct arrests (Ali and Pirog, 2019), they can be considered as a front-end policy intervention in the criminal justice system that is intended to minimize the harms of policing.

Nevertheless, despite the unique role of COAs and their potential benefits, there has been little systematic study of the adoption or diffusion of such agencies (see Walker 2006 for a historical account of COAs in the US). Moreover, despite the acknowledged potential of such front-end policies to make a much larger dent in racial disparities in criminal justice processing (Bartos and Kubrin 2018; National Research Council 2014), existing studies have tended to focus on the uptake of policies that target protocols or practices the “back-end” of the criminal justice system, such as reforms intended to alleviate racial disparities in sentencing and
incarceration and racial disparities (Karch and Cravens 2014; Andrews and Seguin 2015; Makse and Volden 2011; Bergin 2011; Donnelly 2017; Mooney and Lee 1999; S Nicholson-Crotty 2004; Soule and Earl 2001; Allen, Pettus, and Haider-Markel 2004). Prior studies have also tended to emphasize the adoption of punitive criminal justice policies (Tonry 1995; Murakawa 2014; Beckett 1997), to the detriment of investigating the uptake of progressive interventions such as COAs. Furthermore, the bulk of the above studies use US states as the unit of analysis, rather than municipalities (see Pasha (2018b) for an exception). While the former emphasis makes sense given that most crime legislation and prosecution occur at the state level, it distracts attention from the uptake of innovative policies at the municipal level that can have implications for criminal justice processing and the racial disparities therein.

We identify the factors associated with the adoption and diffusion of COAs at the municipal level using a sample of municipalities in the United States between 1980 and 2016. We do this by positing a framework that includes variables at the federal, state and local levels that impinge on the supply of and demand for policy accountability at the municipal level. Using this framework, we estimate proportional hazards models to test the impact of a range of factors on the likelihood adoption of COAs. We find that while federal support for police accountability, local redistributive spending, capacity for grassroots mobilization, percentage of blacks in the municipality, and adoptions by neighboring municipalities increase the likelihood of COA uptake, certain elements of state law deter their emergence. Moreover, using Ali and Pirog’s (2019) typology to distinguish between investigative and non-investigative COAs (discussed in more detail in the literature review), we find support for the idea that the adoption of the above types of COA is driven by distinct forces. The final section of the paper discusses the implications of these findings to postulate explanations for why investigative COAs have been
found to have a broader range of impacts as compared to non-investigative COAs and highlights the enabling conditions for institutional change to occur.

**Literature Review**

*Background on COAs*

Growth in citizen oversight in the US can be considered to have occurred in at least three waves. The first wave in the establishment of COAs occurred in the late-19th century, with a second wave that occurred between the 1920s and 1960s (S Walker 2001). However, these early COAs were either often led by political appointees who were deferential to police executives, or faced fierce opposition from police unions – factors that ultimately led to the early demise of such agencies (see S. Walker, 2001 for a detailed overview of the history of police oversight in the US).

The third wave of COAs was marked by the establishment of an oversight agency in Kansas City, Missouri in 1969. Since then, the number of COAs in the US has gradually grown to at least 145 agencies nationwide as of 2017[^1]. While these agencies operate in a wide variety of contexts, such as at the county, municipal, town, university campus, or transit system levels – the bulk of COAs in the US is at the municipal level. Thus, municipal COAs form the focus of the current study.

The noted historian of citizen oversight, Samuel Walker, while acknowledging the dearth of academic studies on the growth of COAs since the early 1970s, suggests several potential catalysts that have led to their growth, including increasing public awareness of incidents of police misconduct and the resulting community crises “in virtually every US city,” an increasing acceptance by the American public of police misconduct as a serious problem and agencies’
internal affairs divisions as not being adequate to deal with officer oversight, an increasing appetite amongst the public for accountability in the aftermath of the Watergate scandal, and the growth of community policing, which, in turn led police chiefs to welcome greater citizen input with regard to complaints against the police (S Walker 2006). Moreover, in subsequent work, Walker and his co-authors have highlighted the role of the Department of Justice’s (DOJ) authority under the Violent Crime Control and Law Enforcement Act of 1994 (Violent Crime Control and Law Enforcement Act of 1994) to investigate individual police agencies for a pattern and practice of misconduct as facilitating the role of COAs (S Walker and Archbold 2014), and have highlighted the role of state-level laws that afford procedural protections to officers alleged to have committed misconduct, as having the potential to hinder police accountability (Keenan and Walker 2005). Taken together, the work of Walker and his colleagues suggests that a variety of factors, ranging from the federal to the local level could potentially have an uptake on COAs at the local level.

Surveys of COAs have found that are likely to be established through a local government ordinance or an amendment in the local government charter (De Angelis, Rosenthal, and Buchner 2016). Although they often have the broad aims of improving public trust in the local police agency, enhancing transparency of the complaint investigation system, and deterring police misconduct, there is substantial variation across COAs in how they seek to attain these above goals, the size and type of police agency overseen, leadership structure, budgetary authority, as well as levels of staffing (De Angelis, Rosenthal, and Buchner 2016).

Variation in COAs along the above dimensions has prompted prior researchers to classify them into various categories (De Angelis, Rosenthal, and Buchner 2016; Olson and Attard 2016; S Walker 2001; Ali and Pirog 2019). For instance, Ali and Pirog (2019) surveyed municipal
COAs, and classified them into investigative, monitoring, and review/audit agencies. Investigative COAs have the authority to classify citizen complaints, conduct independent investigations based on those complaints, and recommend discipline to officers found guilty of misconduct (e.g., use of excessive force or racially-disparate policing). Such agencies are also likely to have substantial budgetary authority as well as a staff of paid, full-time employees including lawyers, investigators and policy analysts, which in turn reports to a citizen board.

Monitoring COAs emphasize active monitoring of police complaint investigations and are likely to have access to the internal affairs division’s electronic databases, internal affairs files (including closed case files), which they use to analyze trends and patterns in police misconduct. Per Ali and Pirog, these COAs are concerned with recommending changes to existing police policies to prevent future misconduct. They are likely to have fewer full-time staff and relatively smaller budgets compared to investigative agencies. Finally, review/audit COAs often consist of a board of citizens which can review completed complaint investigations conducted by police. While these agencies may occasionally have access to police records, they are the least likely to have a paid full-time staff, budgetary authority, or the authority to recommend discipline or policy change. Since investigative agencies have the authority to independently investigate allegations of police misconduct, recommend discipline to officers found guilty of misconduct, and are the most likely to have full-time staff, Ali and Pirog argue that such COAs have the broadest scope of authority, followed by monitoring, and then review/audit COAs.

While a review of the literature on the impact on COAs is beyond of the scope of the current study, recent studies, as alluded to earlier, have found that investigative COAs lead to reductions in racial disparities in police homicides of citizens as well as disorderly conduct
arrests, while also leading to a reduction in violent crime and homicides and police officers. On the other hand, the same studies have found non-investigative COAs (i.e., monitoring and review/audit COAs) to have much narrower impacts – namely, a reduction in the racial disparity in disorderly conduct arrests. The current study contributes to the literature on COAs examining the factors associated with the adoption of COAs overall, as well as whether there are distinct factors associated with the adoption of investigative and non-investigative COAs. We turn our attention to the literature on the adoption of criminal justice policies next.

**Adoption and Diffusion of Criminal Justice Policies**

Given that there are no existing studies that directly investigate the adoption and diffusion of COAs, which represent a type of criminal justice policy, we began our literature review by assessing studies on the adoption and diffusion of criminal justice policies across US states. We look at this literature in somewhat more detail below to extrapolate insights for the current study.

Using a database of state level policy enactments between 1998 and 2011, Donnelly (2017) examined social and political explanations for reforms intended to reduce racial disparity in criminal justice processing. Defining racial disparity reforms as distinct from other criminal justice reform in that the former reflects racial consciousness and egalitarian ideals, she found that the enactment of racial disparity reform is predicted by increasing levels of racial disproportion in criminal processing, greater Democratic control of the state legislature, and the absence of judicial efforts to improve racial fairness in a state’s criminal justice system. Donnelly also found that the above factors may catalyze difference types of measures intended to address racial inequities. For example, greater Democratic control of the legislature was associated with adoption of exploratory measures to assess whether and why inequities exist, as
well as prohibitory measures which restrict the use for race as a factor in criminal justice
decision making (for instance, a ban on racial profiling). Increasing levels of racial disparity in
criminal processing enhances the likelihood of enacting prohibitory, policy-specific as well as
comprehensive measures. Policy-specific measures are those which directly introduce
interventions that change practices in criminal justice processing within one bureaucracy, while
comprehensive reforms have the widest scope, and may require multiple bureaucracies to
restructure their processes to reduce racial inequities throughout the criminal justice system
(Griffith, Jirard, and Ricketts, 2012). Finally, judicial non-intervention was found to be
associated with an increased likelihood of adopting policy-specific and comprehensive measures.
While Donnelly’s study did not consider the role of learning or neighborhood effects in
facilitating the adoption of racial disparity reforms, it highlights the role intra-state factors such
as the scale of inequities in criminal justice processing, partisanship, and judicial non-
intervention as key in prompting social equity-oriented criminal justice reforms.

Rogers’ (1983, 2004) typology of innovation attributes to examine the impact of each attribute
on the speed and mechanisms of diffusion of 27 criminal justice policies. They found that clarity
about a policy’s purpose and likely results, its relative advantage over preceding policies,
compatibility with existing law and regulations, observability of its results, and its degree of
trialability all increased the speed at which the diffusion of criminal justice policies occurred.
They also found evidence for a learning effect (i.e., adoption of a policy after adoptions by other
states) for highly observable policies, but which was diminished when states could conduct
internal trials, and when the policies’ purpose and potential results lacked clarity. Pertinent to the
current study, the foregoing findings suggest that investigative COAs, which are relatively
complex organizations as compared to non-investigative COAs and which are relatively few in number (and hence less observable), might be less susceptible to diffusion among local governments.

Karch & Cravens (2014) examined the factors associated with the adoption of Three Strikes laws across the United States during 1993-95, as well as the subsequent wave of progressive reform of such laws. Under the original Three Strikes law, if an individual convicted of two “serious or violent” felonies was convicted of a third felony, they were given a sentence ranging from 25 years to life. While the original law was punitive in nature, the subsequent wave of modification which occurred between 1994 through 2012, sought to reduce its severity. Modifications to the Three Strikes laws enhanced judicial discretion during sentencing and sharply reduced the sentences imposed on habitual offenders. The authors found that the phase of initial adoption was akin to a process of policy mimicking, and was driven by the presence of a higher percentage of blacks in a state, the interactive effect of percentage of blacks and state political ideology (with more conservative states more likely to adopt), and to a lesser extent, by the mobilization of prison officer unions. On the other hand, the modification of Three Strikes Laws was found to be encouraged by fiscal stress, shifting ideological environments (with more liberal states more likely to modify), and was hindered by interest groups such as private prison operators as well as by increase in the percentage of blacks in the state. Moreover, modification of the law in neighboring states was associated with an increased likelihood of adoption by a given state, whereas availability of the ballot initiative process reduced the likelihood of modification. Taken together, this study points towards the prominent role of racial threat, political ideology, and interest group politics in fostering and maintaining punitive criminal
justice policy, while highlighting the role of fiscal stress and neighborhood effects as having a restraining influence on the maintenance of punitive policies.

Taken together, the above literature suggests that the adoption and diffusion of criminal justice policies is, as much a function of the characteristics of the policy itself as it reflects intra-jurisdictional contingencies (e.g., political ideology, fiscal capacity, interest group influence, existing racial disparities etc.), and the contextual policy environment in which adoption decisions are considered. While the above literature offers useful insights that could help us in developing a framework for the diffusion of accountability mechanisms at the local level, it does not directly address adoption of such mechanisms, nor does it address whether alternate kinds of accountability agencies are likely to be adopted under different institutional contexts. Finally, the adoption of COAs is particularly understudied.

We seek to fill the above gaps in the literature, using the case of COAs for the police. Specifically, we aim to answer two questions, which are (1) What are the factors at the federal, state and local levels that are associated with COA adoption? and (2) What are the factors that drive the uptake of investigative COAs, compared to non-investigative COAs? We begin the process of answering the above questions by proposing a framework, which incorporates factors at federal, state and local levels that bear on municipalities’ and police agencies’ capacity to hold the police to account. Using a unique data set of 283 municipalities and spanning 37 years (1980-2016), we use Cox proportional hazards models and competing risk models to address the above questions, respectively.
A Framework for COA Adoption in Local Government

The problem of regulating the police in America can be regarded as one that requires the balancing of individual harms against collective interests. That is, the goal of police regulation is to induce police officers to uphold individual freedoms and minimize the social costs that they impose in the course of their jobs, while allowing them to pursue the ends of policing which include reducing fear, promoting civil order, and pursuing criminal justice. In the United States, constitutional law as interpreted by the United States Supreme Court, a range of statutes at the federal, state, and local levels, and internal controls within police agencies shape the ability of police to meet the above standard, also referred to as ‘harm-efficiency’ (Harmon 2012).

However, despite extensive legal regulation, scholars have found that American policing does not fully ensure that the social costs of policing are in proportion to their effectiveness in controlling crime, fear and disorder. There are many reasons for this, including the fact that laws governing the police are often not tailored to serve the end of making law enforcement worth its costs to begin with, laws at different levels of government are inadequately coordinated and may work at cross purposes with other laws or court decisions, and the responsibility for generating and enforcing law is haphazardly allocated across government institutions (Harmon 2012). Moreover, most institutional actors (such as the courts, state and local governments, or police agencies themselves) often do not have the capacity, resources or the incentives to carefully weigh the trade-offs effectiveness of various law enforcement practices entail against the harms that they inflict.

It is in the above context of imperfect regulation that COAs have emerged as a community-level response to allow community members to weigh in on issues of justice and accountability vis-à-vis policing practices. Often created in the aftermath of instances of officer-
involved shootings or patterns of racially disparate policing, the creation of COAs by municipal
governments can be regarded as an institutional response to the extent to which the achievement
of harm-efficient policing is either hindered, or facilitated, by existing federal, state, and local
laws, police agency practices, and the sociopolitical and economic dynamics within the
communities in which police agencies are embedded.

Given the federal structure of the American Constitution, we posit that a framework to
explain the enactment of COAs in the American context should begin with federal laws and
institutions that erect barriers to, or facilitate, the enactment of measures intended to prevent or
remedy patterns of unconstitutional misconduct by police, followed by those at the state, and
local levels. Finally, it is also important to consider the particular characteristics of the
communities in which they are embedded and in which such policing institutions are maintained
or undergo change.

**Federal Influence**

The Violent Crime Control and Law Enforcement Act of 1994 confers the US DOJ with
the authority to investigate whether individual jurisdictions have engaged in a ‘pattern or
practice’ of unconstitutional policing. Armed with this authority, the DOJ can review the
administrative records of the police agency alleged to have engaged in misconduct, investigate
arrest records for patterns of racial disparities, evaluate agency policies (for instance, on the use
of force or those relating to stop-and-frisk) to determine whether they violate the constitutional
rights of citizens, and even interview citizens and police officers to establish agency practices. If
the agency is found to engage in systematic pattern of unconstitutional policing, the DOJ is
empowered to sue it under the authority conferred by the above law. If, however, the jurisdiction
agrees to reform its policing practices, it enters into a settlement with the DOJ (also sometimes
referred to as a consent decree). While the terms of the various agreements that the DOJ has negotiated with various jurisdictions depend on the specific pattern of abuses uncovered, typical settlements have mandated revising of use of force policies, additional training, improving complaint procedures, the assignment of a court-appointed monitor, and the strengthening of internal and external mechanisms of police accountability.

Since federal investigation or the imposition of a consent decree is expected to lead to strengthening of external checks on police conduct, we hypothesize that federal intervention would be associated with an increase in the likelihood of establishing COAs. Moreover, since consent decrees require the jurisdiction to undertake systematic and wide-ranging reforms, it is likely that they lead to the establishment of COAs with a broad scope of authority – ones which are able to take on the mantle of conducting rigorous police oversight from the court-appointed monitor once the consent decree draws to a close. Even if a DOJ investigation does not result in the imposition of a consent decree, the municipal government would prefer to establish a COA that can serve as a meaningful check on police misconduct, so as to forestall the possibility of a second DOJ investigation. Thus, we expect that municipalities that experience a DOJ investigation (or enter a consent decree) would be more likely to establish an investigative COA compared with municipalities that have not undergone a DOJ investigation.

Hypothesis 1A: Municipalities which undergo a DOJ investigation (or enter a consent decree), would be more likely to establish a COA, compared to municipalities that have not undergone an investigation.

Hypothesis 1B: Municipalities that undergo a DOJ investigation (or enter a consent decree), would be more likely to establish an investigative COA, compared to municipalities that have not undergone an investigation.
State Influence

Beyond federal influence, state constitutions, statutes and regulations provide additional regulation of police officer conduct. Local police officers are created by state law, which both provides officers certain powers and also restricts its exercise. It is under state statutes that police officers permitted to engage in community caretaking and criminal law enforcement, use force, and are mandated to arrest suspects in domestic violence cases.

Some states have statutes that provide procedural protections to police officers facing allegations of misconduct. Such protections, generically referred to as Law Enforcement Officers’ Bill of Rights (LEOBOR), are currently codified into legislation in fourteen states. These laws were enacted in response to intense lobbying efforts by police unions in the aftermath of the increasing calls for police accountability during the civil rights era of the 1960s (Keenan and Walker 2005). While such ‘LEOBOR laws’ mostly include procedural protections for the rights of police officers (e.g., allowing of the officer’s lawyer to be present during questioning, and the right to appeal the outcome of hearings), they may occasionally contain provisions which are detrimental to citizen oversight of police. For example, Kentucky restricts citizen involvement in investigation of misconduct, while Maryland allows officers to have the complaints on their file expunged three years after dismissal or a finding of not guilty.

Limitations on citizen participation in police oversight (e.g., through mandates requiring that police officers alleged to have committed misconduct may only be questioned by individuals who are government employees) would directly impede the emergence of COAs, particularly those which are primarily staffed by citizens. Since non-investigative agencies include review/audit-focused agencies, which are predominantly staffed by citizens, we expect that
LEOBOR laws which restrict citizen participation in police oversight would be especially likely to deter the adoption of non-investigative COAs.

*Hypothesis 2A: States which restrict citizen involvement in police oversight through LEOBOR laws, will face a reduced risk of establishing non-investigative COAs.*

In a similar vein, restrictions on the retention of complaints on officers’ files may pose a barrier to the adoption of monitoring COAs, which are more likely than investigative and review/audit-focused COAs to have access to internal affairs files (including closed files), as well as internal affairs electronic databases. Monitoring COAs use these data to identify trends and patterns in misconduct, to propose changes in police policies so as to reduce the likelihood of future misconduct. If a state’s LEOBOR law allows the complaint data on an officer’s file to be discarded after a set time period, the efficacy of monitoring COAs is likely to be reduced. Since we consider monitoring COAs as non-investigative COAs in the current study, we expect that the uptake of non-investigative COAs will be deterred if state LEOBOR law places restrictions on the retention of complaints on officers’ files. Thus, we hypothesize the following:

*Hypothesis 2B: States which restrict retention of complaint data in officers’ records, will face a reduced risk of establishing non-investigative COAs.*

**Local Influence**

The characteristics of the municipal government adds a third layer of influence that can have an impact on likelihood of adoption of COAs. Prior research has focused on characteristics of municipal government such as mayor council form of government, by district municipal elections, term limits, and partisan elections as potentially having a bearing on policy outcomes that favor poor and disadvantaged population groups (Clingermayer and Feiock 2014; Bridges
1999; Welch 1990; Mladenka 1989). In this study, we focus on the impact of provisions for direct democracy such as the initiative process, revenue per capita, and egalitarian concerns as measured by the strength of redistributive policies that serve poor and marginalized communities as potential predictors of the adoption of COAs.

Prior research has found the availability of the initiative process to be correlated with fiscal outcomes within local governments (Matsusaka 2009). In the context of social equity-oriented, criminal justice policy, it is possible that availability of the initiative process encourages the uptake of COAs because citizens would have the option of bypassing the local elected representatives in case they are hesitant to enact legislation that leads to the creation of a COA. We expect this to be particularly likely to be case if the percentage of blacks in the municipality is high.

Furthermore, it is possible that municipalities which have access to the initiative process are able to establish stronger COAs relative to municipalities that do not have access to such a process. This is because if the municipal government creates a COA that is less powerful than that desired by the citizenry, it runs the risk of citizens using the initiative process to place a demand for a stronger COA on the ballot. This is especially likely when there is a higher percentage of black citizens in the municipality. Thus, we propose the following two hypotheses:

Hypothesis 3A: Municipalities with the initiative process, which also have a high proportion of black residents, would be more likely to establish a COA.

Hypothesis 3B: Municipalities with the initiative process, which also have a high proportion of black residents, would be more likely to establish an investigative COA.
Second, we expect that municipalities would be more likely to establish a COA if they have budgetary slack. This would particularly be the case for investigative COAs, which generally employ a large number of paid, full-time staff of analysts, and investigators to independently scrutinize allegations of police misconduct. Thus, we hypothesize the following:

Hypothesis 4: Municipalities with higher own-source revenue per capita would be more likely to establish an investigative COA.

Finally, past research has found local voter preferences to be correlated with fiscal outcomes in local government (Einstein and Kogan 2016). Thus, we expect that municipalities in which voters have a preference for egalitarian, social equity-oriented institutions would likely have fiscal outcomes that reflect such preferences. If this is the case, then municipalities that spend a higher percentage of their expenditures on egalitarian programs would be more likely to adopt robust accountability institutions such as investigative COAs. Thus, we hypothesize the following:

Hypothesis 5: Municipalities that spend a higher percentage of direct expenditures on egalitarian programs would be more likely to establish investigative COAs compared with municipalities that spend relatively less.

Other Contextual Factors

There are range of factors pertaining to the environmental context in which local governments are nested that may have a significant bearing on public and policymaker attitudes towards police accountability. The variables that we consider in this study include the violent crime rate, percentage of the population that is black, the number of civil rights non-profits in the jurisdiction, as well as the number of neighboring municipalities that have adopted a COA.
The violent crime rate in a community is a quality-of-life issue that impacts the daily routines of citizens, from where they choose to reside, how they prefer to travel within an area, and the hours they prefer to remain outdoors. Given the impact of the fear of violent crime on citizens’ quality of life, elected city leaders in jurisdictions with relatively higher levels of violent crime are likely to be focused on appearing ‘tough on crime,’ rather than pushing for increased police accountability. Thus, we propose that municipalities with higher levels of violent crime would be less likely to establish COAs.

Hypothesis 6: Municipalities with higher levels of violent crime would be less likely to establish COAs.

In a similar vein, the racial threat hypothesis suggests that an increase in the proportion or economic power of minorities in a jurisdiction could activate perceptions of racial threat within majority groups. Given the long-standing stereotypes against blacks of being prone to violence and criminal activity (Bobo 2004; Muhammad 2010; Goff et al. 2014), it is possible that an increase in the percentage of the population that is black might enhance the propensity among elected leaders and police executives to give the police a more unfettered role in enforcing laws in minority communities, rather than establishing agencies that potentially allow citizens belonging to minorities to hold the police to account. Alternatively, a higher proportion of blacks in the municipality might induce politicians to cater their preferences more effectively. Thus, it is possible that a higher proportion of blacks in a municipality increases the likelihood of COA adoption. This latter effect might outweigh the former, or vice versa. Thus, we are agnostic with respect to the effect of racial composition on the likelihood of COA adoption, and propose the following non-directional hypothesis:
Hypothesis 7: The proportion of blacks in a municipality is likely to have an impact on the likelihood of adoption of COAs.

The presence of civil rights organizations in a jurisdiction can potentially have an effect on citizen attitudes towards police and can amplify citizen voices expressed in support for greater police accountability. It is possible that residents of communities which have more civil rights organizations are more educated about their civil rights, as well as being aware of incidents of police abuse due to the outreach efforts by such organizations. Furthermore, it is possible that elected leaders and police executives are more mindful about fair treatment of citizens by police if more civil rights organizations are present in a jurisdiction, and hence more likely to establish COAs with a relatively broad scope of authority (see McGregor 2016). Thus, we hypothesize the following:

Hypothesis 8A: An increase in the number of civil rights organizations in a municipality will increase the likelihood of establishment of COAs

Hypothesis 8B: An increase in the number of civil rights organizations in a municipality will increase the likelihood of establishment of investigative COAs.

The number of COAs in the surrounding region can have an effect on the uptake of a COA in a given municipality. This effect could occur through a learning mechanism or mimicry. Mayors and city managers can observe the effects of adoption of COAs in the surrounding municipalities and weigh the costs and benefits of adoption in their own municipality. This kind of adoption, which is based on learning from the experiences of other jurisdictions corresponds to a learning effect. We suggest that this kind of learning is more likely to occur with investigative COAs because such COAs have actually been found in prior research to reduce
racial disparities in police-involved homicides of citizens and arrests for minor offenses, as well as a reduction in HPOs and violent crime (Ali and Pirog 2019).

Alternatively, leaders in some municipalities may simply adopt a COA because neighboring municipalities have also adopted one, without necessarily weighing the costs of COAs against their benefits. This is likely in the case of non-investigative COAs because such COAs often require a far smaller investment in terms of budgetary and human resources compared with investigative COAs. Furthermore, non-investigative COAs have not been found to be associated with reductions in tangible public safety metrics such as the violent crime rate, or racial disparities in more salient policing outcomes, as investigative COAs have. Thus, our overall expectation regarding the uptake of COA via a diffusion effect is expressed through the following two hypotheses:

Hypothesis 9A: The adoption of COAs by municipalities in the surrounding region is not likely to have an effect on the likelihood of adoption of an investigative COA in a given municipality.

Hypothesis 9B: The adoption of COAs by municipalities in the surrounding region is likely to increase the likelihood of adoption of a non-investigative COA in a given municipality.

In the following section, we describe the statistical method that we shall use to test the above hypotheses.

Method

Event history modeling (EHM) provides a popular approach for teasing out the impact of various factors on the adoption and diffusion of public policies. It is often conducted using a Cox proportional hazards model, which allows modeling the impact of variables on the hazard of an event i.e., the likelihood of its occurrence given that it has not already occurred. In the current
study, we shall use the Cox proportional hazards model to model the impact of social, political, and economic factors on the hazard of creation of a COA.

Specifically, the Cox proportional model asserts that the hazard for the \(j^{th}\) subject in the data is:

\[
h(t|x_j) = h_0(t) \exp(x_j \beta_x)
\]

Where \(h_0(t)\) represents the baseline hazard, and \(\beta_x\) represent the coefficients to be estimated from the data. By allowing for the policy choices of different municipalities to be conditional on the contextual factors within those municipalities over time, the Cox proportional hazards model can provide a dynamic account of the adoption and diffusion of COAs.

There are also other advantages associated with the Cox model. First, it makes no assumption about the nature and shape of the baseline hazard \(h_0(t)\), which is given no parameterization and can be left unestimated. Rather, it only assumes that each subject’s hazard is a multiplicative replica of anothers’. Second, it utilizes information of non-adopting municipalities which would otherwise be excluded from the analysis in linear or logistic regression models. These latter models tend to truncate the sample to only include uncensored observations, which in turn introduces selection bias into the data. In other words, the Cox proportional hazards model does not drop jurisdictions that never enact a policy during the time period in question. This makes sense from a theoretical standpoint as censored observations are potentially influenced by the same factors that “uncensored” observations are (Box-Steffensmeier and Jones 2004).

Third, the Cox model also allows us to investigate not only the predictors of the adoption of COAs, but also allows us to separately estimate the factors associated with the uptake of
investigative and non-investigative COAs. Referred to as competing risks models, such models are useful in evaluating whether the predictors for a certain policy choice are different from the predictors of a related and potentially competing policy choice. This flexibility is of particular benefit in the current study because when policymakers in a given municipality are considering the adoption of a COA, they are likely to weigh the relative costs and benefits of different types of COAs. Furthermore, it is possible that policymakers who choose to adopt non-investigative COAs operate in a different context as compared to policymakers who opt for investigative COAs. The competing risk model will help us identify the differences in the contextual environment that help drive the adoption of different types of COAs.

As is common with survival models, once the event of interest has occurred COA, the rest of the data for that particular unit are censored. We use the Efron method to handle ties, where multiple municipalities adopt a COA in the same time period because the method is more accurate than the Breslow approximation (Box-Steffensmeier and Jones 2004). Also, we use robust standard errors clustered at the municipality level because the failure times within municipalities would likely be correlated.

**Data**

Table 1-1 shows the variables used in the analysis and the data sources from which they were obtained. The unit of analysis is municipality-year. The sample consisted of all municipalities in the US with a population greater than 76,000 persons in 2010. There were 93 municipalities with COAs and 197 municipalities without COAs that met this criterion. Table 1-2 shows descriptive statistics for the variables used in the analysis.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Type</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year of COA creation</td>
<td>Panel; 1980-2016</td>
<td>Survey of COAs conducted in 2017; Municipal government/COA websites</td>
</tr>
<tr>
<td>Year of DOJ investigation/agreement</td>
<td>Indicator; 1980-2016</td>
<td>US Department of Justice website (<a href="https://www.justice.gov">https://www.justice.gov</a>)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The Marshall Project (<a href="https://github.com/themarshallproject/doj14141">https://github.com/themarshallproject/doj14141</a>)</td>
</tr>
<tr>
<td>Year of LEOBOR law enactment</td>
<td>Indicator; 1980-2016</td>
<td>Keenan and Walker (2005); state legislative records</td>
</tr>
<tr>
<td>Availability of Initiative Process</td>
<td>Indicator; 1980-2016</td>
<td>Initiative &amp; Referendum Institute, University of Southern California</td>
</tr>
<tr>
<td>Violent Crime Rate</td>
<td>Panel; 1980-2016</td>
<td>Uniform Crime Reports (UCR), Federal Bureau of Investigation</td>
</tr>
<tr>
<td>Number of Civil Rights Nonprofits in Municipality</td>
<td>Panel; 1980-2016</td>
<td>Internal Revenue Service (IRS) Masterfile</td>
</tr>
<tr>
<td>Population</td>
<td>Panel; 1980-2016</td>
<td>Census Bureau, American Community Survey</td>
</tr>
<tr>
<td>Per capita income ($)</td>
<td>Panel; 1980-2016</td>
<td>as above</td>
</tr>
<tr>
<td>Percentage of population 25+ with bachelors degree</td>
<td>Panel; 1980-2016</td>
<td>as above</td>
</tr>
<tr>
<td>Unemployment (%)</td>
<td>Panel; 1980-2016</td>
<td>as above</td>
</tr>
<tr>
<td>Percentage of Municipality Population that is black</td>
<td>Panel; 1980-2016</td>
<td>as above</td>
</tr>
<tr>
<td>Variable</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>--------</td>
<td>-------</td>
</tr>
<tr>
<td>Percentage of Municipalities which underwent DOJ intervention</td>
<td>7.50</td>
<td>26.36</td>
</tr>
<tr>
<td>Percentage of Municipalities subject to LEOBOR law</td>
<td>43.10</td>
<td>49.61</td>
</tr>
<tr>
<td>Percentage of Municipalities with access to Initiative Process</td>
<td>87.41</td>
<td>33.22</td>
</tr>
<tr>
<td>Direct General Revenue per capita ($) in 2010</td>
<td>1.51</td>
<td>1.11</td>
</tr>
<tr>
<td>Redistributive Spending as % of Direct General Expenditures ($) in 2010</td>
<td>4.92</td>
<td>5.37</td>
</tr>
<tr>
<td>Violent Crime Rate (2010)</td>
<td>612.55</td>
<td>387.07</td>
</tr>
<tr>
<td>Percentage Black (in 2010)</td>
<td>16.97</td>
<td>16.76</td>
</tr>
<tr>
<td>Number of civil rights organizations in the municipality (in 2010)</td>
<td>1.15</td>
<td>3.17</td>
</tr>
<tr>
<td>Number of Municipalities with a COA in Census Region West (in 2010)</td>
<td>34.00</td>
<td></td>
</tr>
<tr>
<td>Number of Municipalities with a COA in Census Region Midwest (in 2010)</td>
<td>22.00</td>
<td></td>
</tr>
<tr>
<td>Number of Municipalities with a COA in Census Region South (in 2010)</td>
<td>20.00</td>
<td></td>
</tr>
<tr>
<td>Number of Municipalities with a COA in Census Region Northeast (in 2010)</td>
<td>16.00</td>
<td></td>
</tr>
<tr>
<td>Population (persons; in 2010)</td>
<td>279,050.00</td>
<td>584,085.5</td>
</tr>
<tr>
<td>Per capita income ($) in 2010</td>
<td>25,764.70</td>
<td>7,095.84</td>
</tr>
<tr>
<td>Percentage of population 25+ with bachelors degree (in 2010)</td>
<td>29.73</td>
<td>12.17</td>
</tr>
<tr>
<td>Unemployment rate (%) in 2010</td>
<td>9.63</td>
<td>3.52</td>
</tr>
</tbody>
</table>
Out of the 93 adopting municipalities referred to above, seven had established a COA prior to 1980, with the earliest adoption in 1969 (in Kansas City, Missouri). After excluding these 7 municipalities, our sample consisted of 86 (=93-7) adopting and 197 non-adopting municipalities.

Data on the year of adoption of each COA were obtained from a survey administered in 2017 to the population of municipal COAs in the US (N=111 municipalities). Each survey was sent to the director or chairperson of the COA and included questions regarding their year of adoption, the specific authorities their COA had, among other attributes. Out of the 111 municipalities surveyed, 79 provided usable responses for the year of COA adoption. We ascertained the year of adoption for the remaining 7 municipalities either from the websites of the respective COAs, from local government documents such as minutes of city council meetings, or from public reports issued by the COA.

**DOJ investigation/agreement** is an indicator variable that equals one when a given municipality was either under investigation by the DOJ for engaging in a pattern or practice unconstitutional policing, or had entered into an agreement with the DOJ to reform policing practices. There were 22 municipalities that were either investigated by the DOJ or entered into an agreement with the DOJ during the time window under consideration. Out of these, 18 municipalities established a COA.

**LEOBOR law** is an indicator variable that equals one in the years that any given state had a LEOBOR law that restricted citizen participation in police oversight or which placed restrictions on retention of complaints on officers’ files and is zero otherwise. There were six states that such LEOBOR laws (California, Florida, Kentucky, Louisiana, Maryland, Rhode
Island, and Virginia). These data were obtained from Walker and Keenan’s (2004) study on contents of state level LEOBOR laws.

**Initiative** is an indicator variable that equals one for those municipalities which have access to the initiative process and is zero otherwise. **Revenue per capita** is the direct general own source revenue per capita for municipality-year. Prior research has cited considerable support for the claim that housing and community developments funds are generally directed at less advantage citizens. Therefore, we calculated **redistributive spending** as the percentage of direct general expenditures that is spent on the construction, operation, and support of public housing projects, urban renewal and slum clearance, as a proxy measure of the strength of redistributive policies that serve poor and marginalized communities.

**Violent crime rate** is the number of violent crimes per 100,000 persons. **Number of civil rights nonprofits** is the number of civil rights organizations in a given municipality-year. The **number of neighboring municipalities with COA** is the number of municipalities in a given municipality’s census region that have already adopted a COA. Finally, **population** (in 100,000 persons), **per capita income in dollars**, and **percentage of population that is 25+ with a bachelor’s degree**, and the **unemployment rate** are included as covariates as prior research has found such socioeconomic characteristics to be correlated with policing patterns (Zhao, Ren, and Lovrich 2012; Zhao, He, and Lovrich 2006).

**Results**

**Predictors of Adoption of COAs of Any Type**

Table 1-3 provides the results from five sequential models of COA adoption, whereby each model is nested in . We estimate the effect of federal, state, municipal, and contextual variables...
at the local level on the likelihood of adopting COAs, adding each set of variables sequentially. Coefficients as reported as hazard ratios, which are interpreted as a change in the hazard rate for a one unit increase in the independent variable. We also conducted tests of the proportional hazards assumption to test whether the hazard of a municipality adopting a COA is a fixed multiple of the hazard of another municipality. In instances where a variable did not pass the proportional hazards assumption, we included an interaction between the offending variable and time (Box-Steppensmeier and Jones 2004). The hazard ratios for such interaction terms are reported, as applicable, in the respective tables under *time-varying covariates*.

In model A, we begin by including the indicator variable that equals one for the years in which a given municipality was under federal investigation or was bound by an agreement to reform policing practices. The hazard ratio (HR) for *DOJ investigation/agreement* is large and significant \((HR = 13.38, p = .000)\), and implies that the hazard of adopting any type of COA is around thirteen times greater for a municipality that is under DOJ investigation or has entered into an agreement with the DOJ, compared to one that is not. Thus, we can see that when we do not control for state and local influence, federal intervention has a substantial impact on the likelihood of COA uptake, demonstrating support for hypothesis 1.

Model B adds the state-level influence as measured by the presence of a LEOBOR law. The hazard ratio for *LEOBOR law* is smaller than one and is significant \((HR = .61, p = .045)\) and suggests that while controlling for federal level influence, state-level LEOBOR laws do dampen the prospects of COA adoption. Specifically, the presence of a LEOBOR law that either limits citizen participation in police oversight or which places restrictions on the length of time until data on complaints can be retained on officers’ files, reduces the hazard of COA adoption by 39%. The hazard ratio for DOJ investigation/agreement is virtually the same as model A,
despite controlling for state-level influence, which suggests that federal influence on COA adoption is strong despite the presence of state-enacted legal roadblocks.

Table 1-3: Predictors of COA Adoption of Any Type

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Hazard Ratios</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(A)</td>
</tr>
<tr>
<td><strong>Federal Influence</strong></td>
<td></td>
</tr>
<tr>
<td>DOJ investigation/agreement</td>
<td>13.38***</td>
</tr>
<tr>
<td><strong>State-level Influence</strong></td>
<td></td>
</tr>
<tr>
<td>LEOBOR law</td>
<td>.61**</td>
</tr>
<tr>
<td><strong>Local Influence</strong></td>
<td></td>
</tr>
<tr>
<td>Municipal Government</td>
<td></td>
</tr>
<tr>
<td>Initiative process</td>
<td>1.22</td>
</tr>
<tr>
<td>Revenue per capita</td>
<td>1.72***</td>
</tr>
<tr>
<td>% Redistributive Spending</td>
<td>.99</td>
</tr>
<tr>
<td><strong>Other local contextual factors</strong></td>
<td></td>
</tr>
<tr>
<td>Violent crime</td>
<td>1.00</td>
</tr>
<tr>
<td>Percentage Black</td>
<td>1.01</td>
</tr>
<tr>
<td>Number of Civil Rights Nonprofits</td>
<td>1.42**</td>
</tr>
<tr>
<td>Number of Municipalities in census region with COA</td>
<td>1.10***</td>
</tr>
<tr>
<td>Population (100,000 persons)</td>
<td></td>
</tr>
<tr>
<td>Per capita income ($)</td>
<td></td>
</tr>
<tr>
<td>Percentage of population 25+ with bachelor's degree</td>
<td>.95</td>
</tr>
<tr>
<td>Unemployment</td>
<td></td>
</tr>
</tbody>
</table>

**Time-varying Covariates**

| Leobor law × Time | .91*** |
| Revenue per capita × Time | .91*** |
| Percentage 25+ with bachelor's degree × Time | 1.00*** |
| Unemployment × Time | 1.02*** |

**Robust standard errors clustered at municipality level**

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>Yes</th>
<th>Yes</th>
<th>Yes</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIC</td>
<td>888.03</td>
<td>885.68</td>
<td>792.54</td>
<td>747.17</td>
<td>736.01</td>
</tr>
<tr>
<td>BIC</td>
<td>895.11</td>
<td>899.83</td>
<td>827.71</td>
<td>817.29</td>
<td>848.20</td>
</tr>
<tr>
<td>N</td>
<td>8,731</td>
<td>8,731</td>
<td>8,382</td>
<td>8,200</td>
<td>8,200</td>
</tr>
</tbody>
</table>

^p<.15; *p<.1; **p<.05; ***p<.01
Model C adds variables reflecting various characteristics of the municipal government. Neither the availability of the initiative process, nor the degree of local redistributive spending is found to have an effect on the COA uptake. However, a one dollar increase in revenue per capita is associated with a 72% increase ($HR = 1.72, p = .000$) in the hazard of COA adoption.

Model D adds contextual variables that reflect the socioeconomic environment in which localities consider the adoption of COAs. Violent crime, and somewhat surprisingly, the percentage of municipality residents who are black do not have an effect on the hazard of COA adoption. However, the role of local civil rights organizations and neighboring municipalities with COAs is evident, given that both are associated with increased COA adoption. Specifically, an additional civil rights organization in the municipality leads to an increase in the hazard of COA adoption by 42% ($HR = 1.42, p = .000$), while COA adoption by another municipality in the same census region is associated with a 10% increase ($HR = 1.10, p = .003$) in the hazard of COA adoption. The former results points towards the critical role played by local civil rights groups in mobilizing grassroots support for COAs, while the latter suggests that municipalities may also adopt COA based on either learning from or mimicking other municipalities in the surrounding region.

Finally, in model E we add control variables to examine whether the hazard ratios observed above change in their presence. The hazard ratio for DOJ investigation/agreement ($HR = 5.95, p = .001$) is similar to that for model D, thus affirming our expectation per hypothesis 1.

While the hazard ratio for the LEOBOR law is larger than one in model E, it is not significant at the 5% level ($HR = 3.75, p = .065$). Furthermore, this hazard ratio was also quite unstable across the models estimated, depending on which variables and interaction terms were
in a given model. For instance, the hazard ratio for \textit{LEOBOR law} is less than one and significant in models A and B, greater than one and non-significant in model D, and greater than one, but insignificant at 5\% in model E. Thus, the overall instability of this hazard ratio leads us to have little confident in the idea that the enactment of LEOBOR laws increase the likelihood of COA adoption. On the other hand, the hazard ratio for the \textit{LEOBOR law-time} interaction is consistently significant at 1\% in models D and E, which suggests that such laws have a relatively unambiguous impact on COA adoption \textit{over time}. Specifically, the hazard ratio for the interaction term suggests that with each year following the enactment of a LEOBOR law by the state government, the hazard rate of adopting a COA at the municipal level declines by around 9\%.

The availability of the ballot initiative process was not found to be associated with increased COA uptake, which suggests a lack of support for hypothesis 3A. Turning to the characteristics of the local context, while the violent crime hazard ratio is significant, it is too close to one to suggest a substantive or meaningful impact on the likelihood of COA adoption. This suggests the lack of support for hypothesis 6, at least in a substantive sense.

The hazard ratio for percentage black approaches significance \((HR = 1.02, p = .123)\), and suggests that for each unit increase in the percentage of the population that is black, the hazard of COA adoption increases by 2\%, lending limited support for hypothesis 7. This result may also suggest that the representation effect of blacks in the municipality outweighs the community fears of racial threat that arise from a growing population of blacks.

Affirming the results in model D, the number of civil rights nonprofits and the number of municipalities with a COA in the census region again appear to stimulate the adoption of COAs, thus affirming support for hypotheses 8A and 9A.
Among the control variables, population and per capita income are found to have a positive impact on the adoption of COAs. However, similar to the hazard ratio for the violent crime rate, the hazard ratio of per capita income \( (HR = 0.99, p = 0.027) \) is too close to one to be considered practically significant. Higher levels of unemployment appear to drastically reduce the hazard of COA adoption \( (HR = 0.53, p = 0.002) \), which suggests that economic strains, and the potential social disorder resulting from a high unemployment rate may deter the adoption of COAs. However, this effect gradually dissipates over time, as can be seen by the hazard ratio for the unemployment-time interaction term \( (HR = 1.02, p = 0.009) \).

Overall, factors at each level of government were found to have some role to play in facilitating, or deterring, the adoption of COAs. The role of federal government intervention in stimulating the uptake of COAs was particularly prominent across all models, as was the role of state-level LEOBOR laws in deterring adoption. Furthermore, the role of the local context in laying the groundwork for the COA adoption cannot be discounted. Local institutions such civil rights organizations, neighborhood effects, and structural characteristics of municipalities such as population size, the percentage of population that is black, and unemployment all appear to have distinct effects on the adoption of COAs overall.

We now turn the evaluating the predictors of investigative COAs, to examine whether the dynamics highlighted above can be generalized to the uptake of investigative COAs.

**Predictors of Adoption of Investigative COAs**

Table 1-4 presents competing risk model estimates of sub-hazard ratios for the adoption of investigative COAs. Model F estimates the impact of **DOJ investigation/agreement** on the adoption of investigative COAs, showing that undergoing a DOJ investigation or entering into an
agreement to reform policing practices is associated with an around 47 times \((HR = 46.5, p = .000)\) increase in the sub-hazard of adoption of investigative COAs, given that non-investigative COAs could potentially have been adopted.

Model G adds the indicator for \textit{LEOBOR law}, whose coefficient turns out to be insignificant. Unlike the impact of LEOBOR laws on COAs overall, this result shows that LEOBOR laws do not directly deter the adoption of COAs. Model H adds municipal government specific variables for availability of the initiative process, revenue per capita and housing and community development expenditures as a percentage direct general expenditure. While availability of the initiative process does not influence the likelihood of investigative COA adoption \((HR = 1.03, p = .980)\), the degree of redistributive spending does appear to boost its prospects \((HR = 1.08, p = .023)\). Specifically, each unit increase in the percentage of general direct expenditures on housing and community development is associated with 8% increase in the hazard of investigative COA adoption. Regarding the impact of revenue per capita, a dollar increase is associated with 5.5 times increase in the hazard of COA adoption \((HR = 5.55, p = .001)\). However, as shown by the sub-hazard ratio of the revenue per capita-time interaction term, each passing year decreases the hazard of investigative COA adoption by 5% \((HR = .95, p = .024)\).

Model I add variables that characterize the local context for investigative COA adoption. The sub-hazard ratio (SHR) for \textit{DOJ investigation/agreement} approaches statistical significance and remains large \((SHR = 13.81, p = .113)\). The result may suggest that \textit{DOJ investigation/agreement} is associated with an increase in the hazard of adoption of investigative COAs, albeit not consistently.

Table 1-4: Competing Risks Model: Predictors of Adoption of Investigative COAs

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>(F)</th>
<th>(G)</th>
<th>(H)</th>
<th>(I)</th>
<th>(J)</th>
</tr>
</thead>
<tbody>
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<td><strong>Federal Influences</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DOJ investigation/agreement</td>
<td>45.50***</td>
<td>48.15***</td>
<td>40.90***</td>
<td>13.81^</td>
<td>14.52^</td>
</tr>
<tr>
<td><strong>State-level Influences</strong></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>LEOBOR law</td>
<td>.46</td>
<td>.41</td>
<td>.17</td>
<td>.17</td>
<td></td>
</tr>
<tr>
<td><strong>Local Influences</strong></td>
<td></td>
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<tr>
<td>Municipal Government</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Initiative process</td>
<td>1.03</td>
<td>1.08</td>
<td>1.15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Revenue per capita</td>
<td>5.55***</td>
<td>1.26</td>
<td>.93</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Redistributive Spending</td>
<td>1.08**</td>
<td>1.10*</td>
<td>1.11**</td>
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<tr>
<td><strong>Other local contextual factors</strong></td>
<td></td>
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</tr>
<tr>
<td>Violent crime</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage Black</td>
<td>1.01</td>
<td>1.01</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Civil Rights Nonprofits</td>
<td>1.48**</td>
<td>1.43*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Municipalities in census region with COA</td>
<td>1.02</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Population (100,000 persons)</td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Per capita income ($)</td>
<td>1.02</td>
<td></td>
<td></td>
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<tr>
<td>Percentage of population 25+ with bachelors degree</td>
<td></td>
<td>.99</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unemployment</td>
<td></td>
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<td></td>
<td></td>
<td>1.08</td>
</tr>
<tr>
<td><strong>Time-varying Covariates</strong></td>
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<tr>
<td>Leobor law × Time</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Revenue per capita × Time</td>
<td></td>
<td></td>
<td></td>
<td>.95**</td>
<td></td>
</tr>
<tr>
<td>Percentage 25+ with bachelor's degree × Time</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unemployment × Time</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Robust standard errors clustered at municipality level</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>AIC</td>
<td>124.17</td>
<td>124.61</td>
<td>118.05</td>
<td>112.28</td>
<td>117.73</td>
</tr>
<tr>
<td>BIC</td>
<td>131.40</td>
<td>139.06</td>
<td>161.09</td>
<td>176.61</td>
<td>210.64</td>
</tr>
<tr>
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<td>10,160</td>
<td>9,387</td>
<td>9,387</td>
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</tbody>
</table>

*p<.15; *p<.1; **p<.05; ***p<.01

Likewise, the sub-hazard ratio for revenue per capita is also not statistically significant (SHR = 1.26, p = .437). However, it is notable that the SHR for percentage of direct general expenditure on housing and community development is significant and larger than one.
This result suggests that policymaker concerns for fostering equity in policing outcomes is correlated with policy priorities in other areas that promote social welfare. Alternatively, it may suggest that the policing reforms and spending on public housing and community development might be driven by a broader underlying concern for serving poor and marginalized segments of society, at least in municipalities that establish investigative COAs.

The SHR for number of civil rights organizations in the municipality is also significant (SHR = 1.48, p = .031), and implies that each additional civil rights organization in a municipality is associated with a 48% increase in the hazard of investigative COA adoption. Finally, in contrast with the estimates in table 1-3, increasing adoption of COAs municipalities in a census region is not associated with an increase in the uptake of investigative COAs.

Model J adds controls variables to the above survival model. Only two variables are significant at conventional levels in this model: redistributive spending (SHR = 1.11, p = .031), and number of civil rights nonprofits (SHR = 1.43, p = .075). The former result implies that a unit increase in the percentage of spending on housing and community development is associated with an 11% increase in the hazard of investigative COA adoption, lending support for hypothesis 5. The latter implies that an additional civil rights nonprofit increases the hazard of investigative COA adoption by 43%, thus affirming support for hypothesis 8B.

**Predictors of Adoption of Non-investigative COAs**

Table 1-5 presents competing risk model estimates for non-investigative COAs. Model K estimates the impact of DOJ investigation/agreement on the adoption of non-investigative COAs, showing that underdoing a DOJ investigation or entering into an agreement with the DOJ to reform policing practices is associated with an around 33 times (p = .051) increase in the
sub-hazard of adoption of non-investigative COAs. However, the SHR for the DOJ investigation/agreement-time interaction term, is less than one \((SHR = .88, p = .087)\).

Together these coefficients suggest that while DOJ intervention is associated with an increase in the risk of adopting a non-investigative COA, each year that passes (after DOJ intervention) without an adoption, reduces the hazard of adopting one by around 12%.

Model L adds the LEOBOR law variable, whose sub-hazard ratio approaches significance \((SHR = .67, p = .129)\). The SHR for DOJ investigation/agreement remains relatively similar to that observed in the preceding model (i.e., model K).

Model M adds characteristics of the municipal government. None of the SHRs, except that of revenue per capita is significant \((SHR = 2.05, p = .045)\), which suggests that a dollar increase in revenue per capita is associated with an increase of 2.05 times in the hazard of adoption of a non-investigative COA. This model also contains the SHR for the LEOBOR law variable. The SHR for the main effect of LEOBOR law suggests that after the enactment of a LEOBOR law, the hazard of adopting a non-investigative COA declines by 39\% \((SHR = .61, p = .095)\).

Model N adds characteristics of the local contextual environment. Among the variables that are added to this model, only the SHR for violent crime \((SHR = 1.00, p = .027)\) and the number of municipalities in census region with a COA \((SHR = 1.09, p = .008)\) are significant. While the former SHR does not seem to be significant in a practical sense, the latter does. Specifically, it the latter result suggests that the adoption of an additional COA in a municipality’s census region is associated with a 9\% increase in the hazard of adopting a non-investigative COA.
Table 1-5: Competing Risks Model: Predictors of Adoption of Non-Investigative COAs

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>(K)</th>
<th>(L)</th>
<th>(M)</th>
<th>(N)</th>
<th>(O)</th>
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<td><strong>Federal Influences</strong></td>
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<tr>
<td>DOJ investigation/agreement</td>
<td>33.33*</td>
<td>38.28*</td>
<td>20.55^</td>
<td>54.81**</td>
<td>1.28</td>
</tr>
<tr>
<td><strong>State-level Influences</strong></td>
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<td></td>
</tr>
<tr>
<td>LEOBOR law</td>
<td>.67^</td>
<td>.61*</td>
<td>3.01</td>
<td>4.03*</td>
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<tr>
<td><strong>Local Influences</strong></td>
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<tr>
<td>Municipal Government</td>
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</tr>
<tr>
<td>Initiative process</td>
<td>1.08</td>
<td>.89</td>
<td>.78</td>
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<tr>
<td>Revenue per capita</td>
<td>2.05**</td>
<td>.98</td>
<td>1.20</td>
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<tr>
<td>% Redistributive Spending</td>
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<td>1.00</td>
<td>1.02</td>
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<tr>
<td><strong>Other local contextual factors</strong></td>
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<td></td>
</tr>
<tr>
<td>Violent crime</td>
<td>1.00**</td>
<td>1.00**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage Black</td>
<td>1.01</td>
<td>1.02^</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Civil Rights Nonprofits</td>
<td>1.05</td>
<td>.95</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Municipalities in census region with COA</td>
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<td>1.12***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Population (100,000 persons)</td>
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<td></td>
<td>1.04**</td>
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<td></td>
</tr>
<tr>
<td>Per capita income ($)</td>
<td></td>
<td></td>
<td>1.00***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage of population 25+ with bachelor's degree</td>
<td></td>
<td></td>
<td>.97</td>
<td></td>
<td></td>
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<tr>
<td>Unemployment</td>
<td></td>
<td></td>
<td></td>
<td>.50***</td>
<td></td>
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<tr>
<td><strong>Time-varying Covariates</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DOJ investigation/agreement × Time</td>
<td>.88*</td>
<td>.87*</td>
<td>.89</td>
<td>.85*</td>
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<tr>
<td>Leobor law × Time</td>
<td>.91**</td>
<td>.91**</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Revenue per capita × Time</td>
<td>.98*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage 25+ with bachelor's degree × Time</td>
<td></td>
<td></td>
<td>1.00**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unemployment × Time</td>
<td></td>
<td></td>
<td>1.02**</td>
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<td></td>
</tr>
<tr>
<td>Robust standard errors clustered at municipality level</td>
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<td>Yes</td>
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<td>Yes</td>
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<td>675.13</td>
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<td>774.50</td>
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<td>9,083</td>
<td>8,662</td>
<td>8,466</td>
<td>8,465</td>
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</tbody>
</table>

^p<.15; *p<.1; **p<.05; ***p<.01

Finally, model O adds a full set of controls to the preceding model. First, the SHR for

**DOJ investigation/agreement** becomes small and does not approach statistical significance
\(SHR = 1.28, p = .771\). This result contrasts with the impact of this variables on the adoption of investigative COAs.

While the **LEOBOR law** variable \((SHR = 4.03, p = .060)\) and its interaction with time \((SHR = .91, p = .010)\) are statistically significant. Together, they suggest that while the hazard of non-investigative COA adoption increases when a LEOBOR law in enacted, each passing year reduces the hazard of adoption by around 9%. These results demonstrate support for hypotheses 2A and 2B.

None of the municipal government-specific variables are significant. The sub-hazard ratios for *initiative and revenue per capita* were not significant in the final specification of any of the three types of models that we estimated, thus generally suggesting a lack of support for hypotheses 3A, 3B and 4.

On the contrary, several variables representing the characteristics of the local context are significant. Akin to the results in the preceding model (model N), the **number of municipalities with COA in the census region** is significant \((SHR = 1.12, p = .002)\), which suggests that each COA adoption by a municipality in the census region increases a given municipality’s hazard of adoption of an non-investigative COA by 12%. This result also contrasts with the impact of neighboring municipalities on the adoption of investigative COAs, and lends support to hypothesis 9B.

A higher percentage of blacks in the municipality is marginally non-significant \((SHR = 1.02, p = .101)\). This result also contrasts with the results for investigative COAs – which suggested that the percentage of blacks has no impact on the adoption of investigative COAs \((SHR = 1.01, p = .568)\). *Population and unemployment* both appear to have statistical
as well as substantive significance for the adoption of non-investigative COAs, with a population increase of 100,000 persons associated with 4% increase, and a unit increase in the unemployment rate associated with a 50% decrease in the hazard of adopting a non-investigative COA. The effect of unemployment appears to dissipate with time, however, as can be seen from the SHR for the unemployment-time interaction term \((SHR = 1.02, p = .024)\).

**Discussion**

The above findings show that a range of factors at the federal, state and local levels shape the likelihood of adoption of COAs. For instance, among the population of municipalities with population greater than 76,000, being under a DOJ investigation for unconstitutional policing or entering an agreement with the DOJ for reforming policing practices was found to likely increase the likelihood of adopting an investigative COA. On the other hand, state level influences which restrict the role or scope of citizen involvement in police oversight, such as LEOBOR laws, reduce the probability of emergence of non-investigative COAs over time.

At the local level, additional civil rights nonprofits raise the likelihood of adoption of investigative COAs while percentage black, population size, and number of neighboring municipalities with COAs facilitates the adoption of non-investigative COAs. More broadly, the fact that factors at each level of government influence the adoption of COAs shows the nested structure of policymaking and policy impact in the federal political structure in the United States, where policy makers at different levels of government can shape the uptake and implementation of policies at other levels (Hupe and Hill 2007).

Furthermore, given that the capacity for civic mobilization at the local level and federal intervention both boost the prospects of COA adoption shows that local and federal actors may
be allies insofar as adoption of COAs is concerned. On the other hand, LEOBOR laws, which dampen the prospects for adoption of COAs, were found to dilute the agenda of municipality-dwellers seeking greater accountability for police. Furthermore, in light of recent findings that the diffusion of lotteries across states line may be conditioned by proscriptions in state constitutions that restrict the uptake of such policies (Fay and Wenger 2016), we interacted our measure of neighborhood adoption with the indicator variable for LEOBOR laws in a supplementary analysis. We found that the existence of a LEOBOR law reduced the hazard of adopting an investigative COAs by 23% in response to the adoption of an additional COA within the census region. Thus, LEOBOR laws were found to restrict the likelihood of uptake of both investigative and non-investigative COAs. These findings regarding the contestation inherent in the current form of American federalism support the contentions of other scholars, who have highlighted the difficulty of enacting reforms confronting the problems of urban crime, violence, repressive policing and inequality, despite substantial mobilization at the local level as well as federal support (e.g., see Miller 2016).

The patterns observed in the adoption of COAs of any type are further explicated when we consider the differential effect of the variables of interest on the adoption of various types of COAs. While the hazard ratio of DOJ investigation/agreement is not significant in the final specification for either investigative or non-investigative COAs, there are subtle differences in how it influences the likelihood of adopting either type of COA. As can be seen in competing risk model estimates for investigative COAs, the SHR for DOJ investigation/agreement approaches significance at 10% (SHR = 13.81, p = .113). However, the SHR for this variables is far from being significant in the competing risk model for non-investigative COAs (SHR = 1.28, p = .771). Taken together, these results support two conclusions: First, the fact that both
SHRs are not significant suggests that adoption of either type of COAs is primarily not mainly driven by federal intervention, but rather, factors at lower levels of government. This conclusion support the data as indeed, out of the 110 adopting municipalities in our sample, only eighteen were either under DOJ investigation or entered an agreement with the DOJ at any time. Thus 83% (=92/110) of the municipalities in our sample adopted COAs without experiencing a federal intervention in any form. Second, despite the fact that the SHRs for DOJ investigation/agreement were not significant at 10% in the final specification of either competing risk model, the SHR in the model competing risk model for investigative agencies is closer to being significant. This, in turn, suggests that at the margin, DOJ intervention increases the likelihood of the adoption of investigative COAs compared to the adoption of non-investigative COAs. Thus, one cannot rule out the facilitative role played by federal intervention in the uptake of COAs with a broad scope of authority, as suggested in hypothesis 1A.

As discussed in the results and as found in the supplementary analysis, LEOBOR laws were found to reduce the hazard of adoption of investigative COAs through impeding policy diffusion, while directly reducing the likelihood of adoption of non-investigative COAs. One potential reason for this differential impact is that non-investigative COAs (which include monitoring COAs) are more likely to have access to internal affairs files of ongoing complaint investigations, closed internal affairs files, as well as electronic databases (especially monitoring COAs, and review/audit COAs to a lesser degree). Non-investigative COAs, especially monitoring agencies, rely on these databases to analyze trends in past police misconduct and propose changes in police policies. By contrast, the investigative COAs in our sample rarely reported reliance on the above files or databases. Thus, LEOBOR laws that place restrictions on retention of complaint data on officers’ records may directly forestall the adoption of non-
investigative COAs, since the former are more likely to use the above records extensively, while investigative COAs are not.

In a supplementary analysis, we also considered the impact of state laws that allow for state level police officer standards and training commissions (POSTs) to decertify police officers found guilty of various types of misconduct (e.g., being found guilty of a felony, or misdemeanor offense, not fulfilling training requirements). Decertification of an officer’s license makes them ineligible to work as a police officer within the same state (Goldman 2018). There are currently 45 states which allow decertification for officer misconduct. Of these 45 states, 43 share data on officers found guilty of misconduct with other states as well, which decreases the possibility that decertified officers will find work in law enforcement in other states as well. Since decertification should deter police misconduct, we reasoned that it would reduce the demand for COAs at the municipal level. Nevertheless, we did not find laws authorizing decertification to impact the hazard of COA adoption in any of our models, and decided not to include this variable in the results presented above.

As we drill down to the municipal level, we find that there are distinct factors associated with the adoption of investigative versus non-investigative COAs. For example, preferences of local policy makers and voters, as reflected in increased spending on redistributive functions appear to be strongly associated with the adoption of investigative COAs, but not non-investigative COAs. Given that prior research has found investigative COAs to be associated with reduced racial disparity in policing outcomes, as well as reductions in violent crime and police homicides of citizens, this finding suggests that the propensity to pursue redistributive goals and engage in meaningful police accountability reform may go hand-in-hand at the municipal level. This finding makes sense because local governments that are committed to
serving the needs of less advantaged citizens could also reasonably be expected to be focused on interconnected policing reforms that are intended to enhance the quality of life of poor and marginalized groups. In turn, this pattern of focusing on interconnected policy areas may either signal policymakers’ and voters’ ideological commitment to egalitarian values, a strategic choice to portray their municipality as committed to such ideals, or both. Nevertheless, it is notable that municipalities that are more likely to establish investigative COAs also spend more on redistributive functions such as housing, while municipalities which establish non-investigative COAs are not necessarily likely to spend more on redistributive functions.

Revenue per capita was not found to be associated with creation of COAs, or the choice of whether to adopt either investigative or non-investigative COAs. This result suggests that fiscal constraints, on average, do not necessarily factor into municipalities’ decisions regarding whether to establish COAs or the choice of which type of COAs to establish. This result is somewhat surprising given that surveys have found that investigative COAs generally have much larger budgets than monitoring and review/audit COAs. These findings should be encouraging for citizen oversight advocates, as well as fiscally conservative voters, however, as they show that effective forms of oversight can be established in municipalities without necessarily clearing the hurdle of requiring higher revenues per capita.

Availability of the initiative process does necessarily facilitate the uptake of investigative COAs, nor the adoption of COAs in general. The SHR of the initiative variable in the competing risk for investigative agencies is greater than one, while the corresponding SHR in the model for non-investigative agencies is less than one. The former result suggests that the threat of citizens’ referring a policy demand to the initiative process might have slightly nudged elected leaders in some cases to enact a COA with investigative authority, while the latter suggests that the lack of
an initiative process might have induced elected leaders to enact a non-investigative COA. Nevertheless, the lack of statistical significance of the SHR for this variable implies that the availability of the initiative process did not particularly aid or defer the establishment of either type of COA.

Finally, the presence of local civil rights nonprofits was found to be a driver of investigative COA adoption, but not non-investigative COAs (see table 1-3). Furthermore, the percentage of blacks in the municipality, while associated with the adoption of non-investigative COAs, is not significantly correlated with the adoption of investigative COAs \( (SHR = 1.01, p = .568) \). Since blacks have generally supported the establishment of COAs, the former result may suggest that a higher percentage of blacks in the municipality leads policy makers to be more responsive to their concerns. While the latter finding may seem surprising, it suggests at least two possibilities. First, it is possible that while an increasing proportion of blacks in a municipality reduces barriers to the adoption of relatively benign forms of oversight (i.e., non-investigative COAs), it does not necessarily offset racial threat concerns to the extent that investigative COAs are adopted. Second, the lack of impact of the percentage of blacks potentially on the adoption of investigative COAs potentially suggests that having a large constituency for a policy does not necessarily guarantee that the policy will get enacted. Rather, at least in the case of adoption of social equity-oriented institutions, it is the task of mobilization, something that civil rights organizations often seek to do, that is far more important in facilitating uptake.

The above findings, when combined, add to recent findings in the literature that local mobilization against police brutality is more likely to occur in places where more black
people have previously been killed by the police (Williamson, Trump, and Einstein 2018). Thus, it seems that the use of force by police may itself contain the seeds of grassroots-level mobilization against police brutality, and for institutionalized mechanisms to hold police accountable to emerge. Although this fact pattern warrants further scrutiny, it should be of interest to police administrators who are interested in forestalling efforts to adopt COAs. For instance, police unions which seek to resist the adoption of COAs may do well to counsel their members of the importance of curbing the use of unjustified force. This is because higher levels of police brutality might trigger mobilization by grassroots activists, which in time, may lead to the creation of COAs. The above finding should also be of interest to scholars of social movements and institutional change, who are concerned with how the actions of police agencies (such as a failure to curb use of excessive force) may embolden social movements seeking to enact institutional change such as establishment of a COA.

Another notable finding is that the uptake of non-investigative COAs is influenced by adoption of COAs in neighboring municipalities, while this is not the case for investigative COAs. There could be several reasons for the increased adoption of non-investigative COAs in response to increased COA adoptions in a municipality’s region. First, non-investigative COAs might be perceived to require a relatively low investment of budgetary and human resources, which might lead local politicians to view them as an attractive, non-complex, low-cost policy option for appearing to be serious about police accountability. Second, adopting a non-investigative COA may be less controversial compared to adopting an investigative COA, as the latter may enable citizens to participate in investigations of police misconduct – something police unions have historically resisted. In other words, adoption of non-investigative COAs may be seen as less of a challenge to the role and place of the police in the municipality’s political
power structure – and thus might be an easier pill to swallow for politicians wary of upsetting the status quo.

The increased uptake of non-investigative COAs in response to adoptions in neighboring municipalities, despite the fact that such COAs have only been found to have limited benefits compared to investigative COAs, might suggest to some that their diffusion is driven by emulation, rather than a desire to reduce racial disparities in police homicides of citizens, or to reduce violent crime or line-of-duty police homicides. That is, some may argue that if municipal leaders were serious about mitigating the above outcomes, they would adopt investigative rather than non-investigative COAs. However, it would be a premature to assume this for two reasons. First, research on COAs is still very nascent, and it is unlikely that most city managers or elected leaders know about the relative advantages offered by investigative COAs reported in recent research. If future studies should also find investigative COAs to offer advantages over non-investigative COAs, then the current trend of increased adoption of non-investigative COAs might plausibly shift in favor of investigative agencies.

Second, non-investigative COAs also offer certain benefits such as a reduction in the racial disparity of disorderly conduct arrests. Municipalities that have high levels of racial disparities in such low salience arrests may purposefully adopt non-investigative agencies, after observing and learning from the experience of neighboring municipalities that have adopted COAs. In other words, the diffusion of non-investigative agencies may not be driven solely by emulation but may partly be driven by a learning effect as well.

To summarize, there are certain patterns in the adoption of COAs that are broadly comparable across different types of COAs. There are also patterns in the adoption of COAs that diverge across the different types of COAs that municipalities can adopt. The adoption of more
aggressive forms of oversight, which in prior research have been found to be associated with more equitable policing outcomes, is driven by the triumvirate of federal intervention, local political preferences as reflected in redistributive spending, and grassroots mobilization capacity as opposed to minority representation in the community. Furthermore, adoption of such COAs seems to be an individualized decision of municipalities in that it is not susceptible to diffusion through mimicry.

On the other hand, the uptake of non-investigative COAs is strongly encouraged by other adoptions in the census region, and by an increase in the percentage of blacks in the municipality. Uptake of such COAs also appears to be influenced by the degree of economic strain, in that an increase in the rate of unemployment discourages their adoption.

One attribute of the forces that promote the uptake of investigative COAs is that they include variables that are susceptible to the decisions of actors that function outside the municipality (i.e., DOJ investigation/agreement and LEOBOR laws) as well as those that function inside municipalities (e.g., the municipal government and local civil rights groups). On the other hand, the variables that facilitate the uptake of non-investigative COA seem to be relatively more dependent on the decisions of external actors or factors that are beyond the control of municipalities, at least in the short term. For example, LEOBOR laws, and prior adoptions by neighboring municipalities, are bound to the decisions of external actors, while the percentage of blacks and also the rate of unemployment in a jurisdiction are variables that are, for the most part, beyond the control of actors within municipalities. On the other hand, while federal intervention is an action taken from without, the level of spending on redistributive functions, and number of local civil rights groups are factors within municipalities that can have an influence on adoption of investigative COAs. These distinctions suggest that the adoption of
investigative COAs in particular, and other robust social equity-oriented institutions, in general, may be more dependent on the actions and attitudes of *internal* rather than external actors. Thus, it seems that municipal governments which are either unwilling or incapable of asserting sufficient agency are more likely to adopt less effective COAs.

As we have assessed and interpreted the impact of many variables on the likelihood of COA adoption, we have summarized their individual impacts on the adoption of investigative and non-investigative COAs in table 1-6 (variables that were observed to have a significant impact on the adoption of COAs are highlighted in grey).

There are certain limitations of our study that ought to be acknowledged. First, it focuses on moderate to large-sized cities i.e., those with population greater than, or equal to 76,000 persons as of 2010. We restricted our sample to the above cities based on the expectation that the dynamics of COA adoption across very large and very small cities might vary widely in ways that are not adequately captured by the set of explanatory variables we have used. In other words, we aimed to strike a balance between the coverage of our sample (in terms of population size of the municipalities) and the time and resource costs of collecting data on a sufficiently large number of explanatory variables, with a view to develop and test a reasonably well developed framework for explaining COA adoption. Ultimately, the model estimates presented above are based on data collected for fourteen variables, spanning from 1980 through 2016, for 283 municipalities. By using a fairly large sample of municipalities, we were able to enhance the representativeness of our sample, while maximizing the explanatory power of our models by assessing the impact of several relevant variables on the likelihood of COA adoption.

A second limitation, as noted earlier, is that we have only considered COA adoptions that occurred after 1980, which led to the exclusion of seven COAs established prior to 1980 from
our analysis. We restricted our data from 1980 through 2016 because the violent crime variable, which we obtained through the UCR, exhibits considerable fluctuation and missingness prior to 1980 for several cities in our data. If we had opted to consider data as far back as 1969, when the oldest, currently existing COA was established, a substantial chunk of the municipalities in our sample simply could not have been included in the analysis. Nevertheless, the time window of our study period is still quite wide at 37 years, and gives us ample data to estimate the impact of a range of time-invariant as well as time-varying factors on the likelihood of COA adoption.

A third limitation is that there are certain variables that are not included in our analysis, such as protests against police brutality. Media reports of such protests may focus public attention on incidents of police brutality, help activists build grassroot-level pressure on the municipal government to establish a COA, and potentially attract the attention of federal government (Horwitz and Leonnig 2014). In order to account for media attention to public protests against brutality, we considered two sources of protest event data that went back as far as 1979. These included the: Historical Phoenix Event Data (Althaus et al. 2017) and the Global Database of Events, Language, and Tone (GDELT; Leetaru and Schrodt 2013). Both these databases employ machine-learning algorithms to extract data from news reports on various types of conflict processes across the world. Based on our inspection, the above data contained numerous observations in which either the initiator, the target, or the location of the protest was missing, or where the location of the municipality where a protest event took place was inconsistent with the country it took place in. Due to the widespread nature of apparent errors, we decided against including data from either of the above sources. Other scholars have noted the shortcomings of the above databases, especially GDELT, whose data suffer from a
substantial temporal (Schintler and Kulkarni 2014) as well as a geographic bias (Hammond and Weidmann 2014).
Table 1-6: Summary of Factors Impacting the Adoption of COAs

<table>
<thead>
<tr>
<th>Factors</th>
<th>Investigative COA</th>
<th>Non-investigative COA</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOJ Investigation/Agreement</td>
<td>Positive, but weak</td>
<td>No impact</td>
</tr>
<tr>
<td>Initiative Process</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Revenue per capita</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Redistributive spending</td>
<td>Positive</td>
<td>None</td>
</tr>
<tr>
<td>Violent crime rate</td>
<td>None</td>
<td>Positive, but nominal</td>
</tr>
<tr>
<td>Percentage black</td>
<td>None</td>
<td>Positive, but weak</td>
</tr>
<tr>
<td>Number of Civil Rights Nonprofits</td>
<td>Positive</td>
<td>None</td>
</tr>
<tr>
<td>Number of municipalities with COA in census region</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Population</td>
<td>None</td>
<td>Positive</td>
</tr>
<tr>
<td>Per capita income</td>
<td>None</td>
<td>Positive, but nominal</td>
</tr>
<tr>
<td>Percentage of population 25+ with bachelors degree</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Unemployment</td>
<td>None</td>
<td>Negative</td>
</tr>
</tbody>
</table>
Conclusion

We started this study with the goal of identifying the factors at the federal, state and local levels that are associated with the adoption of COAs, and whether the factors that prompt the uptake of investigative COAs differ from those which lead to the uptake of non-investigative COAs. While there are existing studies of adoption and diffusion of different criminal justice policies, there are no studies that address the adoption and diffusion of COAs. Moreover, the bulk of the research on the adoption of progressive criminal justice reforms focuses on diffusion at the state level, and emphasizes the adoption of “back-end” reforms on sentencing and incarceration. Our contribution is unique in that it not only broadens the scope of studies of criminal justice policy adoption to consider factors at the local level, but also hones in on a “front-end” policy intervention that in addition to fostering civic participation, has the potential to forestall the growth in incarceration and sentencing, as well as their racially disparate effects.

Using an analytic sample of 283 municipalities with and without COAs during 1980 through 2016, we found that the adoption of COAs is a function of factors across various levels of government. While federal intervention and state-level legislation expectedly influence the likelihood of COA adoption, attributes of the local context such as characteristics of the local government, civic capacity, neighborhood effects, and socioeconomic characteristics affect the likelihood of COA adoption as well. Furthermore, the attributes of the local context also have an important bearing on the kind of COA adopted.

Beyond the above findings, our unique contribution to the literature is four-fold. First, there are few existing studies that have assessed the determinants of adoption of local level policies that specifically seek to limit the harms of policing. While COAs have been functional in the US since at least the late 1960s, currently operating in at least 145 US localities with a
combined population of 70 million persons, there are no studies of their antecedents that employ the use of statistical techniques as we have done in the current study. Our study is thus intended to foster growth in research on COAs as well antecedents of social equity-oriented policies in general, particularly at the level of local government.

Second, we proposed an integrative framework that explains the adoption and diffusion of COAs as function of forces at the federal, state and local levels. Apart from considering the impact of federal and state law or interventions, we tested for the impact of a range of factors in the local context that could potentially influence the likelihood of COA adoption. These factors encompassed the characteristics of the local government, civic capacity, socioeconomic and political variables, as well as neighborhood effects. In subsequent research, scholars can adapt this framework to study the adoption and diffusion of other reforms at the local level. While we were not able to include certain constructs in our analysis due to the lack of reliable longitudinal data, we encourage scholars interested in this area to consider the impact of additional factors on policy adoption, such as the extent of media coverage, incidence of political protests, countervailing interest groups (e.g., unions), form of government, by district municipal elections, citizens’ political ideology, and administrative slack.

Third, using survival modeling, this study advances knowledge about the enabling conditions under which municipalities are likely to enact impactful social equity reforms. To recap, we found that intervention by the federal government, higher levels of redistributive spending at the local level, and capacity for civic mobilization nurture the propensity of municipalities to establish investigative COAs. Given that investigative COAs have been found to confer a variety of benefits in terms of social equity of policing outcomes, public and police officer safety, the foregoing finding suggests that buy-in from the federal and local governments,
and civic capacity represent the enabling conditions that are needed facilitate gradual institutional change in the context of urban governance. In other words, both top-down (federal support), and bottom-up (local government commitment, and civic capacity) efforts is needed to push through progressive reform.

At the same time, this study also highlights the circumstances under which progressive reforms can be thwarted. We found that certain aspects existing legislation, such as LEOBOR laws (which emerge from the lobbying efforts of police unions), and increasing economic strain as measured by the unemployment rate can serve as countervailing roadblocks vis-à-vis the adoption of both investigative and even non-investigative COAs – a relatively limited reform. The picture of contestation that emerges from the above findings is consistent with recent accounts of how the proliferation of venues for political action, among other factors, has undermined the efficacy of urban political mobilization efforts to address persistent problems of poverty, violence, and punishment today (Miller 2016).

Fourth, this study gives some broad-brush impressions of why investigative COAs have been found to impact a broader range of outcomes, compared with the non-investigative COAs. As alluded to in the discussion section, municipalities that adopt investigative COAs appear to be more likely to have internal actors who have both the willingness and capability to push for investigative COAs, as opposed to municipalities that adopt non-investigative COAs. The actions of the latter type of municipalities vis-à-vis COA adoption appear to be more susceptible to signals from external actors (such as the state legislature, and municipalities in the surrounding census region), and thus less likely to assert their agency in enacting reform that is broader in scope, such as investigative COAs. Differences across municipalities in terms of their willingness or capacity to assert their agency is thus potentially one reason as to why certain
municipalities adopt stronger COAs, and other adopt less powerful one. This difference
willingness and capacity then has implications for the kind of impacts that a particular type of
COA is likely to have.

While accountability may be the sine qua non of democratic governance (Bovens 2005),
there is no reason to suppose that government agencies are commonly subject to a high or
unhealthy degree of accountability. While there are certain institutions in our political system,
such as policing, that have traditionally been subject to little external accountability, there have
been numerous instances where local level actors, with support from other levels of government,
have been able to enact citizen-oriented accountability systems that are likely to lead to
meaningful institutional change. This study highlights the enabling conditions under which such
change is likely to take place.

Given that fact that there is considerable public support for greater external involvement
Waters and Brown 2000; Weitzer and Tuch 2004) and that trust in and attitudes towards police
vary widely by race (Pew Research Center 2016), offers hope for police reform advocates
seeking to address long-strained relations between the police and minority communities through
the establishment of COAs. We urge scholars should to continue to examine the antecedents and
impacts of COAs, their internal dynamics, as well as their relationships with external community
stakeholders to contribute towards a comprehensive understanding of their costs and benefits.

Notes

1. This is an estimated count based on corroboration with other researchers of citizen
oversight, the National Association for Citizen Oversight of Law Enforcement
(NACOLE), and internet searches conducted by the authors. Nonetheless, it is possible that the actual number of COAs is higher, as there might be certain COAs that are not known to the sources we consulted or that had no presence on the internet.

2. Enhancing judicial discretion allowed judges to determine whether sentence reductions posed an unreasonable risk to public safety.

3. While the federal government has the capacity to engage in a thorough analysis about how to reduce harms to constitutional interests while promoting effective policing practices, and has frequently provided regulation of police agencies by bringing suits against jurisdictions found to have engaged in a pattern or practice of unconstitutional misconduct, provided technical assistance to police departments, and funded non-profit organizations that promote civil rights in law enforcement, its attention to civil rights is often sporadic and driven by a focus on individual cases of egregious misconduct.

4. A copy of the survey instrument is available with the author.
Social Accountability and Institutional Change: The Case of Citizen Oversight of Police

Abstract

We examine the ability of social accountability to spur gradual institutional change at the municipal level, using the case of citizen oversight agencies (COAs) for police agencies. Using the gradual change framework (GCF) and social accountability framework to guide our empirical strategy, and data collected through an original survey of COAs, we test the impact of COAs on institutional outcomes in policing. We find, in accordance with the GCF, that the degree to which a COA reduces racial disparity in policing outcomes depends on its scope of authority, as well as the degree of discretion afforded by existing institutions to police officers. In general, the wider the scope of authority, and the broader the discretion afforded by existing institutions, the greater the likelihood of change in institutional outcomes.

Background

American policing is said to be suffering a crisis of legitimacy. Since the August 9, 2014, shooting of Michael Brown in Ferguson, Missouri, the public’s attention has been captured by police brutality incidents, including numerous instances involving police homicides of citizens. The overrepresentation of black victims in such incidents has led to calls for institutional reforms, including demands such as ending broken windows policing (e.g., see American Civil Liberties Union 2016), appointing independent prosecutors for cases involving police violence, ending over-policing of minority communities, racially diversifying law enforcement agencies, revising use-of-force policies (see President’s Task Force on 21st Century Policing 2015), as well as fundamentally rethinking the goals of policing itself (see Vitale 2017).
The above calls have also included demands for creating citizen oversight agencies (COAs), which are a type of social accountability mechanism (President’s Task Force on 21st Century Policing 2015). Social accountability refers to “actions by citizens and civil society to push officeholders to report on and answer for their actions” (Brinkerhoff and Wetterberg 2016). COAs are institutional arrangements by which citizen complaints against police are reviewed at some point by persons who are not sworn officers (Walker and Bumphus 1992). In this article, we examine their effectiveness as a means for changing institutional outcomes in policing, i.e. racial disparities in arrest rates and homicides of citizens by law enforcement officers, in the United States (US). We do this by combining the Gradual Change Framework (GCF) (Rocco and Thurston 2014), with the Social Accountability Framework (Fox 2015) to guide our empirical strategy and model building. We take a historical-institutionalist perspective, viewing institutions as political legacies of historical struggles which persist over time because they help maintain power imbalances favoring certain actors in society. According to the GCF, any set of rules or expectations, formal or informal, that structure action will privilege certain actors over others in terms of distributional consequences. We believe that this is plausible for certain policing practices even if they are defined in ostensibly race-neutral terms (e.g., “zero tolerance” policing and use of stop, question, and frisk tactics (see Weisburd and Majmundar 2018; Eterno, Barrow, and Silverman 2017; Gelman, Fagan, and Kiss 2007; Fagan et al. 2010)

As an antidote to the patterns of discrimination in policing, COAs are agencies that intended to enhance accountability and transparency in policing and build community trust through citizen oversight. In most police agencies across the US, when a citizen makes a formal complaint about a police officer, the complaint is investigated and adjudicated by other sworn officers. This internal investigation process is problematic because it creates a conflict of interest
that tilts, or can be perceived to tilt, the accountability process in favor of the police. COAs attempt to address this accountability deficit by opening insular, internal police investigations to the scrutiny of citizens and/or professionals who serve on the COA. In theory, COAs deter police misconduct by performing a range of functions such as reviewing findings made by the police agency’s internal affairs division, assessing whether such investigations were conducted in a thorough and fair manner, and even conducting independent investigations and recommending discipline and changes in police policies, if that authority is granted. As citizen-oriented accountability bodies, COAs can potentially create incentives for police to take pre-emptive steps that limit potential misconduct from occurring e.g., by increasing supervision of rookie officers, voluntarily changing policies pertaining to the use of force, reducing the level of engagement with minorities for minor offenses, among other steps.

Notwithstanding these implications, research on the impact of COAs, and social accountability mechanisms in general, is relatively thin in the context of developed countries (see Brinkerhoff and Wetterberg (2016), Ma (2012), Schatz (2013) and Altman (2002) for empirical social accountability studies in the context of developing countries). Little is known about the difference made by stronger COAs relative to those with limited authority in terms of impacting police behavior, especially in the US. Our study attempts to fill that gap in the literature. Given substantial evidence of the racially disparate impact of policing institutions (see Epp, Maynard-Moody, and Haider-Markel (2017), Ward and Rivera (2014), Vitale (2017), Alexander (2012), Kochel et al. (2011), Nix et al. (2017), and Menifield, Shin, and Strother (2018) among others), we believe it is incumbent upon scholars to evaluate strategies that are intended to make policing more responsive to social equity concerns. The President’s Task Force on 21st Century Policing echoed the necessity of such research, urging “evidence-based practices to implement successful
civilian oversight mechanisms” (President’s Task Force on 21st Century Policing 2015). Our study highlights the institutional and organizational characteristics of COAs that are likely to be most effective in reducing the racial disparities in the aforementioned policing outcomes. Our findings should be of value to public administrators such as city managers, mayors, and police chiefs, who are interested in strategies and organizational interventions intended to make policing in their jurisdiction more racially equitable.

We believe that this is the first study that evaluates the impact of COAs on racial disparities in policing outcomes. While we use the GCF and social accountability framework to guide our model building and empirical strategy, our goal is to test the impact of different types of COAs on policing outcomes, not on institutional change, although we believe that changes in policing outcomes reflect changes in the institutions and rules governing police behavior. In short, we are concerned with the impact of social accountability mechanisms, such as COAs, on institutional outcomes.

The paper proceeds in seven sections: first, we review the findings from COA research. In the second section, we describe how the GCF, combined with propositions from the social accountability framework can serve as a blueprint to predict the impact of social accountability mechanisms. In the third section, we propose hypotheses about the conditions under which COAs are likely to lead to socially equitable outcomes in police enforcement activities that involve different degrees of discretion. In the fourth section, we introduce our empirical strategy and data set. In the fifth section, we present the results from the estimated models. In the sixth section we discuss the results and the limitations of this study, and in the seventh section, we draw conclusions about the effectiveness of COAs and the efficacy of GCF in explaining changes in institutional outcomes.
**Literature Review**

As stated earlier, COAs are government agencies, predominantly at the local level, that are intended to serve as a source of external oversight over police agencies. Since 1969, when the first currently existing COA was created in Kansas City, Missouri, the number of COAs in the US has gradually grown with around 145 COAs nationwide as of 2017 (see Walker 2006, 2001) for a discussion of the history of citizen oversight in the US). COAs in the US operate in a variety of political and socioeconomic milieus and exhibit considerable variation in terms of their formal authority, level of professionalization, staffing, budgetary authority, as well as the style of oversight. They are often created through a local government ordinance or through an amendment in the local government charter (De Angelis, Rosenthal, and Buchner 2016). The simplest COAs consist of a board of citizens which can review the findings of investigations conducted by the police agency’s internal affairs division. Such COAs often have little or no budgetary authority, with the board of citizens serving on a volunteer basis. More organizationally complex COAs may include a paid, full-time staff of lawyers, investigators, and policy analysts, which in turn reports to the citizen board. Such COAs often have substantial budgetary authority, as well as the ability to conduct independent investigations into citizen complaints, and access to police evidence records and electronic databases. Based on our survey of COAs (more details provided below), while board members in most COAs are appointed by the mayor or city council, the methodology for the appointment of board members (i.e., by municipal district or at large) often varies across jurisdictions (De Angelis, Rosenthal, and Buchner 2016). Finally, prior research has postulated that COAs are likely to be created after an officer-involved shooting or incidents involving racially disparate policing (De Angelis, Rosenthal, and Buchner 2016).
Recent studies in public administration have emphasized the impact of institutions on racial disparities in policing outcomes, as opposed to individual-level behaviors (Kim and Kiesel 2018; Menifield, Shin, and Strother 2018; Epp, Maynard-Moody, and Haider-Markel 2017; Rivera and Ward 2017; Jennings and Rubado 2017; Eterno, Barrow, and Silverman 2017; Hong 2017; Maynard-Moody and Musheno 2012). While these studies effectively demonstrate the relevance and importance of widely prevalent norms, rules, and values in driving racially disparate criminal justice outcomes, the role of accountability institutions has not received sufficient attention. On the other hand, while criminal justice and legal studies scholars have conducted a substantial degree of theorizing about the organizational characteristics of citizen oversight and the conditions under which it is likely to have an impact on policing and criminal justice outcomes, few studies have directly and empirically examined the impact of COAs on racial disparities in policing outcomes, a gap we attempt to fill. Studies in the latter category include Brereton (2000), Walker and Luna (2000), Terrill and Ingram (Terrill and Ingram 2016), Worden (2008), and Hickman (2006), among others. These studies examine the impact of COAs on overall police misconduct, general efficacy of citizen oversight, or trends in complaints against the police. We look in somewhat more detail at this literature to extrapolate insights for the current study.

Brereton (2000) highlighted the case of the Queensland Criminal Justice Commission (CJC), a well-resourced and well-staffed oversight body, with two-thirds of its Australian dollars 23 million budget devoted to conducting oversight operations. Introduced in the mid-1990s as part of a suite of measures to reform the QPS, the CJC played an active role in fostering robust investigations of complaints, made procedural and policy recommendations directly to the police service, and employed various proactive surveillance strategies to detect and deter serious police
misconduct. Based on surveys of senior officers, several cohorts of new officers, as well as analyses of trends in complaints, Brereton found that subsequent to the establishment of the CJC, there had been (a) a reduction in the incidence of serious assault by police and other types of misconduct and (b) improvements in the police culture, including an increased tendency among officers to report misconduct by other officers. While this report only focused on a single police agency, it provides evidence that a well-resourced agency, with a substantive investigative as well as policy role, can reduce officer misconduct and improve the agency culture.

Walker and Luna (2000) conducted an evaluation of the citizen oversight system in Albuquerque, NM. Albuquerque had two oversight bodies from the late-1980s to the mid-1990s: the office of the Independent Counsel, and the Police Safety Advisory Board, in addition to the internal affairs division of the Albuquerque Police Department (APD). Despite having two oversight agencies, a racially diverse police agency, a use-of-deadly-force policy that conformed to professional standards, and a general decline in police-involved homicides of citizens in most other major US cities, the number of police-involved shootings in Albuquerque continued to be high relative to other major US cities. To understand the gaps in the accountability processes, the researchers reviewed the official documents of the above agencies, conducted interviews and surveys of a range of stakeholders. They found that the police safety advisory board and the independent counsel, while having substantial statutory authority to conduct oversight, generally failed to exercise the powers that were expressly granted to them by law. For instance, although the independent counsel had broad statutory authority to ‘direct the overall manner’ of the complaint investigation process in the APD, recommend discipline and policy changes wherever it deemed appropriate, the contract between them and the city restricted the role of the independent counsel to merely reviewing the findings of internal affairs investigations.
Furthermore, the contract defined the independent counsel’s role in terms of a lawyer-client relationship, a constraint that, while not statutorily required, stipulated that the information gathered by the independent counsel could not be disclosed publicly. This insulated the independent counsel from the public, thus undermining public responsiveness and accountability. This study highlights that it is possible to blunt the potential impact of a COA by restricting its authority and public role, even if it originally had broad statutory authority.

Terrill and Ingram (Terrill and Ingram 2016) assessed the extent to which different oversight models (i.e., internal affairs, command level, or citizen oversight) were associated with whether citizen complaints against police were sustained. They found that when police agencies used COAs as part of their complaint process – whereby the COA could review internal affairs findings – the odds of a sustained disposition increased by 78%, relative to if they were referred to and investigated by internal affairs alone. Second, in cities where the COA which served only as an intake or complaint-receiving entity, the odds of a sustained disposition were 80% less than if complaints were referred the internal affairs division alone. Oversight models where complaints were referred to and investigated at the command level were 39% less likely to sustain complaints relative to when complaints were solely referred to the internal affairs division. Thus, this study suggests that review of police complaint investigations by COAs results in a higher proportion of complaints being sustained while having COAs with no ‘oversight’ authority tends to reduce the proportion of sustained complaints.

Finally, Worden (2008) indirectly evaluated the impact of a COA in deterring police misconduct in an anonymous jurisdiction as part of a larger study that examined public satisfaction with the complaint review system. This study relied on ex-post surveys and interviews of citizens who came into direct contact with police, complainants, as well as police
officers. Worden argued that the likelihood of this particular COA deterring misconduct was limited because only 9 percent of respondents who perceived police misconduct actually filed a complaint with the COA or the internal affairs division (the rest complained to the police chief, another police official, or their lawyer). Even if up to 20% of these complaints were sustained (a high estimate), then only 0.5 of the perceived misconduct would be sanctioned as a result of complaint review. However, a caveat to this argument is that most of the people who experienced police misconduct did not know that a COA existed. This study does not investigate whether a higher proportion of perceived misconduct would have been reported to the COA, and subsequently sustained, if the public knew that a COA existed? It also provides few details about the scope of authority or the powers of the COA, which can have a critical impact on the COA’s potential for deterring misconduct. Per our reading, this COA seems to be a relatively weak agency with no budgetary or appointment powers (Worden 2008, 26). This study suggests that COAs which are not well-publicized, have limited powers and/or no budget, are not very likely to deter police misconduct.

The above literature, while useful, does not attempt to examine the overall impact of a large number of COAs or the impact of variation in their scope of authority on policing outcomes. Our contribution addresses this gap in the literature by examining the impact of COAs on policing outcomes, using survey data on a sample of municipal-level COAs in the US. Most studies focus on either a few COAs (or just one) and hardly any studies use quasi-experimental designs. Our empirical strategy uses a two-way fixed effects methodology, with year and municipal-specific fixed effects which control for time-invariant factors and secular time trends that may impact policing outcomes, while also controlling for additional time-varying factors. Additionally, irrespective of geographic locale, no studies directly look at the impact of COAs or
other oversight agencies on differential police enforcement by race as we attempt to do here. Furthermore, we bring a rigorous, empirical approach to this question, departing from literature reviews and less rigorous case study approaches. We focus on the disparity between blacks and whites because the prior literature has found that blacks are more likely to bear the brunt of policing relative to whites (Epp, Maynard-Moody, and Haider-Markel 2017; Kochel, Wilson, and Mastrofski 2011) and because COAs are often created after an incident of police brutality against a citizen of color (De Angelis, Rosenthal, and Buchner 2016).

**Gradual Institutional Change as a Blueprint for Social Accountability Impact**

Per the GCF, two basic factors combine to facilitate change in institutional outcomes: (1) the conduciveness of the political context, and (2) whether the targeted institution affords opportunities for exercising discretion in interpretation or enforcement of rules (Rocco and Thurston 2014). Conduciveness of the political context often depends on the presence of powerful veto players or veto points. Veto possibilities are high, rendering the political context not conducive when actors have access to institutional or extra-institutional means to block change. These actors may have veto powers that keep change proposals off the table, or they may exercise substantial influence in how rules (formal or informal) are interpreted at the street-level.

The second factor, i.e., opportunities to exercise discretion, makes institutional change possible by allowing actors to interpret or enforce existing institutions in different ways. Thus, if existing institutions are ambiguous, they can potentially be reinterpreted in different ways or can be subject to incremental changes. Consequently, institutional change is more likely to occur, and outcomes are more likely to change. Dichotomizing the presence of institutional veto points, and the degree of discretion afforded by existing institutions results in a 2x2 table whereby four different kinds of change processes are possible. Figure 2-1 shows these four possibilities.
The types of change referenced in each quadrant of figure 2-1 are briefly described in Appendix 2-1. For a more detailed explication of the different types of change see Rocco and Thurston (2014).

In this study, we use the scope of a COA’s authority as an indirect measure of the strength of veto points (examples of veto points include police unions or presence of local politicians opposed to COAs). We do this for three reasons: First, we believe it is reasonable to suggest that when veto points are weak, a COA with a broad scope of authority would be more likely to be established compared to a COA with a narrow scope of authority. Conversely, when veto points are strong, a COA with a narrow scope of authority would be more likely to be established compared to one with a broad scope of authority. More broadly, using the scope of a COA’s authority as a measure of the strength of veto points allows us to use the GCF to guide our empirical analysis.

Second, using the scope of COA authority as a measure of strength of veto points and therefore as a variable in model building allows us to focus on its impact on racial disparities in policing outcomes (i.e., one of the goals of this study), along with addressing a long-standing gap...
in the literature on the impact of COAs. Third, using the scope of authority as a variable in model building also adds to the prior literature on COAs which has highlighted but has not empirically teased out, the potential impact of the scope of a COA’s authority on policing outcomes (see De Angelis, Rosenthal, and Buchner 2016; Walker and Archbold 2014; Lewis 1999). In summary, we have used the scope of COA authority as a measure of the strength of veto points because it allows us to align our empirical strategy with the GCF, while also enabling us to focus on the causal impact of scope of authority on racial disparities in policing outcomes, which is an important goal in and of itself.

Regarding the degree of discretion afforded by existing institutions, we consider two types of enforcement actions: disorderly conduct arrests (DCAs) and police homicides of citizens (PHCs). For assessing the impact of COAs on high-discretion police work we focus on DCAs, whereas for assessing the impact of COAs on low-discretion police work, we focus on the PHCs that involve the use of a firearm. We believe that DCAs can be viewed as an example of an enforcement action that affords officers high discretion because of their routine nature, which in turn makes them less likely to attract scrutiny from the public, police supervisors, or a COA, if one exists. On the other hand, PHCs involving the use of a firearm are highly salient events that are almost guaranteed to attract scrutiny from internal accountability mechanisms (Cordner and Scott 2014) and/or a COA (Fallik and Novak 2014). Thus, police officers’ discretionary authority in using deadly force against citizens is checked by internal and external accountability mechanisms. Furthermore, the exercise of discretion in using deadly force is restricted by specific court rulings such as the US Supreme Court’s Tennessee v. Garner (471 U.S. 1 [1985]) decision, which prohibits police officers from using deadly force against a fleeing felon unless the officer has probable cause to believe that the suspect poses a significant threat of
death or physical injury to the officer or to others. By contrast, police officers’ discretionary authority in making DCAs is significantly less likely to be checked by internal and external accountability mechanisms, which in turn increases the discretion they have when deciding to make a DCA.

In summary, we consider two levels of the scope of authority (broad and narrow), and two levels of discretion (high and low) in this study. Per the GCF, while institutional outcomes can change under any combination of veto points and discretion, the type of change that is likely to occur under a given set of conditions will likely be different. With a broad scope of authority and low discretion, the disparity in PHCs is likely to diminish, owing to the supplanting of institutions (this type of change is referred to as ‘displacement’ in the GCF literature (see Appendix 2-1 or Rocco and Thurston 2014)). With a broad scope of authority and high discretion, the disparity in DCAs is likely to diminish, owing to the enhanced opportunities for reinterpretation of institutions pertaining to DCAs (referred to as ‘conversion’ (Rocco and Thurston 2014)). With a narrow scope of authority and high discretion, the disparity in DCAs is likely to reduce incrementally (i.e., ‘layering’ (Rocco and Thurston 2014)), due to amendments to existing institutions pertaining to DCAs. Finally, with a narrow scope of authority and low discretion, the disparity in PHCs may become more pronounced, due to a failure to update institutions pertaining to the use of deadly force (i.e. drift (see Appendix 2-1)).

In the next section, we discuss propositions from the social accountability framework. By combining the propositions from the GCF and social accountability framework in our empirical strategy, we hope to contribute to a unique and nuanced understanding of social accountability impact, relative to what has been offered in the literature thus far.
**Propositions from the Social Accountability Framework**

Widespread replication of donor-funded social accountability initiatives in developing countries has led to an extensive literature on social accountability elements and the circumstances under which they are likely to have an impact. Meta-analyses have tended to converge on a number of propositions (e.g., see Fox 2015). Two propositions that are relevant to our study, include assertions that social accountability initiatives are likely to have an impact when they (1) combine citizen action and mobilization with the state’s capacity to respond to citizen actions, and (2) the need for citizen voice to be aggregated horizontally (across the population) and scaled up vertically (that is, represented at the policy- or decision-making table) (Fox 2015).

Proposition 1 suggests that social accountability mechanisms are more likely to have an impact when citizen voice and the state’s capacity to respond to citizens’ voice mutually reinforce each other, i.e. when they have a positive interaction effect on institutional outcomes (Fox 2015). This claim is premised on the realization that a lack of accountability for bureaucratic misconduct is facilitated by *vertically integrated* relationships between elected leaders and bureaucrats. To the extent that these powerful actors shield each other’s interests, they create ‘low-accountability traps,’ whereby demands for citizen oversight are likely to be deflected by anti-accountability actors who may be averse to promoting pro-accountability reforms. This, in turn, suggests that oversight mechanisms can only be effective when they are *also* based in vertically integrated relationships between citizens and state actors i.e., pro-change citizens and reformist state actors should be able to empower each other. That is, *citizen voice and teeth* are needed *simultaneously* to bring about pro-accountability power shifts, rather than either voice or teeth.
Proposition (2) refers to whether the voices of marginalized communities, who have the most to gain from greater accountability of public officials, are heard or not. We propose that whether the COA is led by a board, as opposed to a single executive, and whether the board is appointed by municipal district, rather than at-large is important in this regard. Having a board that is appointed by municipal district would make it more likely that a cross-section of community voices, including minorities, would be projected up to political elites.

In summary, the GCF and social accountability framework identify four broad factors that drive the process of institutional change, and hence institutional outcomes. These include (1) the conduciveness of the political context, which we operationalize as a COA’s scope of authority, (2) the degree of discretion afforded by institutions relating to disparity in DCAs and PHCs, (3) the extent to which citizen voice and teeth reinforce each other, and (4) the governance of the COA. These factors serve as our study variables of interest, and in the next section, we present hypotheses that relate them to the outcome variables.

Hypotheses

COA Scope of Authority

Criminal Justice and Legal Studies scholars have long theorized the key elements of an effective system of citizen oversight of police (Lewis 1999; Walker and Archbold 2014). These elements tend to focus on the scope of authority of COAs, which in turn is codified at the time of their founding.

The existing literature classifies COAs into several categories based on their scope of authority (Police Assessment Resource Center 2005; Ferdik, Rojek, and Alpert 2013; De Angelis, Rosenthal, and Buchner 2016). Based on a factor analysis of thirteen survey questions, we adopt a slightly modified version of the oversight classification scheme proposed by Angelis,
Rosenthal, and Buchner (De Angelis, Rosenthal, and Buchner 2016), categorizing COAs as either investigative, monitoring, or review/audit COAs (see appendix 2-2 for a description of the factor analysis procedure used to categorize our sample COAs). We note that these categories are not mutually exclusive, rather, each type of COA is an amalgam of similar authorities that vary in emphasis.

Investigative COAs emphasize classifying citizen-initiated complaints, independent investigation, recommending findings to the police, and recommending discipline. Such agencies are also more likely to have full-time paid staff relative to other types of COAs. Monitoring COAs emphasize active monitoring of police complaint investigations and are likely to have access to the internal affairs division’s electronic databases, internal affairs files (including closed casefiles), which they use to analyze trends and patterns in police misconduct. Based on their analyses, these COAs are concerned with recommending changes to existing police policies to prevent future misconduct. They are also less likely than investigative COAs to have paid full-time staff. Finally, review/audit COAs emphasize reviewing and auditing of completed complaint investigations conducted by police. While these agencies may have access to closed internal affairs files, they are the least likely to have a full-time staff or recommend discipline or policy change. Since investigative COAs may recommend discipline against individual officers found guilty of misconduct and are the most likely to have paid full-time staff, we consider them to have the broadest scope of authority, followed by monitoring, and then review/audit COAs.

Thus, in agreement with GCF and social accountability frameworks that the conduciveness of political context matters, we hypothesize that COAs with a relatively broader scope of authority (i.e., investigative and monitoring COAs) are more likely to reduce racial disparity in DCAs and PHCs as compared to review/audit COAs. Thus, our hypotheses are:
Hypothesis 1: Investigative COAs will be associated with a reduction in racial disparity in DCAs.

Hypothesis 2: Monitoring COAs will be associated with a reduction in racial disparity in DCAs.

Hypothesis 3: Investigative COAs will be associated with a reduction in racial disparity in PHCs.

Hypothesis 4: Monitoring COAs will be associated with a reduction in racial disparity in PHCs.

Mutually Reinforcing Effect of Voice and Teeth

We operationalize teeth – a COA’s ability to apply negative sanctions, as well as recommend policy change (Fox 2015) – along a three-point scale. At level-0, a COA does not have the authority to recommend discipline to police officers it believes are guilty of some misconduct, nor does it have any authority to recommend changes in police policies. At level-1, a COA has one of the two authorities: it may either recommend discipline or policy changes – it does not have the authority to do both. At level-2 teeth, an agency can recommend both discipline and policy changes.

Voice refers to the views of citizens who would be otherwise excluded from the accountability process in the absence of a COA due to ethnic, racial or class bias (Fox 2015). As argued above, it is the synergistic combination of voice and teeth that are most likely to lead pro-accountability power shifts, i.e., institutional change. We use the number of civil rights organizations in each municipality, a time-varying variable, as a measure of a community’s voice, with the assumption that an increase in the number of civil rights organizations would be associated with greater intensity in calls for police reform. Thus, hypotheses 5 and 6 are:

Hypothesis 5: COAs will reduce racial disparity in DCAs when they have the teeth to respond to citizens’ voice, i.e., when there is an interaction between voice and teeth.
Hypothesis 6: COAs will reduce racial disparity in PHCs, when they have the teeth to respond to citizens’ voice, i.e., when there is an interaction between voice and teeth.

**Governance**

COAs are often, but not always, led by a board of appointed citizens. As alluded to above, if the COA is led by a board of citizens, it may be more likely to represent minority communities and act as a bridge between citizens and the government, relative to individual efforts. Thus, we hypothesize that:

*Hypothesis 7: COAs which report to a board appointed by municipal district will reduce racial disparity in arrests relative to COAs whose leaders are chosen at large, or those which are led by a single executive.*

*Hypothesis 8: COAs which report to a board appointed by municipal district will reduce racial disparity in the police homicide rate relative to COAs whose leaders are chosen at large, or those which are led by a single executive.*

**Discretion Afforded by Existing Institutions**

Since DCAs are assumed to afford police officers more discretion than situations which involving PHCs, we expect COAs to be more likely to reduce disparity in DCAs as compared to the disparity in PHCs.

This leads to the following hypothesis:

*Hypothesis 9: COAs are more likely to reduce racial disparity in DCAs as compared to PHCs.*

The above hypotheses can be represented in diagrammatic form as shown in figure 2-2.
Figure 2-2: Schematic diagram of the factors hypothesized to affect COA effectiveness
Empirical Strategy

Our dependent variables are (1) disparity in DCAs between blacks and whites per 100,000 persons, and (2) disparity in PHCs between blacks and whites per 100,000 citizens.

Racial disparity in DCAs is calculated as follows:

\[
\text{Disparity in Arrest Rate}_{mt} = \text{Arrest Rates for Disorderly Conduct for Blacks}_{mt} - \text{Arrest Rates for Disorderly Conduct for Whites}_{mt}
\]

Where \( m \) and \( t \) index municipality and year respectively, and the arrest rate for disorderly conduct for race \( r_{mt} \) is calculated as follows:

\[
\text{Arrest Rate for Disorderly Conduct for race } r_{mt} = \left( \frac{\text{Number of Adult Arrests of race } r_{mt}}{\text{Adult population of race } r_{mt}} \right) \times 100,000
\]

Racial disparity in PHCs is calculated as follows:

\[
\text{Disparity in Police Homicides of Citizens}_{mt} = \max \left\{ \left( \frac{\text{Police Homicide Rate for Blacks}_{mt} - \text{Police Homicide Rate for Whites}_{mt}}{\text{Police Homicide Rate for Whites}_{mt}} \right) \right\} \text{ or } 0
\]

Where the police homicide rate for race \( r_{mt} \) is calculated as:

\[
\text{Police Homicide Rate for race } r_{mt} = \left( \frac{\text{Number of police homicides of citizens of race } r_{mt}}{\text{Adult population of citizens of race } r_{mt}} \right) \times 100,000
\]
The measures of racial disparity in DCAs and PHCs that we use are thus population-based benchmark measures that use the race-specific adult population (i.e. blacks and whites 18 years and older) as the relevant risk set for each race. Such measures have frequently been used for measuring racial disparities in policing outcomes in a variety of studies (Wilkins and Williams 2008; Shjarback et al. 2017; Neil and Winship 2019). While scholars have pointed out the limitations of using population-based benchmarks for assessing racial disparities, it has also been acknowledged in the literature that identification of appropriate benchmarks require detailed, localized information about the geography and nature of policing strategies – information that is generally not available in publicly available datasets (Weisburd and Majmundar 2018), or in studies that examine racial disparities in policing outcomes in more than a handful of jurisdictions. Ideally, we would have the resources to conduct surveys similar to those completed by Epp, Maynard-Moody, and Haider-Markel (2017) to develop a benchmark measure that not only accounts for the number of black and white adults, but also a measure of how much these groups tend to violate specific laws, and the extent of contact they are likely to have with the police. Given the lack of resources necessary to collect these additional data for the large number of municipalities in our sample, however, we offer the best available alternative often offered by scholars in similar situations (e.g., see Wilkins and Williams 2008; Shjarback et al. 2017). As such, the measures of racial disparity that we use represent the only plausible benchmark given the unit of analysis in our study and the large number of municipalities in our sample.

The period chosen for DCAs is from 1980 through 2014, while the period chosen for PHCs is from 2000 through 2014. The sample consists of municipal-level COAs which responded to our survey. For the sake of consistency in the analysis and generalizability of
conclusions, we excluded non-municipal jurisdictions from regression analyses. The method chosen is a two-way fixed effects model with year and municipality-specific fixed effects, that takes the following form:

\[ Y_{mt} = X_{mt}\beta + \delta \text{Investigation}_{mt} + \tau \text{Monitoring}_{mt} + \varphi \text{Review/Audit}_{mt} \]

\[ + \theta \sum_{i=1}^{2} (\text{Teeth} \times \text{Voice}) + \vartheta \text{Voice}_{jt} + \rho \text{Governance}_{mt} + \pi \text{Age}_{mt} + w_m \]

\[ + \nu_t + \epsilon_{mt} \]

\( Y_{mt} \) represents the two dependent variables, \( X_{mt} \) contains a vector of time-varying covariates; \text{Investigation}, \text{Monitoring} and \text{Review/Audit} are the predicted factor scores for the three types of COAs in the sample (see appendix 2-2 for a description of the factor analysis procedure used to categorize our sample COAs). These scores are essentially indices, with higher values of an indicator denoting a broader scope of authority for a particular type of COA. For instance, a COA with a large, positive value for \text{Investigation}, is likely to be an investigative COA.

\text{Teeth} is a set of two indicator variables that represent level-1 and level-2 teeth. \text{Voice} represents the number of civil rights organizations in the city. \text{Teeth} \times \text{Voice} represents the interaction terms between levels of teeth and number of civil rights organizations. \text{Governance} is an indicator that equals one when the COA is led by a board whose members are appointed by district and zero otherwise, and \text{Age} denotes the age of the COA. \( w_m \) and \( \nu_t \) are municipality and year-specific fixed effects respectively, and \( \epsilon_{mt} \) is a mean-zero random error. Our empirical strategy thus employs a two-way fixed-effects model in which the municipal-specific fixed effects control for unobservable, municipality-specific, time-invariant characteristics of individual municipalities which may be correlated with the treatment while year-specific fixed
effects control for secular trends in the dependent variables. Secular time trends in the dependent variables can result from a variety of factors, such as shifts in general policing patterns, Supreme Court decisions governing police-citizen interactions in the U.S. as a whole (e.g., *Tennessee v. Garner* (471 U.S. 1 [1985]) and *Graham v. Connor* (490 U.S. 386 [1989])). The above empirical strategy, in which the coefficients can be interpreted as within-unit effects, is often used to evaluate the impact of a policy that is adopted at different points in time by individual jurisdictions (e.g., Albalate 2008). Models for disparity in DCAs were estimated using fixed effects ordinary least squares (OLS), while models for disparity in PHCs were estimated using fixed effects Poisson regression. We used the Poisson fixed effects estimator as it is a true fixed effects estimator (as opposed to the negative binomial) – and has been found to reliably estimate the effects of regressors as well as establish statistical significance, even in the presence of overdispersion (Wooldridge 1999). All models account for intragroup correlation using robust standard errors clustered at the municipality level.

**Data**

Table 2-1 summarizes the data sources utilized in this study. Data on COAs’ scope of authority, teeth, and governance were obtained from an online survey administered in mid-2017. We contacted 114 COAs located in 111 municipal jurisdictions as part of our survey. A few municipalities have multiple COAs with varied roles and responsibilities. We focused on the COA within each municipality that was most directly involved with conducting oversight (i.e., reviewing complaint investigations, auditing completed complaint investigations, conducting independent investigations, recommending discipline and policy), using it as the representative form of oversight in that municipality.
Of the COAs which were contacted, 91 COAs located in 88 municipal jurisdictions responded to the survey, resulting in a gross municipal-level response rate of 79.28% (=88/111)^10. Among the COAs responding from these 88 municipalities, one had been created in 2016 as a result of which it was not used in our analysis (which spanned 1980 through 2014). Another COA returned a survey that was only partially complete, and 6 additional COAs (which although returned completed surveys) belonged to municipalities for which arrest data were not available through the UCR program. We also made a freedom of information request for arrest data for these 6 municipalities which, unfortunately, was declined. After removing these 8 municipalities from our sample, we were ultimately left with 80 municipalities (corresponding to 83 COAs) that could be used in our study. The net (or effective) municipal-level response rate for our survey was thus 72.07% (=80/111). Our analytic sample thus represents a snapshot of the institutional structure of citizen oversight in 80 distinct municipalities.

Figure 2-3 shows the geographical dispersion of COAs in our sampling frame, highlighting that COAs tend to be concentrated in cities with large populations. Table 2-2 presents summary statistics from the survey. The median 2014 population in municipalities that responded to our survey is around 254,000. The median percentage of black citizens (in 2014) in a given municipality in our sample is 16.1%, which was larger than the country overall (12.6% as of 2014 (U.S. Census Bureau 2014)). Considering that the median year of COA establishment for our sample is 2000 suggests that these agencies have mushroomed in the past couple decades. Overall, the above facts suggest that COAs tend to be established in large cities with a relatively high proportion of blacks, and thus where interactions between blacks and police officers are likely to be more frequent.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Type</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disorderly conduct arrest rates by race</td>
<td>Panel; 1980-2014</td>
<td>Uniform Crime Reports (UCR), and through freedom of information (FOIA) requests from Illinois, Washington D.C., and selected cities in Washington and Massachusetts.</td>
</tr>
<tr>
<td>Police homicides of citizens by race</td>
<td>Panel; 2000-2014</td>
<td>Fatalencounters.org</td>
</tr>
<tr>
<td>COA year of creation, scope of authority, teeth, and governance</td>
<td>Cross-sectional. Assumed to remain time-invariant</td>
<td>Online Survey, administered through Qualtrics.</td>
</tr>
<tr>
<td>Voice (i.e., number of civil rights organizations in jurisdiction)</td>
<td>Panel; 1980-2014</td>
<td>Internal Revenue Service Masterfile</td>
</tr>
<tr>
<td>Alternative accountability mechanism dummy</td>
<td>Cross-sectional. Assumed to remain time-invariant</td>
<td>Online Survey, administered through Qualtrics.</td>
</tr>
<tr>
<td>Consent decree dummy</td>
<td>Panel; 1980-2014</td>
<td>U.S. Department of Justice website</td>
</tr>
<tr>
<td>Per capita income</td>
<td>Panel; 1980-2014</td>
<td>U.S. Census, American Community Survey 5-year estimates</td>
</tr>
<tr>
<td>Unemployment</td>
<td>Panel; 1980-2014</td>
<td>U.S. Census, American Community Survey 5-year estimates</td>
</tr>
<tr>
<td>Percentage of 25+ population with bachelors degree</td>
<td>Panel; 1980-2014</td>
<td>U.S. Census, American Community Survey 5-year estimates</td>
</tr>
<tr>
<td>Percentage of population that is black</td>
<td>Panel; 1980-2014</td>
<td>U.S. Census, American Community Survey 5-year estimates</td>
</tr>
<tr>
<td>Violent Crime Rate</td>
<td>Panel; 1980-2014</td>
<td>UCR</td>
</tr>
</tbody>
</table>
Regarding endogeneity, a concern is whether municipalities self-select into creating COAs. We tested for this possibility by testing for the significance of time distance dummies from the year in which a COA was created, as well as testing whether the parallel trend assumption is met for cities that established COAs versus those that did not (for untreated cities, we used all US cities that had never established a COA, whose 2010 population exceeded 100,000, and for which data on DCAs and PHCs were available). Overall, these tests indicated that there is little or no self-selection into the creation of COAs. Appendices 2-4 and 2-5 explain these tests in more detail and present regression estimates from them.

Figure 2-3: Geographic Dispersion of COAs on contiguous USA
<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Racial disparity in disorderly conduct arrests in pre-period (per 100,000)</td>
<td>487.49</td>
<td>722.26</td>
<td>-654.16</td>
<td>8615.85</td>
</tr>
<tr>
<td>Racial disparity in disorderly conduct arrests in post-period (per 100,000)</td>
<td>352.24</td>
<td>695.87</td>
<td>-3533.90</td>
<td>5357.12</td>
</tr>
<tr>
<td>Racial disparity in police homicides in pre-period (per 100,000)</td>
<td>0.42</td>
<td>2.32</td>
<td>-8.89</td>
<td>27.80</td>
</tr>
<tr>
<td>Racial disparity in police homicides in post-period (per 100,000)</td>
<td>0.51</td>
<td>2.76</td>
<td>-5.08</td>
<td>58.86</td>
</tr>
<tr>
<td>Percentage of COAs with authority to classify citizen-initiated complaint</td>
<td>48.89</td>
<td>50.26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage of COAs with authority to review police complaint investigations</td>
<td>83.69</td>
<td>37.12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage of COAs with authority to conduct independent investigations</td>
<td>46.73</td>
<td>50.16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage of COAs with authority to audit/monitor police complaint investigations</td>
<td>57.30</td>
<td>49.74</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage of COAs with authority to recommend/issue investigation findings to pol</td>
<td>68.90</td>
<td>47.60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage of COAs with authority to access IA electronic databases</td>
<td>37.36</td>
<td>48.64</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage of COAs with authority to recommend discipline and policy change</td>
<td>20.91</td>
<td>40.85</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage of COAs with by-district governance</td>
<td>25.00</td>
<td>39.73</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage of jurisdictions with at least one alternate accountability mechanism</td>
<td>64.54</td>
<td>48.05</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage of jurisdictions under consent decree or court oversight</td>
<td>9.09</td>
<td>28.87</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COA budget ($)</td>
<td>523,528.50</td>
<td>1,223,673.00</td>
<td>0.00</td>
<td>8,460,483.00</td>
</tr>
<tr>
<td>Number of full-time paid staff</td>
<td>9.18</td>
<td>14.32</td>
<td>0.00</td>
<td>70.00</td>
</tr>
<tr>
<td>Percent population black</td>
<td>20.48</td>
<td>18.19</td>
<td>.0026</td>
<td>85.24</td>
</tr>
<tr>
<td>Per capita income ($)</td>
<td>19,264.65</td>
<td>8,691.47</td>
<td>5352.00</td>
<td>83387.00</td>
</tr>
<tr>
<td>Unemployment rate</td>
<td>7.18</td>
<td>3.38</td>
<td>1.00</td>
<td>32.50</td>
</tr>
<tr>
<td>Percentage of population 25+ with bachelors degree</td>
<td>29.59</td>
<td>14.15</td>
<td>6.37</td>
<td>81.60</td>
</tr>
<tr>
<td>Violent crime rate</td>
<td>990.70</td>
<td>671.04</td>
<td>16.70</td>
<td>4352.80</td>
</tr>
</tbody>
</table>
Data on PHCs were obtained from the crowd-sourced database, the Fatal Encounters (FE) Project, which is maintained and fact-checked by a nonprofit. This database catalogs every police-involved death since 2000. While the Federal Bureau of Investigation (FBI) does collect data on police-involved civilian deaths, these data are subject to substantial underreporting, the extent of which varies across jurisdictions (Barber et al. 2016). Several recent public administration studies studying PHCs have either directly used the FE database, or have used it to cross-check data gathered from other crowdsourced databases (see Jennings and Rubado 2017; Menifield, Shin, and Strother 2018; Nicholson-Crotty, Nicholson-Crotty, and Fernandez 2017).

Following previous research utilizing the FE database (see Jennings and Rubado 2017), we only retained firearm-related deaths in our data, while ignoring other types of deaths, e.g., those involving tasers, vehicles or asphyxiation, etc., because they are less likely to be intentional. We also excluded deaths where more than one police agency was involved, due to the difficulty in attributing such deaths to specific police agencies. Furthermore, as we were interested in municipalities, deaths involving state or federal agencies were also eliminated. Since we are evaluating the impact of COAs only within the municipalities where they have been established, we were left with 1,269 police-involved deaths across 80 police agencies from 2000 through 2014.

All demographic variables for census years were obtained from US census reports or the American Community Survey (ACS)\textsuperscript{11}, while values for intercensal years were obtained through linear interpolation. We also used municipality-level violent crime rates for each jurisdiction from the UCR as a covariate. These time-varying covariates were used because, in prior research, socioeconomic variables have been found in prior research to be correlated with policing tactics as well as social disorder and crime (Zhao, He, and Lovrich 2006; Zhao, Ren,
and Lovrich 2012). We included an indicator variable for any municipality under federal investigation or bound by an agreement to reform policing practices vis-à-vis use of force or racial profiling (e.g., through a consent decree, settlement agreement, or memorandum of agreement), which could potentially reduce racial disparity by itself. Finally, in the model for racial disparity in PHCs, we included racial disparity in DCAs as a baseline measure of bias in policing.

Results

Model estimates for racial disparity in DCAs and PHCs are shown in table 2-3 and table 2-4, respectively. In each case, we started with a basic model containing a creation indicator which switches from zero to one from the year the COA came into existence. In subsequent models we substituted the creation indicator, sequentially adding factor scores for the scope of authority, followed by indicators for teeth-voice interaction and governance. In the final model, which is the preferred specification, we added covariates to determine whether the observed effects changed after controlling for background characteristics.

Racial Disparity in Disorderly Conduct Arrests

Table 2-3 presents various model estimates for the impact of COAs on racial disparity in disorderly conduct arrest rates.

Starting with model 1, where we estimate the overall impact of COA creation on the dependent variable, we find that the created coefficient was is negative but insignificant. The age coefficient shows a significant, negative impact on racial disparity in DCAs over time. The latter effect persists generally for all types of COA vis-à-vis DCAs in models 1 through 6 and suggests
that all types of COAs, regardless of their individual characteristics, decrease racial disparity in DCAs over time, and implies the time-intensive nature of social accountability mechanisms.

In addition, the scope of authority coefficients for investigative COAs are consistently negative across models 1 through 6, and their impact attains statistical significance in model 5 ($p=0.049$). In model 6, the investigation score coefficient has a sizeable magnitude of -121.80 (relative to the average pre-treatment disparity in DCAs of 487.5 per 100,000 adults), however, it is not significant at the 5% level ($p=0.082$). The interaction coefficient for investigation score and age is positive ($\beta_{\text{Investigation score} \times \text{Age}} = 7.07, p=0.039$), which seems to partially offset the main effect of age ($\beta_{\text{Age}} = -20.67, p=0.024$). Nevertheless, we believe these results suggest
that investigative COAs lead to a reduction in racial disparity in DCAs over time, and potentially in the year of creation as well.

The coefficient for monitoring COAs fluctuates between negative and positive values and does not approach statistical significance. However, its interaction with the age coefficient is negative and significant \((p=0.049)\), which suggests that monitoring COAs reduce disparity in DCAs over time. Finally, neither the review/audit score coefficient nor its interaction with the age coefficient is significant in the preferred specification. Thus, review/audit COAs do not appear to have a differential effect on the disparity in DCAs beyond the main effect of age. This result makes sense as review/audit COAs have the least authority among the three types of COAs.

Reviewing the teeth-voice interaction terms, as well as their interactions with age, we can see that while they are all negative in the preferred specification, none of them approach statistical significance, which shows that there is little evidence from our study that mutually reinforcing teeth and voice, in and of themselves, reduce disparity in DCAs\(^{13}\). The main effect of voice in models 1 through 6 also does not attain statistical significance, however, it is consistently negative per our expectation.

The governance indicator is highly negative and significant in the preferred specification\(^{14}\).

**Racial Disparity in Police Homicides of Citizens**

Table 2-4 presents various model estimates for the impact of COAs on racial disparity in PHCs.
Model 1B estimates the impact of COA creation on racial disparity in PHCs. Neither the creation coefficient \( (p=0.472) \) nor the age coefficient \( (p=0.582) \) approach significance. However, like the model for racial disparity in DCAs, the creation coefficient is negative.

Regarding the scope of authority coefficients in models 1B through 6B, we note that the investigation and monitoring score coefficients are consistently negative. The interaction of these coefficients with the age coefficient is also consistently negative, with the coefficient for the interaction between investigation score and age negative and significant \( (p=0.037) \), which suggests that investigative COAs reduced disparity in PHCs by about 6% per year. On the other
hand, neither the review/audit coefficient nor its interaction with age is significant. Thus, it appears that investigative COAs are more likely to reduce disparity in PHCs, relative to the two other types of COAs.

None of the teeth-voice interaction terms, the main effect of voice, or the governance indicator, are significant in the preferred specification. However, it bears mentioning that the coefficient for voice was negative and approached significance in models 4B ($p=0.054$) and 5B ($p=0.082$). In supplementary analyses, we also estimated separate models for the impact of COAs on police homicide rate of blacks, police homicides rate of whites, and the combined police homicide rate of blacks and whites. Results from the latter model show that investigative COAs are the only COAs associated with some reduction (3%, $p=0.093$) in the combined police homicide rate of blacks and whites$^{15}$.

**Discussion**

We found that all COAs, regardless of type, reduce racial disparity in DCAs by around 20.7 arrests per 100,000 adults per year (showing support for hypotheses 1 and 2). On the other hand, the impact of COAs on PHCs varies by the type of COA. Investigative COAs reduce racial disparity in PHCs by around 6% per year, while neither monitoring nor review COAs reduce racial disparity in PHCs, indicating a lack of support for hypothesis 4. Thus, it seems that less aggressive forms of oversight are sufficient to reduce the racial disparity in high discretion enforcement actions such DCAs. However, more aggressive forms of oversight are needed to reduce racial disparities in enforcement actions such as PHCs, where institutions afford officer low discretion and the citizen-police encounters pose danger.

Regarding the teeth-voice interaction and their interaction terms with age, neither has an impact on the disparity in DCAs or PHCs, which leads us to find lack of support for hypotheses
5 and 6. However, we do not believe that the above results necessarily suggest that teeth are useless with regard to deterring racial disparity in DCAs or PHCs. Rather, we believe that teeth are likely to be effective when part of a larger repertoire of authorities. Indeed, while conducting the factor analysis procedure (see appendix 2-2), we found that the authority to recommend discipline heavily loads onto the factor for investigative agencies, while the authority to evaluate and recommend policy changes heavily loads onto the factor for monitoring agencies. However, we intentionally did not include these authorities in predicting the scope of authority factors because doing so would have led to collinearity with the teeth-voice interaction, whose net impact we wanted to test separately. Thus, while the above results suggest that while agency teeth, in and of themselves, may not be enough to reduce disparity in DCAs or PHCs, we believe they are likely to be important components in the overall authority of COAs.

Hypotheses 7 and 8 posited that COAs that report to a board whose members are appointed by municipal district would reduce disparity in DCAs and PHCs, respectively, relative to COAs that either (a) do not have a board, or (b) have a board whose members are not appointed by municipal district. We reasoned that COAs whose members are appointed by district would be more likely to project the concerns of minority citizens. By district representation on the COA board was found to reduce racial disparity in DCAs as well as PHCs, however, only the reduction in the disparity in DCAs was statistically significant ($p=0.047$). Specifically, we found that by district COA governance reduces the racial disparity in disorderly conduct arrests by around $41\%=(200.28/487.5)$ relative to the average pretreatment disparity in such arrests. It is worth noting that the governance indicator is negative in every model for both dependent variables, even though each dependent variable was obtained from different data sources. This suggests that the governance of COAs likely has major implications in terms of
reducing racial disparity in policing outcomes, even if we did not obtain statistically significant results.

Finally, hypothesis 9 posited that COAs would be more likely to reduce disparity in DCAs relative to PHCs, as DCAs afford officers relatively broader discretion. While we did not test this hypothesis directly, we believe that two findings lend support to it. First, a reduction in the racial disparity of DCAs was observed for each additional year of a COA’s existence, regardless of the type of COA that was in place (i.e. 20.7 fewer DCA arrests per 100,000 adults per year). On the other hand, only investigative COAs reduced racial disparity in PHCs (by 6% per year) for each additional year of existence of the COA. This finding shows that the impact of COAs on the racial disparity in DCAs are much more broad-based than the impact on racial disparity in PHCs.

Second, the impact of COAs on racial disparity in DCAs was also more sizeable than the impact of COAs on the racial disparity in PHCs. Specifically, racial disparity in DCAs decreased by 41% when the COA was led by a board with members appointed by municipal district. By contrast, COA governance by municipal district did not have any impact on the racial disparity in PHCs. In fact, only the investigative form of COAs reduced racial disparity in PHCs, although it was by a notable 6% per year. In sum, the broad-based impact of COAs on racial disparity in DCAs, as well as the difference in the scale of impact of COAs on DCAs vis-à-vis PHCs lends credence to the hypothesis that institutional outcomes are more likely to change when institutions afford bureaucrats broad discretion.

Another issue deserves elaboration. Since investigative COAs were found to reduce disparity in DCAs as well as PHCs, it is important to highlight the characteristics of the agencies in this category. A factor analysis conducted to determine the various types of COAs in the
sample is helpful in this regard (see appendix 2-2). Per this analysis, authorities that loaded heavily onto the investigation score factor included the authority to (a) classify the nature of a citizen-initiated complaint, (b) conduct investigations of citizen complaints independent of the police agency, (c) recommend/issue investigation findings to the police, (d) recommend discipline to officers it found guilty of misconduct, and (e) have paid, full-time staff.

There were sixteen COAs in our sample which had all the above-mentioned authorities. These agencies had a median 2016 budget of $999,420, a median full-time staff of 9, compared to a median budget of $112,500 and a median full-time staff of 4 for the sample overall. Thus, it appears that the most effective COAs not only have a broad scope of authority, but they were also likely to have more resources to perform their role relative to the overall sample of COAs.

The following table summarizes the impacts that COAs were observed to have.

**Table 2-5: Summary of COA Impacts on Racial Disparity in Disorderly Conduct Arrests and Police Homicides of Citizens**

<table>
<thead>
<tr>
<th>Scope of Authority</th>
<th>Reduces racial disparity in DCA?</th>
<th>Reduces racial disparity in PHC?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investigation-focused</td>
<td>Yes, over time. Potentially in the year of creation as well.</td>
<td>Yes, over time</td>
</tr>
<tr>
<td>Monitoring-focused</td>
<td>Yes, over time</td>
<td>No</td>
</tr>
<tr>
<td>Review/Audit-focused</td>
<td>Yes, over time</td>
<td>No</td>
</tr>
<tr>
<td>Teeth-Voice Interaction</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Level-I teeth × Voice</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Level-II teeth × Voice</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Governance</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>By municipal district</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Our study raises a potential question about the desirability of discretion. On the one hand, scholars have contended that the exercise of discretion is not only an unavoidable element of street-level decision-making (Lipsky 1980), but that it enable bureaucrats to treat people as people, allowing them to tailor their decisions to clients’ circumstances, motives, intent, and promises (Cordner and Scott 2014). However, several studies (including this one) have found that the greater the discretionary authority that street-level bureaucrats have, the greater the likelihood for bias to permeate their decisions (Maynard-Moody and Musheno 2012; Lipsky 1980; Cárdenas and Ramírez de la Cruz 2017). Does this finding suggest that discretionary authority ultimately undermines social equity and that public managers ought to design jobs to reduce discretion as much as possible?

We do not believe that to be the case. As Skolnick pointed out in his 1966 classic Justice without trial, increased discretion does not necessarily lead to more bias. Rather, bias is likely to be evinced when officers perceive an encounter with a citizen to be dangerous, when some degree of coercion is likely to be involved, and when the officer does not believe that the suspect is likely to ultimately face some measure of ‘justice’ without the officer exercising discretion in this particular case. In light of Skolnick’s insight, it is possible that our finding that investigative COAs reduce the racial disparity in PHCs merely reflects that COAs induce police officers to use their discretionary authority in a more restrained way, rather than reducing their discretion. This study’s findings should thus not be interpreted as suggesting that reducing police officers’ discretion is necessarily a desirable end goal.

The unique contribution of this study is three-fold. The issues of whether (a) COAs impact policing outcomes, and whether (b) such impacts vary by type of COA, are long-standing and of great concern in the literature on citizen oversight of police (see De Angelis, Rosenthal,
and Buchner 2016; Walker and Archbold 2014; Walker 2006). Our study not only responds in the affirmative to both the above questions from the prior literature but also, (c) theoretically extends the state-of-the-art of social accountability impact evaluation research by combining the social accountability framework (Fox 2015) from the Development Studies literature and the gradual change framework from Political Science (Rocco and Thurston 2014; Mahoney and Thelen 2010). Thus, our approach not only bridges two literatures that have at times been disconnected from each other, but also offers a considerable advantage in terms of parsimony in terms of the variables. Moreover, combining the social accountability framework with the GCF allows us to test a broader range of hypotheses than would be possible using just one of these frameworks. We encourage scholars of social accountability and social change to explore other literatures which could be integrated with the social accountability and GCF frameworks (e.g., social movement theory (see Schneiberg and Lounsbury 2017)).

That COAs with a broad scope of authority lead to reductions in racial disparity of DCAs and PHCs, supports contentions in the prior literature that external triggers for social equity can enhance the ability of public organizations to treat clients in an equitable manner (Gooden 2014), and that street-level bureaucrats are less likely to treat clients differentially if it is likely that they will incur major costs for doing so (Lipsky 1980). Our study builds upon the foregoing scholarship by finding that all external triggers for social equity are not created equally – COAs with a relatively broader scope of authority are likely to be more effective in reducing racial disparity in PHCs relative to those with a narrow scope of authority. Furthermore, we found that by district COA governance reduces racial disparity in DCAs which in turn shows that institutional rules for stakeholder engagement in participatory processes affect stakeholders’ influence on policy outcomes. This result adds to the prior finding in the literature that
stakeholder engagement in participatory processes enhances stakeholder influence on policy decisions (Baldwin 2018).

Our study also challenges the narrative of the ‘punctuated equilibrium’ model of change that has traditionally been embraced in rational choice, sociological, and historical-institutionalist accounts of institutional change. These paradigms typically stress the importance of the stability of institutions and situate the sources of institutional change in exogenous forces (DiMaggio and Powell 1983; Hannan and Freeman 1989; Thelen and Conran 2016). Per the above accounts, when substantive organizational change does occur, it is likely to be “episodic and dramatic, responding to institutional change at the macrolevel” (DiMaggio and Powell 1991).

However, recent scholarship in the historical-institutionalist tradition has increasingly focused on institutions as distributional instruments laden with power imbalances, which lead to contestation or uncertainty regarding the implementation and meaning of institutional rules, and hence compliance with them (Thelen and Conran 2016). Under this view, institutions and hence institutional outcomes may change gradually as institutions undergo piecemeal modification or reinterpretation. Moreover, due to variations in the sociopolitical context and the discretion afforded by existing institutions, organizational change may not necessarily be ‘isomorphic’ as contended in sociological institutional accounts (DiMaggio and Powell 1983; Dobbin 1994; Scott 1995). While we did not trace the historical evolution of specific institutions in individual cases in this paper, the pattern of findings we uncover lend credence to the historical-institutionalist perspective on gradual institutional change: First, we found that in both low discretion enforcement work (i.e., PHCs) as well as high-discretion enforcement (i.e., DCAs), at least part of the change in outcomes occurs gradually and over time rather than abruptly. This was evidenced by the gradual reduction in the racial disparity in DCAs for COAs of all types, as
well as the gradual reduction in the racial disparity of PHCs for investigative COAs. Second, consistent with the gradual change framework (GCF), changes in institutional outcomes appear to be a function of both the sociopolitical context (operationalized here as the scope of COA authority), as well as the degree of discretion afforded by existing institutions. Specifically, racial disparities in DCA narrow regardless of whether the scope of COA authority is broad or narrow i.e., change through either conversion or layering is plausible (see Thelen and Conran 2016; Rocco and Thurston 2014). On the other hand, racial disparities in PHCs narrowed when the scope of COA authority was broad, i.e., outcomes plausibly changed through displacement of institutions. We did not observe an increase in racial disparities in PHCs when the COAs’ scope of authority was narrow, suggesting overall a relatively low likelihood of institutional change through drift. The implication here is that the type of institutional change plausibly varies depending on the scope of COA authority, as well as the discretion afforded by the institutions themselves. Nevertheless, it bears emphasizing that the foregoing types of institutional changes are based on our broad-brush impressions, and as noted below, we encourage scholars to investigate the specific patterns of institutional change occurring in response to COAs through single-subject case studies.

Finally, this study broadens the typical focus of social accountability impact evaluations from developing countries to developed countries. We believe that social accountability mechanisms may also be a viable mechanism for institutional change in developed countries, where accountability deficits rooted in historic political struggles are also likely to exist, and whose symptoms are increasingly evident (e.g., the emergence of the Black Lives Matter movement) in an era of increasing political and economic inequality. We hope that broadening the scope of social accountability studies to developed countries prompts deeper reflection in the
public administration field on the historical-institutional reasons as to why accountability deficits exist in the governance of essential public services, the long-term impacts of such deficits on social equity, as well as the development of conceptual frameworks and theories about how such deficits can be narrowed.

There are certain limitations of this study that ought to be acknowledged. First, we assumed that COAs’ authorities remain constant over time. This assumption is needed in a fixed effects model to rule out the presence of time-varying factors which may be confounded with the treatment. We verified this assumption by determining for a random sample of COAs, whether their authorities had changed since their inception by searching newspaper archives on Lexis-Nexis. While we did not find any newspaper reports of changes in the powers of the COAs in our sample, it is possible that some changes were not reported in the press which might have biased the treatment effect.

Second, as alluded to above, while the results of this study suggest institutional outcomes changed as a result of the creation of COAs, we cannot pinpoint the exact type of institutional change that is likely to have occurred. We believe that a deeper, qualitative study at the individual-COA level would be needed to determine the specific change process that occurred in a city. Future research should attempt to open the black box of the institutional change process through which policy interventions such as COAs can enhance the social equity of police services.

Conclusion

We started this study with the question of whether COAs have an impact on racial disparity in policing outcomes, and whether their outcomes vary by the kind of oversight that the COA conducts. A major weakness of prior studies that have considered these questions is that
they have been largely atheoretical and have thus not yielded clear predictions of (a) whether COAs are likely to be effective, and (b) the circumstances under which they are likely to be effective. Other weaknesses of prior evaluations include the fact that they have almost never considered racial disparities in policing outcomes as dependent variables and have almost exclusively been restricted to case studies of individual jurisdictions. Such case studies, while illuminating, have not provided generalizable insights about when COAs are likely to be effective.

Our analyses show that COAs reduce racial disparities in policing outcomes over time when the enforcement action affords officers broad discretion. Moreover, this effect seems to be a function of a COA being present, rather than a specific kind of COA. However, COAs with a broad scope of authority are more likely (compared to COAs with a narrow scope of authority) to reduce the racial disparity in policing outcomes when the enforcement action affords narrow discretion and likely arises from dangerous citizen-police encounters. The results also suggest that the institutional rules by which oversight agencies are governed (i.e., by municipal district governance or at large governance) can also have an impact on racial disparity, at least for enforcement actions that afford officers broad discretion, and which do not involve dangerous citizen-police encounters.

Our results thus indicate that public administrators should consider whether certain police enforcement actions in their municipality are associated with racial disparities that disproportionately affect blacks. If blacks are only overrepresented in arrests for ‘quality-of-life’ offenses such as disorderly conduct, and if the local government is unable to commit to the resource outlays that investigative COAs entail, then public administrators may consider establishing a review-focused COA. On the other hand, if blacks are overrepresented in PHCs (or
PHCs as well as DCAs) then the public administrators should consider establishing an investigative COA – one with a substantial scope of authority, budgetary authority, as well as the appropriate quality and quantity of human resources. Underpowered COAs that are essentially intended to serve as window-dressing may not necessarily have any impact on more serious forms of police violence that disproportionately affects blacks.

Taken together, the above findings suggest that robust citizen oversight is likely an effective approach to enhance equity in service provision contexts that have a history of institutional racism and that also have the potential for inflicting direct physical harm. We believe this is true for policing – indeed, no other public service has the authority to use deadly force against citizens on behalf of the state.

COAs seek to deter police misconduct through a variety of means such as controlling police discretion through recommending policy changes, evaluating individual complaint investigations as well as broader patterns in misconduct, and by recommending discipline for officers found guilty of misconduct. As such, they aim to alter the incentives of police by generating extrinsic and intrinsic motivators that encourage equitable treatment of citizens. We urge scholars in public administration and cognate fields to conduct further research into how social accountability mechanisms promote social equity, obstacles that hinder them, and as to how they can be made more effective.

Notes

1. GCF has earlier been referred to as the theory of gradual institutional change (Mahoney and Thelen 2010).
2. The vast majority of oversight agencies in the US are at the municipal level, followed by COAs at the county level, and COAs in universities and transit systems.
3. This is an estimated count based on corroboration with other researchers, the National Association for Citizen Oversight of Law Enforcement (NACOLE), as well as internet searches conducted by us. Nonetheless, it is possible that the actual number of COAs is higher as there might be certain COAs that are not known to the sources we consulted, or which had no presence on the internet.

4. Misconduct was defined as “any alleged improper or illegal act, omission or decision” by a police officer that directly affects the person or property of an individual by reason of a violation of the police agency’s policy, or any local, state or federal law (Worden 2008).

5. A copy of the survey instrument is available from the authors upon request.

6. Disorderly conduct is defined on the Federal Bureau of Investigation’s (FBI) Uniform Crime Report website as “Any behavior that tends to disturb the public peace or decorum, scandalize the community, or shock the public sense of morality.”

7. We decided to use data from 1980 onwards because the Uniform Crime Reporting (UCR) city-level arrest data prior to 1980 tend to fluctuate significantly, raising concerns of incorrect reporting and/or measurement error.

8. The survey was created and administered through the Qualtrics software.

9. Separate and individual surveys were sent to those jurisdictions in which the board and the COA are separate entities.

10. Names of the municipalities whose COAs responded to our survey have been kept confidential due to Institutional Review Board (IRB) requirements.

11. The 1980, 1990, 2000 and 2010 values of these variables were obtained from US Census reports, while the values for 2015 were obtained from the ACS 5-year estimates.

12. A test of significance comparing the $\beta_{\text{Investigation score} \times \text{Age}} = 7.07$ and $\beta_{\text{Age}} = -20.67$ coefficients shows that the latter is statistically larger than the former ($p=0.0930$). This, in turn shows that the $\beta_{\text{Investigation score} \times \text{Age}}$ coefficient only partially offsets the $\beta_{\text{Age}}$ coefficient.

13. In an alternate specification, we use the percentage of a municipality’s population that is black as a measure of voice. The interaction term of teeth with this alternative measure of voice had a similar impact on the dependent variable.

14. We also estimated the impact of COAs on DCA rates of blacks and whites separately. Those results were not included in the article to conserve space and will gladly be provided by the first author upon request.
15. Estimates for these models were not included in the article to conserve space and will gladly be provided by the first author upon request.
Does Police Accountability Compromise Public and Police Officer Safety?

Abstract

There is a sizeable literature in public administration suggesting an inverse relationship between accountability and performance. Recent calls for greater accountability of police have generated concern among some commentators and practitioners as having deleterious effects on public and police officer safety, two measures of police effectiveness. Specifically, it has been suggested that accountability-induced fears can deter police from proactive policing to lead to an increase in violent crime and make police officers hesitant in using force to the point of endangering their lives. We examine these ideas by assessing whether an increase in accountability through citizen oversight agencies (COAs) compromises public and police officer safety, as measured by the violent crime rate and homicides of police officers (HPOs), respectively. Using original survey data and panel methods, we find that investigative COAs with broad authority decrease HPOs and violent crime. Other types of COAs, which have a relatively narrower scope of authority, do not have any impact on the above outcomes. Thus, we find little support for the idea that increased accountability compromises public or police officer safety.

Background

In recent years, several police-involved shootings have focused attention on the fairness of policing practices and have generated concern about the potential erosion of police legitimacy in communities of color (Fisher, Somashekhar, and Lowery 2015). These events have sparked the Black Lives Matter movement (Camp and Heatherton 2016) and have led civil rights activists and organizations to call for increased police accountability, ranging from appointing
independent prosecutors for cases involving police violence, revising use-of-force policies, and establishing citizen oversight of police (see President’s Task Force on 21st Century Policing, 2015).

Notwithstanding the above calls, there is a concern within the context of policing that increased accountability of police could potentially blunt their effectiveness in fighting crime, and possibly even reduce police officer safety. Specifically, certain commentators have claimed that heightened public scrutiny in the wake of well-publicized police-involved shootings of citizens has generated accountability-induced fears among police officers. Such fears deter police officers from proactively engaging with disorderly individuals, investigating suspicious activity, or apprehending suspected criminals (Mac Donald 2015, 2016). This disengagement, it is argued, can embolden would-be criminals and lead them to commit violent crimes. Some have taken this argument a step further, arguing that increased scrutiny and accountability of police can lead officers to become hesitant to use force to the point of endangering their safety (see Reese, 2014).

The above arguments point towards the trade-off between accountability and performance in public organizations. There is a sizeable literature in public administration (PA) that speaks to the above trade-off and which documents the negative externalities associated with increased accountability of public organizations. While accountability has been argued by its proponents as leading to greater transparency and openness (Schedler, Diamond, and Plattner 1999), expanding the opportunities for challenging and judging abuses of authority (Elster 2004), encouraging ethical behavior (Dubnick 2003), and improving the quality of government services (see Thompson & Riccuci, 1998), it has a darker side that dampens PA scholars’ enthusiasm for the proliferation of accountability mechanisms. In practice, accountability has been found to
consume substantial time, money, and energy and distract administrators from their real work (see Schillemans, Van Twist, & Vanhommerig, 2013). Specifically, empirical research has found that an unwavering focus on accountability detracts from core organizational strengths (Romzek and Dubnick 1987), leads to goal displacement (Pollitt 2003, 47), creates more red-tape (Behn 2001), triggers a range of counterproductive bureaucratic behaviors (Grizzle 2002), compromises organizational effectiveness (Koppell 2005), and further weakens the public’s confidence in government agencies as well as their understanding of the essence of democracy (Flinders 2011).

Given the substantial concern expressed in PA scholarship regarding the inverse relationship between accountability and performance, we ask whether the same is true in the context of policing as well. Specifically, we address whether citizen oversight agencies (COAs), a popular demand of police accountability proponents (ACLU 1997), are associated with a deterioration in public and police officer safety as measured by violent crime and homicides of police officers, respectively. COAs are government-sanctioned institutional arrangements external to police agencies through which citizen complaints against police and police programs/policies are reviewed by people who are not sworn officers, including a review that may take place before, during, and after program and policy implementation (see Aberbach, 2001). Oversight provides a means of accountability through which citizens seek to preserve the equilibrium of power between them on the one side and the government on the other, and thus to prevent abuses of power (Behn 2001, 8–10).

The accountability-performance trade-off, long considered to be the classic dilemma of public administration (Self 1972, 277–78), is particularly acute in the context of policing given that police officers are expected to fulfill the procedural demands of their work (i.e., treating people fairly and with respect) as well as performance-oriented demands (e.g., deterring criminal
activity, or apprehending suspects). As stated by the National Research Council in its report ‘Fairness and Effectiveness in Policing,’ “…policing is shaped by two public expectations. First, the police are called on to deal with crime and disorder, preventing them when possible, and to bring to account those who disobey the law. Second, the public expects their police to be impartial, producing justice through the fair, effective, and restrained use of their authority” (National Research Council 2004).

Nevertheless, the rules for procedural fairness may hinder performance (Behn 2001). For instance, police officers may feel compelled to use force when a person stopped for questioning makes sudden movements or attempts to flee, even if they have not committed any offense. Moreover, nowadays most large police agencies typically have an internal affairs division for investigating citizen complaints against police officers (M. Hickman 2006), and have institutionalized the use of performance management tools (such as CompStat) to hold police commanders and front-line officers accountable for crime and disorder in their precincts (Kelling and Sousa 2001; van Sluis, Cachel, and Ringeling 2008). Amidst this backdrop of proliferating accountability mechanisms, it is worth examining whether the addition of COAs to the accountability milieu has an adverse impact on measures of public and police officer safety such as violent crime and/or HPOs.

Finally, it may not necessarily be the case that an increase in police accountability would always have an adverse impact on measures of police performance, such as violent crime and HPOs. As we argue in this paper, it is possible that an increase in accountability through citizen oversight may enhance citizens’ perception of police legitimacy. An increase in police legitimacy may reduce citizen aggression towards police officers, which may reduce HPOs. Similarly, increased police legitimacy may make citizens more likely to call upon the police to
help resolve interpersonal conflicts which, in turn, may reduce violent crime. Nevertheless, there are no studies in the literature that evaluate whether COAs influence HPOs and violent crime one way or the other, which represents one of the significant contributions of the current study.

We test for the impact of COAs on violent crime rates and police homicides for a sample of municipalities in the United States between 1981 and 2015. We distinguish among different types of COAs based on their scope of authority, reasoning that oversight agencies with a broad scope of authority would be the most likely to enhance police legitimacy, and would lead to maintenance or a reduction in the violent crime rate and HPOs. While we suggest that such COAs would reduce HPOs and violent crime through their effect on police legitimacy, our goal is to estimate the gross or overall impact of COAs on HPOs and violent crime, and not their impact on HPOs/violent crime through police legitimacy. We find that COAs with the broadest scope of authority lead to a reduction in both HPOs and violent crime. While other types of COAs do not have comparable ameliorative impacts, they also were not found to lead to an increase in HPOs or violent crime. Thus, this study’s findings demonstrate that citizen oversight of police does not carry the risks that are typically associated with the increased accountability of public organizations. The final section of the paper discusses implications of these results for studies of policing, work on COAs specifically, and for the broader literature on accountability.

**Literature Review**

**Background on COAs**

In most police agencies in the US, citizen complaints against the police are investigated by sworn officers within the internal affairs division of the same police agency. This internal investigative process creates a conflict of interest that can tilt, or can be perceived to tilt, the accountability
process in the favor of a police officer alleged to have engaged in misconduct. In order to enhance accountability and transparency in policing and build community trust, COAs are agencies created by local governments that scrutinize citizens’ complaints against the police, review findings made the police agency’s internal affairs division to assess whether the investigation was done thoroughly and fairly, monitor trends in police misconduct, and even conduct independent investigations into allegations of police misconduct, recommend discipline and changes in policies, if that authority is granted (Ali and Pirog 2019).

Since the establishment of the oversight agency in Kansas City, Missouri in 1969, the number of COAs in the US has gradually grown to at least 145 agencies nationwide as of 2017 (see S. Walker, 2001 for a detailed overview of the history of police oversight in the US). While these agencies operate in a wide variety of contexts, such as at the county, municipal, town, university campus, or transit system levels – the bulk of COAs in the US is at the municipal level (see figure 3-1 for a map of COAs at the municipal level that we surveyed for this study).

Figure 3-1: Geographic Dispersion of COAs in the contiguous USA
COAs are often established through a local government ordinance or an amendment in the local government charter (De Angelis, Rosenthal, and Buchner 2016). Prior research has found that COA they are often created after incidents such as an officer-involved shooting, or in response to patterns of racially disparate policing (De Angelis, Rosenthal, and Buchner 2016). Although they often have the broad aims of improving public trust in the local police agency, enhancing transparency of the complaint investigation system, and deterring police misconduct, there is substantial variation across COAs in how they seek to attain the above goals, the size and type of police agency overseen, leadership structure, budgetary authority, and levels of staffing (De Angelis, Rosenthal, and Buchner 2016).

Variation in COAs along the above dimensions has prompted prior researchers to classify them into various categories (De Angelis, Rosenthal, and Buchner 2016; Olson and Attard 2016; S Walker 2001; Ali and Pirog 2019). For instance, Ali & Pirog (2019) surveyed municipal COAs, and classified them into investigative, monitoring, and review/audit agencies. Investigative COAs have a retrospective orientation, and hold the authority to classify citizen complaints, conduct independent investigations based on those complaints, issue investigation findings to the police, and recommend discipline to officers found guilty of misconduct (e.g., use of excessive force or racially-disparate policing). Such agencies are also likely to have substantial budgetary authority as well as a staff of paid, full-time employees including lawyers, investigators and policy analysts, which in turn reports to a citizen board.

Monitoring COAs emphasize active monitoring of police complaint investigations and are likely to have access to the internal affairs division’s electronic databases, internal affairs files (including closed case files), which they use to analyze trends and patterns in police misconduct. Based on their analyses, these COAs are concerned with recommending changes to
existing police policies to prevent future misconduct. They are likely to have fewer full-time staff and relatively smaller budgets compared to investigative agencies.

Finally, review/audit COAs often consist of a board of citizens which can review completed complaint investigations conducted by police. While these agencies may occasionally have access to police records, and can send complaint investigations back to the police for further investigations, they are the least likely to have a full-time staff, budgetary authority, or the authority to recommend discipline or policy change. Since investigative agencies have the authority to classify citizen complaints, independently investigate allegations of police misconduct, issue findings to the police, recommend discipline to officers found guilty of misconduct, and are the most likely to have full-time staff, Ali and Pirog (2019) argue that such COAs have the broadest scope of authority, followed by monitoring, and then review/audit COAs.

While the literature on the impact on COAs is still nascent, there are a few studies that have attempted to tease out their impact on various policing outcomes. For instance, Brereton (2000) found that the Queensland Criminal Justice Commission, a well-resourced and well-staffed oversight body established to oversee the Queensland Police Service, led to a reduction in the incidence of serious assaults by police officers, an increase in whistle-blowing among officers, as well as improvements in the police culture. Terrill and Ingram (2016), in their US-based study of the association between varying types of complaint investigatory models and the likelihood of complaints being sustained found that citizen review of police complaints was associated with an increase in the percentage of sustained complaints relative to when complaints were referred to and investigated by internal affairs alone. Finally, Ali and Pirog (2019) found that investigative COAs reduce the racial disparities in police homicides of
citizens as well as disorderly conduct arrest rates. Moreover, they also found that when COAs were led by a board of citizens which was by appointed by municipal district, they led to a substantial reduction in racial disparity in disorderly conduct arrest rates (also see Campeau, 2015).

Taken together, the above literature suggests that COAs can have an impact on the decision-making of street-level police officers as well as institutional outcomes when they provide citizens opportunities to participate in the oversight process meaningfully, have broad authority to monitor and sanction police misconduct, and are well-resourced in terms of human and budgetary resources. The current study contributes to the above literature by expanding the set of outcomes associated with citizen oversight to include HPOs and violent crime as measures of police officer and public safety, respectively. We turn our attention to the impact of correlates of oversight on these outcomes next.

**Impact of Correlates of Oversight on HPOs and Violent Crime**

Given the absence of studies that evaluate the impact of citizen oversight on our outcomes of interest, we reviewed the literature on the impact of potential correlates of oversight such as internal police accountability procedures, public scrutiny of police, police legitimacy, or of interventions that can be considered conceptually related to citizen oversight, such as consent decrees. We did this to extrapolate insights that could be used to guide the empirical strategy and model building for the current study.

**Public Scrutiny of Police**

Studies in this vein examine whether the public scrutiny of police which occurs in the aftermath of a well-publicized police-involved shooting has an impact on public safety
outcomes, such as crime rates (see Shi, 2009). These studies argue that the heightened public sensitivity and scrutiny that follows a police-involved shooting essentially amounts to an exogenous increase in ‘oversight,’ and view the subsequent changes in the crime rate as its causal effect.

Shi (2009) examined the above dynamics in the wake of the shooting of an unarmed black adolescent by a police officer in Cincinnati in 2001, which resulted in the eruption of a three-day riot. He found that proactive policing, as measured by the arrest rate for misdemeanors, declined substantially and was accompanied by a surge in violent and property crime in the months following the shooting. Pertinent to our study, Shi suggests that an increase in police oversight is correlated with an increase in violent crime (also see Morgan & Pally (2015), who documented similar findings in Baltimore, MD after the police-involved homicide of Freddie Gray. However, they also note that the uptick in violent crime in the aftermath of an increase in ‘oversight’ is likely to be short-lived).

A key criticism of the above studies is that they treat the concept of oversight too loosely, essentially ignoring whether diffuse, public scrutiny of police could indeed have any effect on police officers5, who are unelected officials. This leads us to be skeptical of the claim that oversight increases in the months after a police-involved homicide and that it has a causal effect on the violent crime rate in the subsequent months.

**Internal Police Accountability Procedures**

The effect of external oversight mechanisms such as COAs may be similar to the effect of accountability procedures within police agencies. Focusing on local police agencies, Fridell et al. (2009) examined the extent to which contextual factors and agency policies impact assaults on police officers (APOs) and HPOs. Using routine activities theory (Cohen and Felson 1979) to
guide their analysis, they found a negative association between the highest hierarchical level in a police agency at which force reports were reviewed (which they took as a measure of an agency’s commitment to accountability), and combined APOs and HPOs. This finding suggests that the stronger the intra-agency accountability procedures, the lower the likelihood of violence against police officers (also see Prendergast, 2001, who found that APOs declined by around 35% within two years of the implementation of new internal oversight procedures in the Los Angeles Police Department).

**Consent Decrees**

Under section 14141 of the Violent Crime Control and Law Enforcement Act of 1994 (Violent Crime Control and Law Enforcement Act of 1994 1994) the US Department of Justice (DOJ) has the authority to investigate police agencies alleged to have engaged in a “pattern or practice of conduct by law enforcement officers…that deprives persons of rights, privileges, or immunities” protected under federal law. If the DOJ finds evidence that an agency engaged in repeated, systematic illegal behavior over time, it is empowered to initiate legal action to bring the agency into compliance with federal law. The investigated jurisdiction may, however, avoid litigation by entering an agreement with the DOJ – a consent decree. Typical agreements have consisted of mandated changes to departmental policies relating to police-citizen interactions, increasing officer training requirements, and the development of both internal and external accountability procedures (Chanin 2017).

Chanin & Sheats (2017) examined misdemeanor and felony crime rates in ten police agencies investigated by the DOJ. Out of these ten agencies, five were found by the DOJ to have engaged in a practice or practice of misconduct, whereas the remaining five were not. The researchers found that agencies which entered into a consent decree agreement did not
experience an increase in the rate of overall misdemeanors or felony crime compared with agencies that were investigated but were found not to engage in misconduct.

The above finding suggests that an increase in external oversight through consent decrees does not lead to an increase in minor offenses or serious crime. These results echo the findings in non-peer reviewed studies such as Davis et al. (2002) and Stone, Foglesong, and Cole (2009) which examined a range of policing outcomes in Pittsburgh and Los Angeles City respectively after these cities were placed under consent decrees, and found that the imposition of the decrees did not lead to an increase in the violent crime rate.

In summary, the prior literature has not directly evaluated the impact of COAs on HPOs and violent crime, focusing instead on what can be considered the impact of correlates of police oversight on these outcomes. Only one study found that an increase in police oversight is associated with an increase in violent crime. On the other hand, most other studies have found that the correlates of police oversight are associated with a reduction or maintenance in violent crime and HPOs (Fridell et al. 2009; Prendergast 2001; Chanin and Sheats 2017; Davis et al. 2002; Stone, Foglesong, and Cole 2009).

Finally, when prior researchers have examined the impact of external oversight interventions such as consent decrees on violent crime or HPOs, they have typically focused on just one or a few police agencies (see Chanin and Sheats 2017; Davis et al. 2002; Stone, Foglesong, and Cole 2009). We address the above gaps in the literature by evaluating (a) the impact of COAs on violent crime (b) the impact of COAs on HPOs, and (c) whether COAs had differential impacts on the above outcomes depending on their scope of authority, for a large sample of municipal COAs in the US, between 1981 and 2015.
Expectations about the Impact of Citizen Oversight on Public and Police Officer Safety

Given that prior research has found the correlates of citizen oversight to be associated with a reduction or maintenance in violent crime (Chanin and Sheats 2017; Davis et al. 2002; Stone, Foglesong, and Cole 2009), HPOs (Fridell et al. 2009), and APOs (Fridell et al. 2009; Prendergast 2001), we also expect that citizen oversight would lead to a reduction or maintenance in violent crime and HPOs. However, we expect a reduction in violent crime and HPOs to be particularly likely with COAs that have broad investigative authority, followed by monitoring and then review/audit COAs, which have relatively narrow authority (see the literature review for a description of these different types of COAs).

One reason why citizen oversight could lead to a reduction or maintenance in HPOs is through its potential impact on procedural and distributive justice – two antecedents that have been found in prior research to contribute to police legitimacy (especially procedural justice) (Kochel 2014). Police legitimacy is defined as the perceived moral obligation to obey police authority voluntarily (Tyler 1990). Leventhal (1976) describes procedural justice to be a characteristic of a process where people believe they have a voice, where they are treated with respect and dignity, where enforcement decisions are explained and are based on objective criteria, and where the process is protected by accountability to higher authorities. Distributive justice, on the other hand, refers to the equitable distribution of services, without regard for characteristics, such as race or class, that are unrelated to the police mission (Kochel 2014).

There are multiple mechanisms through which citizen oversight may enhance citizens’ experience of procedural justice vis-à-vis police encounters. First, following the establishment of
a COA, heretofore socially marginalized citizens, may come to view themselves as having recourse to higher authorities if they are mistreated by police, which in turn would improve their perception of procedural justice. Also, following the creation of a COA, police agencies may consciously reduce stop-and-frisks or overpolicing within minority neighborhoods, thereby increasing people’s experience of procedural justice within such neighborhoods. As alluded to earlier, empirical research on intra-agency accountability mechanisms as well as consent decrees suggests that this is a reasonable expectation. For instance, Campeau (2015) found that after a sharp increase in police oversight, officers reported being more restrained in initiating contacts with citizens that had the potential of escalating into a dangerous confrontation. On a similar note, Brereton (2000) reported a reduction in the incidence of police assaults on citizens after the establishment of a robust oversight agency. Moreover, studies on the impact of DOJ consent decrees on public perceptions of police have also found that it often undergoes a marked improvement following the implementation of the decree (Davis et al. 2002; Stone, Foglesong, and Cole 2009). These findings imply that following the creation of a COA, overpolicing and police aggression against citizens may decrease, which, in turn, may citizens’ perception of procedural justice vis-à-vis encounters with police. This improvement would strengthen police legitimacy, which in turn would reduce citizen aggression towards police officers, plausibly leading to fewer HPOs.

Similarly, there are various mechanisms through which COAs may impact citizens’ judgments of distributive justice. For instance, following the establishment of a COA, police agencies may become more mindful of the racial disparity in the use of force against citizens, as well as the racial disparity in the arrest rates for various offenses. This in turn might lead police agencies to reduce the intensity of policing within predominantly black neighborhoods, become
less likely to use excessive force, or be mindful of upholding the constitutional rights of citizens belonging to minorities during encounters with the police. This is because police agencies would want to avoid the scrutiny from a COA that may result if policing outcomes reflect racial bias.

Recent research findings on COAs as leading to a substantive reduction in racial disparities in policing outcomes (see Ali and Pirog 2019) imply that COAs can potentially lead to an improvement in black citizens’ judgment of distributive justice in citizen-police encounters. Improvements in distributive justice would strengthen police legitimacy, which in turn would reduce citizen aggression towards police officers, plausibly leading to fewer HPOs.

Furthermore, as demonstrated by Kane (2005) in his study on the relationship between police illegitimacy and violent crime, if citizens perceive police to be legitimate, they are more likely to call upon the police to help resolve interpersonal conflicts rather than resolving such conflicts by personally using violent means, reducing violent crime (also see Kubrin and Weitzer, 2003). Moreover, if citizens perceive the police to be legitimate, they would be more likely to come forward with information that will lead to the apprehension of offenders (Tyler 2004). A greater willingness among the public to report information to the police may have a deterrent effect on violent crime. Thus, we expect that the establishment of citizen oversight would be associated with a reduction in HPOs and violent crime.

Another explanation of why COAs might lead to an improvement in police legitimacy is provided by institutional theory (Meyer and Rowan 1977; DiMaggio and Powell 1983). Per this perspective, organizations exist within an institutional environment governed by certain myths and normative values. These myths, created initially as a means of shaping public opinion, begin to take a life of their own over time, and ultimately become markers of what a “real” police organization should look like (Gau 2014). If citizens are skeptical of the ability of police to hold
themselves to account or to conduct effective investigations into allegations of misconduct, citizen oversight presents a viable option available to local governments to promote the institutional legitimacy of the police. The existence of a COA may send a signal of increased transparency and fairness and have a calming effect on the public (Skolnick and Fyfe 1993), which in turn may reduce aggression against the police and also increase citizens’ willingness to call upon the police for help in resolving interpersonal disputes.

A second issue to consider is whether the impact of COAs on HPOs and violent crime varies by type of COA. Given that investigative COAs have been found to be more effective than other types of COAs in reducing the racially disparate impact of policing (Ali and Pirog 2019), we expect that such COAs would also be more likely to be associated with an increase in police legitimacy relative to other types of COAs. Specifically, given that Ali and Pirog (2019) found that investigative COAs reduce racial disparities in disorderly conduct arrests as well as police homicides of citizens (PHCs), we expect that such COAs would also be the most likely to enhance police legitimacy compared to monitoring or review/audit focused COAs, which have not been found to have reduce racial disparity in PHCs. Furthermore, since COAs are social accountability mechanisms whose effects are likely to develop gradually, it is possible that the above impacts are observed over time.

To summarize, our overall expectation regarding the impact of citizen oversight on HPOs and violent crime is that COAs with investigative authority would be the most likely to impact citizens’ judgments of procedural and distributive justice and hence enhance police legitimacy. Thus, they would also be the most likely (compared to other types of COAs) to reduce HPOs and violent crime.
Hypotheses

*COA Impact on HPOs*

In line with our expectation that investigative COAs are likely to reduce HPOs, we hypothesize the following:

*Hypothesis 1:* Investigative COAs are associated with maintenance or reduction in HPOs as compared to monitoring and review/audit COAs.

*COA Impact on Violent Crime*

In line with our expectation that investigative COAs are likely to reduce violent crime, we hypothesize the following:

*Hypothesis 2:* Investigative COAs are associated with maintenance or reduction in the violent crime rate as compared to monitoring and review/audit COAs.

**Empirical Strategy**

Our dependent variables are (i) the number of HPOs, and (ii) number of violent crimes per 100,000 persons (or the violent crime rate). These variables are defined as follows:

\[ HPO_{mt} = \text{Number of officers killed in the line of duty}_{mt} \]

\[ \text{Violent Crime Rate}_{mt} = \left( \frac{\text{Number of violent crimes}_{mt}}{\text{Total population}_{mt}} \right) \times 100,000 \]

Where \( m \) and \( t \) index municipality and year respectively. Violent crimes include homicide and non-negligent manslaughter, forcible rape, robbery, and aggravated assault. The period chosen for both \( HPO_{mt} \) and \( \text{Violent Crime Rate}_{mt} \) is from 1981-2015. Our sample consists of municipal-level COAs which responded to our survey of oversight agencies, as well as
untreated municipalities which did not have a COA at any time during the above period. The method chosen is a two-way fixed effects model that takes the following form:

$$Y_{mt} = X_{mt} \beta + \delta \text{Strong Investigative}_{mt} + \tau \text{Monitoring}_{mt} + \varphi \text{Review/Audit}_{mt}$$

$$+ \alpha \text{Weak Investigative}_{mt} + \pi \text{Age}_{mt}$$

$$+ \theta (\text{Strong Investigative}_{mt} \times \text{Age}_{mt}) + \rho (\text{Monitoring}_{mt} \times \text{Age}_{mt})$$

$$+ \vartheta (\text{Review/Audit}_{mt} \times \text{Age}_{mt}) + \varphi (\text{Weak investigatve}_{mt} \times \text{Age}_{mt})$$

$$+ \omega_m + \nu_t + \epsilon_{mt}$$ (1)

$Y_{mt}$ represents each dependent variable, and $X_{mt}$ contains a vector of time-varying covariates. We administered a survey to COAs in 2017 in which we asked COA directors (or chairpersons) about the authorities of their agencies. Based on their responses, we classified COAs into strong-investigative-, monitoring-, review/audit-focused, or weak-investigative agencies (see Appendix 3-1 for a description of the factor analysis procedure used to categorize COAs).

Our classification scheme is based on the specific authorities of each COA, which in turn are codified at the time of their founding either through an amendment in the city charter, or through the enactment of a local government ordinance. Our classification scheme follows Ali & Pirog (2019) (see the literature review above to see how they define these COAs) with two modifications. First, we consider the additional category of weak-investigative agencies; second, we refer to the investigative agencies in Ali & Pirog’s study as strong-investigative agencies. While weak-investigative agencies can also independently investigate allegations of police misconduct and are likely to have paid, full-time staff, they are not likely to have the authority to classify citizen-initiated complaints, recommend and/or issue investigation findings to the police, or recommend discipline to officers found guilty of misconduct (see the factor analysis in
Appendix 3-1 to see which authorities load on to particular factors). These differences render such agencies weaker than strong-investigative agencies.

An advantage our categorization offers over the classification proposed by Ali & Pirog (2019) is that our factor analysis used tetrachoric correlations between the authorities held by COAs, whereas Ali & Pirog’s classification was based on a factor analysis that used Pearson’s correlation coefficients. The use of tetrachoric correlation coefficients for factor analysis is considered more appropriate if the variables of interest are binary, or Bernoulli-distributed (Uebersax 2000), as they are in the case of the survey questions that were used to determine the authorities of COAs (see Appendix 3-1).

Thus, Strong investigative, Monitoring, Review/Audit, and Weak investigative are the predicted factor scores for the four types of COAs. These factor scores are essentially indices, with higher values of a score denoting a stronger convergence with a certain type of COA. For instance, a COA with a large, positive, predicted score for Strong Investigative and a negative score for Monitoring was more likely to have the attributes of a strong-investigative rather than a monitoring COA (see the literature review above for a description of (strong) investigative-, monitoring-, and review/audit-focused COAs).

Age\(_{mt}\) denotes the age of the COA. We interacted the age with the predicted factor scores to determine whether the impact of COAs appear over time. \(w_m\) and \(v_t\) are jurisdiction and year-specific fixed effects, respectively, and \(e_{mt}\) is a mean-zero random error. Covariates include the number of civil rights organizations in the municipality, per capita income, percentage unemployment, difference in the percentage of blacks and whites in the municipality (i.e., percentage blacks minus percentages whites), and percentage of population in the municipality that is 25+ and has a bachelor’s degree. An indicator was included for the years in
which any given jurisdiction was under a consent decree to control for alternate sources for accountability, which may have had an independent influence on the outcomes of interest.

Our empirical strategy thus employs a two-way fixed-effects model in which the municipal-specific fixed effects control for unobservable, municipality-specific, time-invariant characteristics of individual municipalities which may be correlated with the treatment while year-specific fixed effects control for secular trends in the dependent variables. Secular time trends in the dependent variables can result from a variety of factors, such as shifts in general policing patterns, such as Supreme Court decisions governing police-citizen interactions in the U.S. as a whole (e.g., *Tennessee v. Garner* (471 U.S. 1 [1985]) and *Graham v. Connor* (490 U.S. 386 [1989])). This empirical strategy, in which the coefficients can be interpreted as within-municipality effects, is often used to evaluate the impact of a policy that is adopted at different points in time by individual jurisdictions (e.g., Albalate 2008).

Models for $HPOs_{mt}$ were estimated using fixed effects Poisson regression, while models for violent crime rate were estimated using fixed effects OLS regression. We used the Poisson regression for $HPOs_{mt}$ as it is a true fixed effects estimator (as opposed to the negative binomial) – and has been found to reliably estimate the effects of regressors as well as establish statistical significance, even in the presence of over-dispersion (Wooldridge 1999). All Poisson models accounted for unequal exposure to homicide risk by specifying the total number of sworn officers in each municipality-year as the exposure variable.

Violent crimes as a whole are not rare events; hence we have modeled them using fixed effect OLS regression. Models for both dependent variables accounted for intragroup correlation and heteroscedasticity using robust standard errors clustered at the municipality level.
Data

Table 3-1 summarizes the data sources utilized in this study. Data on COAs’ scope of authority were obtained from an online survey administered in mid-2017, that was sent to 114 COAs located in 111 distinct municipalities. Each survey was sent to the director or chairperson of the COA and included questions regarding the specific authorities their COA had, their dates of creation, among other attributes. There were only three municipalities which had more than one oversight agency, and we focused on the COA within each jurisdiction that was most directly involved with conducting oversight (i.e., reviewing complaint investigations, auditing completed complaint investigations, conducting independent investigations, recommending discipline and policy), using it as the representative form of oversight in that jurisdiction.

Of the COAs which were contacted, 91 COAs located in 88 municipalities responded to the survey, resulting in a response rate of around 79.27% (=88/111). Among the COAs responding from these 88 municipalities, one had been created in 2016 as a result of which it was not used in our analysis (which spanned 1981 through 2015). Another COA returned a survey that was only partially complete, and another ten COAs were located in municipalities that had a population of less than 100,000 persons as of 2010. After removing these twelve municipalities from our sample, we were left with treated 76 municipalities (corresponding to 79 COAs) that could be used for analysis.

Among the untreated jurisdictions in our sample were municipalities with a population greater than 100,000 or more in 2010, and which did not adopt a COA between 1981-2015. There were 157 such municipalities in 2010; however, Uniform Crime Reports (UCR) data on the violent crime rate from sixteen of these municipalities were often missing, rendering their
inclusion in the sample impossible. After excluding these sixteen municipalities from our sample, we were left with 141 (=157-16) untreated municipalities available for analysis. Thus, overall, there were 217 (=76+141) municipalities available for analysis in our sample.

Regarding endogeneity, a concern is whether jurisdictions self-select into creating COAs. We tested for this by possibility by testing whether the parallel trend assumption is met for municipalities that established COAs versus those that did not. Model estimates from these tests are shown in Appendix 3-2. Overall, estimates from these tests indicated that there is little or no self-selection into the creation of COAs.

Data on HPOs were obtained from the Law Enforcement Officers Killed and Assaulted (LEOKA) program that compiles data on law enforcement officers killed feloniously at the police agency level. Several recent studies have used these data to assess various explanatory accounts of patterns in HPOs (see Kaminski and Stucky 2009; Wilson and Zhao 2008; Ozkan, Worrall, and Piquero 2016). We determined $HPOs_{mt}$ by aggregating the number of officers feloniously killed for each municipality-year in our data set. Data on the number of sworn police officers in each municipality-year were also obtained from the LEOKA reports and were used as the exposure variable in the fixed effects Poisson regressions.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Type</th>
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<tr>
<td>Number of sworn officers feloniously killed in the line of duty</td>
<td>Panel; 1981-2015</td>
<td>Law Enforcement Officers Killed or Assaulted (LEOKA) reports</td>
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<tr>
<td>Number of sworn officers in agency</td>
<td>Panel; 1981-2015</td>
<td>LEOKA reports</td>
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<tr>
<td>Violent Crime Rate</td>
<td>Panel; 1981-2015</td>
<td>UCR</td>
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<td>COA year of creation, scope of authority</td>
<td>Cross-sectional. Assumed to remain time-invariant</td>
<td>Online Survey, administered through Qualtrics.</td>
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<td>Voice (i.e., number of civil rights organizations in jurisdiction)</td>
<td>Panel; 1981-2015</td>
<td>Internal Revenue Service Masterfile</td>
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<td>Consent decree dummy</td>
<td>Panel; 1994-2015</td>
<td>U.S. Department of Justice website</td>
</tr>
<tr>
<td>Per capita income</td>
<td>Panel; 1981-2015</td>
<td>U.S. Census, American Community Survey 5-year estimates</td>
</tr>
<tr>
<td>Unemployment</td>
<td>Panel; 1981-2015</td>
<td>U.S. Census, American Community Survey 5-year estimates</td>
</tr>
<tr>
<td>Percentage of 25+ population with bachelors degree</td>
<td>Panel; 1981-2015</td>
<td>U.S. Census, American Community Survey 5-year estimates</td>
</tr>
<tr>
<td>Percentage of population that is black</td>
<td>Panel; 1981-2015</td>
<td>U.S. Census, American Community Survey 5-year estimates</td>
</tr>
<tr>
<td>Percentage of population that is white</td>
<td>Panel; 1981-2015</td>
<td>U.S. Census, American Community Survey 5-year estimates</td>
</tr>
</tbody>
</table>
Data on violent crimes rates were obtained from the UCR. These data have often been used in studies either seeking to explain changes in the violent crime rate, or those using the violent crime rate as a covariate (for example, see Chand, 2019; Chanin & Sheats, 2017; Kang, 2018; Pasha, 2018). While measurement error is a concern with using the UCR to measure the violent crime rate, it is somewhat allayed by the fact that we have focused on relatively large municipalities, where crime recording practices are more reliable, the volume of criminal activity is greater and less subject to random fluctuation in the numerator, compared to smaller cities (Maltz 2006).

As an index of social capital in each jurisdiction, the number of civil rights organizations in each jurisdiction, a time-varying covariate, was obtained from the Internal Revenue Service (IRS) Masterfile. This variable was included as a measure of community voice, which could potentially influence policing practices as well as citizen attitudes towards the police. All demographic variables were obtained for census years from US census reports or the American Community Survey (ACS)\textsuperscript{11}, while the values for intercensal years were obtained through linear interpolation. Time-varying demographic covariates were used because socioeconomic variables have been found in prior research to be correlated with policing tactics as well social disorder and crime (Zhao, He, and Lovrich 2006; Zhao, Ren, and Lovrich 2012). Finally, we included an indicator variable that indicated whether a given jurisdiction was under federal investigation or was bound by an agreement to reform policing practices vis-à-vis use of force or racial profiling (e.g., through a consent decree, settlement agreement, or memorandum of agreement), which could potentially influence policing patterns. Table 3-2 presents summary statistics for the \textit{treated} jurisdictions in our analysis.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of police officers killed per year in pre-period per 1000 sworn officers</td>
<td>0.17</td>
<td>1.88</td>
<td>0.00</td>
<td>62.50</td>
</tr>
<tr>
<td>Number of police officers killed per year in post-period per 1000 sworn officers</td>
<td>0.09</td>
<td>0.57</td>
<td>0.00</td>
<td>11.30</td>
</tr>
<tr>
<td>Violent crime rate in pre-period</td>
<td>1158.94</td>
<td>754.37</td>
<td>101.69</td>
<td>4352.8</td>
</tr>
<tr>
<td>Violent crime rate in post-period</td>
<td>999.84</td>
<td>547.17</td>
<td>108.19</td>
<td>3365.94</td>
</tr>
<tr>
<td>Percentage of COAs with authority to classify citizen-initiated complaint</td>
<td>48.89</td>
<td>50.26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage of COAs with authority to review police complaint investigations</td>
<td>83.69</td>
<td>37.12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage of COAs with authority to conduct independent investigations</td>
<td>46.73</td>
<td>50.16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage of COAs with authority to audit/monitor police complaint investigation</td>
<td>57.30</td>
<td>49.74</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage of COAs with authority to recommend/issue investigation findings to police</td>
<td>68.90</td>
<td>47.60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage of COAs with authority to access IA electronic databases</td>
<td>37.36</td>
<td>48.64</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage of COAs with authority to recommend discipline and policy change</td>
<td>20.91</td>
<td>40.85</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage of COAs with by-district governance</td>
<td>25.00</td>
<td>39.73</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage of jurisdictions with at least one alternate accountability mechanism</td>
<td>64.54</td>
<td>48.05</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage of jurisdictions under consent decree or court oversight</td>
<td>9.09</td>
<td>28.87</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COA budget ($)</td>
<td>523,528.50</td>
<td>1,223,673.00</td>
<td>0.00</td>
<td>8,460,483.00</td>
</tr>
<tr>
<td>Number of full-time paid staff</td>
<td>9.18</td>
<td>14.32</td>
<td>0.00</td>
<td>70.00</td>
</tr>
<tr>
<td>Difference between proportion of blacks and whites (% blacks-% whites)</td>
<td>-43.58</td>
<td>33.76</td>
<td>-96.37</td>
<td>73.08</td>
</tr>
<tr>
<td>Per capita income ($)</td>
<td>19,287.46</td>
<td>7,582.88</td>
<td>6,142.00</td>
<td>57,917.00</td>
</tr>
<tr>
<td>Unemployment rate (%)</td>
<td>7.24</td>
<td>3.19</td>
<td>1.30</td>
<td>32.50</td>
</tr>
<tr>
<td>Percentage of population 25+ with bachelors degree (%)</td>
<td>27.92</td>
<td>11.02</td>
<td>6.54</td>
<td>78.50</td>
</tr>
<tr>
<td>Number of civil rights organizations in the municipality</td>
<td>1.57</td>
<td>3.61</td>
<td>0.00</td>
<td>41.00</td>
</tr>
<tr>
<td>Population</td>
<td>614,352.60</td>
<td>1,782,176.00</td>
<td>36,097.00</td>
<td>19,673,174.00</td>
</tr>
</tbody>
</table>
We now turn to the results of our analysis.

**Results**

Model estimates for racial disparity in HPOs and violent are shown in tables 3-3 and 3-4, respectively. For each dependent variable, we started with a basic model containing a creation indicator which switches from zero to one in the year the COA was created, as well as the age variable. The creation indicator remained zero for jurisdictions which did not establish a COA. In subsequent models, we substituted the creation indicator with the strong-investigative, monitoring, review/audit, and weak-investigative factor scores for each jurisdiction which established a COA. The scores for untreated jurisdictions (which did not establish a COA) remained zero. Next, we added covariates to examine whether the observed effects change in their presence. Finally, we interacted each scope of authority score with the age variable to test whether the impacts of COAs develop over time. All Poisson regressions accounted for the population of sworn police officers at risk of homicide by specifying the number of sworn officers in each municipality-year as the exposure variable.

**Impact of COAs on HPOs**

Fixed effects Poisson regression estimates for the impact of COAs on HPOs are shown in table 3-3.

In model A, the coefficient of the creation indicator is negative, and approaches significance at 10% ($p=0.14$), which suggests that while COAs on average do not have an impact on HPOs, there may be certain types of COAs that reduce HPOs. The age coefficient is negative and non-significant, a pattern which persists in all subsequent models for HPOs.
When we substitute the creation indicator with the COA factor scores (i.e., model B), the coefficient for monitoring score turns out to be negative and significant. When we added controls (in model C), however, this coefficient became non-significant again. None of the other coefficients were found to be significant at the 5% level in model C.

Finally, when we interact age with the factor scores (in model D), the main effect of strong-investigative score remains insignificant ($\beta = 0.60; p=0.168$). However, the coefficient on the interaction term between strong-investigative score and age becomes negative and significant ($\beta = -0.10; p=0.014$), which implies that strong-investigative COAs reduce HPOs by approximately 10% each year. Figure 3-2 plots the marginal effect of investigative COAs on HPOs over time.

### Table 3-3: Police Officer Homicide Rate - Model Estimates

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>(A)</th>
<th>(B)</th>
<th>(C)</th>
<th>(D)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Created</td>
<td>-.48</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>-.03</td>
<td>-.04</td>
<td>-.03</td>
<td>.08</td>
</tr>
<tr>
<td><strong>Scope of Authority</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strong Investigative score</td>
<td>-.49</td>
<td>-.12</td>
<td>.60</td>
<td></td>
</tr>
<tr>
<td>Monitoring score</td>
<td>-.76**</td>
<td>-.30</td>
<td>-.55</td>
<td></td>
</tr>
<tr>
<td>Review/Audit score</td>
<td>.12</td>
<td>-.14</td>
<td>-.59*</td>
<td></td>
</tr>
<tr>
<td>Weak investigative score</td>
<td>.28</td>
<td>.60*</td>
<td>.42</td>
<td></td>
</tr>
<tr>
<td><strong>Scope of Authority Interaction with Age</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strong Investigative Score × Age</td>
<td></td>
<td></td>
<td>-.10**</td>
<td></td>
</tr>
<tr>
<td>Monitoring Score × Age</td>
<td></td>
<td></td>
<td>-.01</td>
<td></td>
</tr>
<tr>
<td>Review/Audit Score × Age</td>
<td></td>
<td></td>
<td>-.03</td>
<td></td>
</tr>
<tr>
<td>Weak investigative score × Age</td>
<td></td>
<td></td>
<td>.00</td>
<td></td>
</tr>
<tr>
<td><strong>All Other Covariates Included</strong></td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Year and Jurisdiction-specific Fixed Effects Included</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Exposure variable (number of sworn officers) included</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Standard Errors clustered at Jurisdiction level</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Observations</strong></td>
<td>4,304</td>
<td>4,287</td>
<td>4,278</td>
<td>4,278</td>
</tr>
<tr>
<td><strong>AIC</strong></td>
<td>2,337.72</td>
<td>2,322.01</td>
<td>2,316.22</td>
<td>2,307.63</td>
</tr>
</tbody>
</table>

*p<.1; **p<.05; ***p<.01
The main effects for monitoring, review/audit, and weak-investigative scores remain statistically insignificant in model D, although the main effect for review/audit score approaches significance ($p=0.094$). Furthermore, the interactions of these scores with the age are also non-significant, which in turn implies that COAs with monitoring, review/audit, or weak-investigative authority do not necessarily lead to a reduction (or a change) in HPOs. That monitoring, review/audit, and weak-investigative COAs were found to have less of an impact on HPOs relative to strong-investigative COAs makes sense because the former COAs have a narrower scope of authority as compared to strong-investigative COAs.

**Figure 3-2: Marginal Effect of Investigative COAs on HPOs over Time**

Model estimates for the impact of COAs on the violent crime rate are shown in table 3-4. In the first model (model E), neither the creation indicator ($\beta = -44.09; p=0.468$), nor the age
variable are significant ($\beta = -4.57; p=0.297$), although both coefficients are negative. When we control for the variation in scope of authority (model F), and subsequently add covariates, the coefficient for strong-investigative score is found to be negative and significant ($\beta = -200.46; p=0.035$, model G).

When we interact age with the scope of authority factor scores, the strong-investigative score coefficient remains negative and significant ($\beta = -244.89; p=0.011$), which suggests that a unit increase in strong-investigative score is associated with a reduction of 244.89 in the violent crime rate. The coefficient for the interaction between investigation score and age is not statistically significant, which suggests that COAs with strong-investigative authority are associated with a one-time reduction in the violent crime rate. Figure 3-3 plots the marginal effect of investigative COAs on violent crime over time. This graph shows that while COAs with investigative authority reduce the violent crime rate in the year of creation, their impact dissipates over time (after around 10 years).

Neither the main effects of monitoring, review/audit, and weak-investigative scores nor their interactions with age are significant in models F through H, suggesting that monitoring, review/audit, or weak-investigative authority is not necessarily associated with a change in the violent crime.
Table 3-4: Violent Crime Rate - Model Estimates

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>(E)</th>
<th>(F)</th>
<th>(G)</th>
<th>(H)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Created</td>
<td>-44.09</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>-4.57</td>
<td>-4.35</td>
<td>1.24</td>
<td>13.80</td>
</tr>
<tr>
<td><strong>Scope of Authority</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strong Investigative score</td>
<td>-306.45***</td>
<td>-200.46**</td>
<td>-244.89**</td>
<td></td>
</tr>
<tr>
<td>Monitoring score</td>
<td>-23.73</td>
<td>65.81</td>
<td>71.61</td>
<td></td>
</tr>
<tr>
<td>Review/Audit score</td>
<td>116.24</td>
<td>91.19</td>
<td>116.09</td>
<td></td>
</tr>
<tr>
<td>Weak Investigative Score</td>
<td>-42.45</td>
<td>50.34</td>
<td>124.11</td>
<td></td>
</tr>
<tr>
<td><strong>Scope of Authority Interaction with Age</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strong Investigative Score × Age</td>
<td></td>
<td></td>
<td></td>
<td>4.73</td>
</tr>
<tr>
<td>Monitoring Score × Age</td>
<td></td>
<td></td>
<td></td>
<td>-3.82</td>
</tr>
<tr>
<td>Review/Audit Score × Age</td>
<td></td>
<td></td>
<td></td>
<td>-13.44</td>
</tr>
<tr>
<td>Weak Investigative Score × Age</td>
<td></td>
<td></td>
<td></td>
<td>-9.28</td>
</tr>
<tr>
<td><strong>All Other Covariates Included</strong></td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Year and Jurisdiction-specific Fixed Effects Included</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Standard Errors clustered at Jurisdiction level</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Observations</strong></td>
<td>7,466</td>
<td>7,449</td>
<td>7,404</td>
<td>7,404</td>
</tr>
<tr>
<td><strong>AIC</strong></td>
<td>103,808.1</td>
<td>103,416.8</td>
<td>102,186.8</td>
<td>102,153.1</td>
</tr>
</tbody>
</table>

*p<.1; **p<.05; ***p<.01
**Figure 3-3:** Marginal Effect of Investigative COAs on Violent Crime over Time

**Discussion**

We found that strong-investigative COAs lead to a 10% reduction in HPOs per year and a 21.14%, (=152.8/1158) one-time reduction in the violent crime rate, demonstrating support for both hypothesis 1 and 2. These results suggest that COAs with strong-investigative authority have a protective effect against HPOs as well as violent crime, however, the protective effect against violent crime was found to dissipate over time. While our data cannot tell us why this dissipation occurs, there are a range of plausible explanations. For instance, it could be the case that the strong-investigative COAs in our sample were gradually co-opted by actors opposed to oversight, thereby losing their efficacy over time. It is also possible that violent crime may gradually increase over time as a result of other social forces such as increasing inequality, or an increase in concentrated poverty.
Our findings support the notion in the extant literature that police accountability is associated with an improvement in police and public safety outcomes, echoing the findings of prior studies finding that intra-agency accountability mechanisms lead to reductions in HPOs on police officers (Fridell et al. 2009; Prendergast 2001). It also supports the prior finding that accountability mechanisms decrease violent crime (Stone, Foglesong, and Cole 2009), while contradicting findings which assert that increased oversight leads to an increase in violent crime (see Shi, 2009).

However, our contribution is unique in that we evaluate the impact of COAs, a policy lever whose impact on the above outcomes has not been evaluated in the literature to date. Coupled with the findings in the prior literature that highlight the ameliorative impact of citizen oversight on racial disparities in policing outcomes (Ali and Pirog 2019), our findings imply that COAs do not necessarily entail a trade-off between the effectiveness and fairness of policing outcomes, but can potentially advance both effectiveness and fairness in policing (see National Research Council, 2004). Furthermore, our results also suggest that researchers examining the antecedents of violent crime or HPOs should take into account the existence of a COA as a potential explanatory variable, especially when it has investigative authority.

Our findings mesh well with the findings from the recent study by Ali and Pirog (2019), in which the authors assessed the impact of municipal-level COAs on racial disparities in police homicides of citizens and disorderly conduct arrest rates. While Ali and Pirog found that all COAs (regardless of type) reduce racial disparities between blacks and whites in disorderly conduct arrests, only investigative COAs reduce racial disparities in police homicides of citizens. If investigative COAs are indeed the only types of COAs likely to reduce racial disparities in enforcement actions that span a wide range of discretion, then it is plausible that such COAs
would also be the most likely to enhance citizens’ perceptions of procedural and distributive justice (and thus police legitimacy), and therefore reduce HPOs and violent crime. While we do not observe citizens’ perception of police legitimacy (a limitation of this study – see below) in our survey, our results and review of the prior literature suggest that the linkage between investigative COAs, legitimacy, and HPOs/violent crime is a plausible one. We encourage researchers to scrutinize this potential relationship in future studies, preferably using quasi-experimental designs and longitudinal data.

That we did not find COAs to be associated with an increase in HPOs or violent crime in the preferred specification for either dependent variable is noteworthy. In the aftermath of the string of high-profile police-involved homicides of citizens that occurred across the US between 2014 and 2016\textsuperscript{12}, some commentators had argued that the national conversation about racial discrimination and use of excessive force in policing had gone too far, resulting in widespread anti-police sentiment (see E. Maguire et al., 2016). Some had suggested that this had placed police under heightened levels of public scrutiny, a result of which was that they were now less likely to engage in proactive policing, which in turn was leading to an increase in the violent crime rate (Mac Donald 2015). Some had taken this idea a step further and argued that the fear of being disciplined, prosecuted, sued for the use of excessive force, or losing their jobs, was leading police officers to be more circumspect in using force to defend themselves, potentially putting their own lives at risk. For instance, in the aftermath of the shooting of Michael Brown by a police officer in Ferguson, Missouri, one police chief remarked that “more police officers are being killed, because they are hesitating more before pulling the trigger to defend themselves” (Reese 2014).
While our study did not explicitly test whether violent crime or HPOs increased post-Ferguson, our findings can shed light on the above debate. If police officers were deterred from using defensive force or from proactively engaging with citizens as a result of an accountability-induced fear, then we would potentially have observed an increase in violent crime or HPOs. However, we did not find COAs to be associated with an increase in either of the above outcomes, which in turn suggests that COAs do not deter police officers to such an extent as to lead to an increase in the violent crime rate or HPOs.

Our study also carries implications for the debate on whether more accountability is always suitable for public organizations. Given that most large police agencies have their own internal affairs divisions to investigate allegations of officer misconduct, we did not find the added oversight of police agencies through COAs to compromise policing effectiveness by endangering public or police officer safety. This is at least partly because, as pointed out by prior researchers, the problem of police accountability in the US is likely that of an ‘accountability deficit’ rather an ‘accountability overload.’ As noted by Friedman and Ponomarenko (2015) regarding the United States, “In a nation that prides itself on the rule of law, that glorifies its system of checks and balances, that speaks endlessly of democratic engagement and the popular will, policing is an outlier.” They point out that while the actions of most government agencies are subject to extensive administrative codes, and are vetted through legislative authorization and public rulemaking, policing practices and policies are mostly immune to such regulation. Instead, policing methods are often only subject to ex-post judicial review, which tends to be sporadic and focused on the constitutionality of policing methods (see Harmon, 2012), rather than ensuring that it meets the requisites of democracy – namely transparent, publicly accountable, ex-ante regulation (Friedman and Ponomarenko 2015). Other scholars have noted the various
other ways in which police accountability in the US suffers from a deficit. For instance, police accountability may be limited by elected officials who take a “hands-off” approach towards police agencies because they are often not very knowledgeable about policing matters (S Walker and Archbold 2014), through provisions in police union contracts that allow officers to appeal disciplinary sanctions to an arbitrator selected by the union or the aggrieved officer himself/herself (Rushin 2016), and the fact that officers virtually never bear any personal financial liability towards settlements and judgments in cases brought against them for alleged misconduct (Schwartz 2016).

In view of the above arguments which imply a deficit in police accountability, it appears unlikely that the establishment of COAs would necessarily entail the risks associated with accountability overloads such as demoralization of personnel, or a weakening of public trust. Indeed, it appears that the creation of COAs, if anything, would provide a corrective to the current deficit of accountability that is prevalent across the landscape of policing in the US. This is especially likely given that studies and surveys have consistently found that complainants would have greater confidence in police complaint systems if there were greater external oversight of police (The New York Times 1991; M. Maguire and Corbett 1991; Lersch 1998; Waters and Brown 2000; Weitzer and Tuch 2004). At the very least, our findings suggest that potential impact of accountability on public agency effectiveness varies by context.

Since we found that strong-investigative COAs reduce both violent crime and HPOs, it would be apropos to highlight their characteristics. The factor analysis (see Appendix 3-1) is useful in this regard, as it can help us identify the formal authorities possessed by such agencies. Per this analysis, authorities that loaded heavily onto the strong-investigative factor included the authority to (a) classify the nature of a citizen-initiated complaint, (b) conduct investigations of
citizen complaints independent of the police agency, (c) recommend/issue investigation findings to the police, (d) recommend discipline to officers it found guilty of misconduct, and (e) have paid, full-time staff.

There were sixteen COAs in our sample which had all the authorities mentioned above. These agencies had a median 2016 budget of $999,420, a median full-time staff of 9, compared to a median budget of $112,500 and a median full-time staff of 4 for the sample overall. Thus, it appears that the most effective COAs not only have a broad scope of authority, but they were also likely to have more resources to perform their role relative to the overall sample of COAs.

There are certain limitations of this study that ought to be acknowledged. First, we assumed that COAs’ authorities remain constant over time. This assumption is needed in a fixed-effects research design to rule out the presence of time-varying factors which may be confounded with the treatment. We verified this assumption by examining whether the authorities changed for a random sample of COAs since their inception. To do this, we searched newspaper archives on Lexis-Nexis, to determine whether any of the sampled COAs’ authorities had changed. While we did not find any newspaper reports of changes in the powers of the COAs in our sample, it is possible that there might have been some changes that were not reported in the press. Thus, there is the possibility that the authorities of some COAs might have changed over time, which in turn, might have biased the treatment effect. Similarly, there is the possibility that COAs were introduced alongside other measures intended to curb violent crime or HPOs, at least in some jurisdictions. While the inclusion in our models of an indicator variable for jurisdictions under federal investigation or consent decree allays this concern somewhat, the possibility remains that such time-varying confounders may be present, which may bias the observed treatment effect.
Second, since our study uses a fixed effects design, its results only apply to the jurisdictions that are in the sample (see Rabe-Hesketh & Skrondal, 2012). Our sample consisted of seventy-six treated municipalities which had a COA as well as 141 untreated municipalities which did not have a COA, all of which had a population of 100,000 persons or more in 2010. Other types of COAs, such as those overseeing police agencies in counties, villages, towns, university campuses or transit systems were not included in our analysis. While municipal-level COAs constitute the majority of COAs in the US (De Angelis, Rosenthal, and Buchner 2016), future research should explore the impact of COAs in non-municipal jurisdictions to examine whether the impacts we have observed can be generalized to those jurisdictions as well.

Finally, as alluded to above, while we found investigative COAs to be associated with a reduction in HPOs as well as a reduction in violent crime, we did not empirically test the mechanism through which COAs impact these outcomes. Nevertheless, we suggested a mechanism through which COAs may impact HPOs and violent crime. Specifically, we proposed that, (a) investigative COAs plausibly enhance citizens’ experience of procedural and distributive justice, which improves police legitimacy, and (b) improved police legitimacy reduces citizen aggression towards police, which in turn reduces violent crime and HPOs. Currently, there are no studies that examine this two-pronged relationship. We encourage scholars to examine these relationships in future research.

Conclusion

We started this study with the question of whether COAs lead to an increase in violent crime or HPOs, and whether their impact varies by the type of oversight that the COA conducts. While some prior studies have evaluated the impact of internal police agency accountability procedures or the impact of consent decrees on violent crime rates and HPOs, the issue of
whether COAs impact the above outcomes has not been addressed previously. Other weaknesses of prior studies which have examined the impact of external oversight interventions include the fact that most studies have only focused on a handful of jurisdictions, and sometimes have just focused on one.

Using an analytic sample consisting of municipalities with and without COAs, we found that COAs with investigative authority to be associated with a reduction in the violent crime rate as well as a gradual reduction in HPOs. COAs, regardless of type, were not found to be associated with an increase in HPOs or violent crimes. Our results thus indicate that public administrators (such as city managers, mayor or police chiefs) should consider COAs as a possible approach to improving public and police officer safety in their jurisdiction. If a jurisdiction already has a review/audit, monitoring, or weak-investigative COA, then public administrators should consider enhancing its scope of authority to approximate that of investigative COAs, i.e., those with a substantial scope of monitoring and sanctioning authority, budgetary authority, as well as the appropriate quality and quantity of human resources. Our findings suggest that COAs with a relatively narrow scope of authority might not plausibly increase the public’s perception of police legitimacy to the extent needed to reduce HPOs or violent crime.

Beyond the above findings, our unique contribution to the literature is four-fold. First, we contribute to the emerging literature on the impacts of citizen oversight agencies. While COAs have been functional in the US since at least the late 1960s, currently operating in at least 145 US localities1 with a combined population of 70 million persons, there are very few evaluations of the impacts of COAs in the US (see Ali & Pirog, 2019; S. Walker & Luna, 2000, for
exceptions). Our study contributes towards this literature to foster growth in research on this understudied, yet important, social-equity oriented institution.

Second, the dualistic nature of the goals of policing necessitates that policing interventions be assessed for their capacity to foster constitutional policing, as well as their impact on the capacity of police to fight crime. Given that extant research has found certain types of COAs to be associated with socially equitable outcomes, it is rational for public administrators considering the establishment of a COA to weigh such benefits against potential costs if any, especially those in terms of public and police officer safety. Our findings should thus be of value to public administrators such as mayors, city managers and police chiefs who are interested in weighing the costs of COAs against the benefits identified in prior research.

Third, by focusing on COAs, we are responding to the calls for increased scholarly attention to “front-end” measures intended to enhance civic participation and community-police relations, which in turn have the potential to forestall the growth in incarceration in the US. As noted by the National Research Council (2014) in its report “The Growth of Incarceration in the United States: Causes and Consequences,” too frequently, policymakers and scholars have focused on “back-end” reforms on sentencing and incarceration as strategies for stemming the tide of mass incarceration in the US. While such back-end reforms (see Vansickle & Villa, 2018) have been found to reduce prison populations without compromising public safety (see Bartos and Kubrin, 2018; Kubrin and Seron, 2016; Sundt, Salisbury, and Harmon, 2016), policy interventions such as COAs that forestall entry into the criminal justice system (for example, by reducing arrest rates or the violent crime rate) would be more impactful for enhancing community-police relations as well as staving off the growth in the prison population (National Research Council 2014).
Fourth, we believe this is the first study that examines the impact of COAs on HPOs and violent crime. There has been little theorization or empirical study of whether and how citizen oversight may impact HPOs or violent crime. We address this gap in the literature by suggesting a mechanism through which oversight may impact our outcomes of interest, and empirically tease out the gross impact of COAs on HPOs and violent crime while accounting for variation in the type of citizen oversight, as well as a range of time-varying covariates within the jurisdictions in our sample.

COAs represent an understudied institutional arrangement at the local government level, and despite having continuously existed in the US for at least since the late-1960s, studies of their impact are relatively scarce. They have gained prominence in recent years amidst calls for increased police accountability, amidst a backdrop of several well-publicized incidents involving use of excessive force by officers. Researchers can build upon the current study by examining the topics we have suggested in the discussion above. We urge scholars in public administration to continue research in this neglected, yet important area.

Notes

1. Including counties, municipalities, towns, villages, university campuses and transit systems.

2. This is an estimated count based on corroboration with other researchers of citizen oversight, the National Association for Citizen Oversight of Law Enforcement (NACOLE), and internet searches conducted by the authors. Nonetheless, it is possible that the actual number of COAs is higher, as there might be certain COAs that are not known to the sources we consulted or that had no presence on the internet.

3. When a citizen files a complaint against a police officer with the police agency’s internal affairs division, the complaint might be found upon investigation to have merit. Such complaints are
considered ‘sustained.’ Thus, the percentage of sustained complaints refers to the proportion of complaints filed with internal affairs that are found to have merit. Other complaint dispositions include ‘not sustained,’ or ‘exonerated.’

4. Investigative COAs have a host of other authorities as well. For more details on the authorities wielded by such agencies see Ali and Pirog (2019) or De Angelis, Rosenthal, and Buchner (2016).

5. Aberbach (2001) provides the following definition of oversight in the context of federal agencies, which is instructive for the purpose of our study: Oversight comprises the “review of the action of federal departments, agencies, and commissions, and of the programs and policies they administer, including review that takes place during program and policy implementation as well as afterward.”

6. We define strong-investigative, monitoring and review/audit agencies in the same way Ali & Pirog (2019) have defined investigative, monitoring and review/audit agencies, respectively.

7. The survey was created and administered through the Qualtrics software.

8. More than one survey was sent to those jurisdictions in which the board and the COA are separate entities.

9. A copy of the survey instrument is available with the authors.

10. Names of the municipalities whose COAs responded to our survey have been kept confidential in accordance with Institutional Review Board requirements.

11. The 1980, 1990, 2000 and 2010 values of these variables were obtained from US Census reports, while the values for 2015 were obtained from the ACS 5-year estimates.

12. These homicides included those of Laquan McDonald in Chicago, IL; Akai Gurley in New York City, NY; Walter L. Scott, SC; Freddie Gray in Baltimore, MD; Samuel DuBose in Cincinnati, OH; Philando Castile in Falcon Heights, MN; and Terence Crutcher in Tulsa, OK (Blinder 2017).
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Appendices
Appendix 2-1

The various types of institutional change are described as follows:

Displacement: The lower-left quadrant, displacement, refers to the institutional change that is likely to occur when the political context is conducive, and existing institutions afford agents limited discretion. The source of change is the political context rather than ambiguous existing institutions. If stakeholders in the political environment do not offer sufficient resistance to institutional challengers, then change is most likely to occur due to existing institutions being simply replaced by new institutions.

Conversion: The lower-right quadrant, refers to the type of institutional change that is likely to occur when the political context is conducive, and existing institutions afford agents discretion to reinterpret institutions in a different way. In such a scenario, existing institutions do not change, however, change agents exploit the inherent ambiguity in the meaning of the institutions to enforce them in different ways, which in turn changes institutional outcomes.

Layering: The upper-right quadrant, refers to the institutional change that is likely to occur when veto points are strong, and existing institutions afford agents broad discretion. In this scenario, change may occur in a piecemeal fashion by additions or modifications at the margins of existing institutions. Institutional outcomes change because of interaction between existing institutions and amendments/additions to those institutions.

Drift: In the upper-left quadrant, drift refers to the type of institutional change that is likely to occur when veto points are strong, and existing institutions afford actors little discretion to reinterpret rules. In such a scenario, the formal institution again does not change, but its substantive impact changes due to shifts in the external environment and the failure to update institutions in accordance with changes in the sociopolitical environment.
Appendix 2-2

To determine whether specific COA authorities load on to specific latent factors, we conducted a factor analysis on responses to certain questions in the survey. Our goal was to classify agencies into categories based on the type of authorities they possessed. Varimax rotation was used to determine final factor loadings. We ran the factor analysis on the responses to the following thirteen questions/variables:

(1) Does your agency ever have the authority to:

   i. Classify the nature of a citizen-initiated complaint?

   ii. Review police complaint investigations (e.g., for thoroughness, completeness, accuracy)?

   iii. Conduct investigations that are independent of the police?

   iv. Audit and/or monitor police complaint investigations for compliance with investigative standards?

    v. Send complaint investigations back to the police for further investigation?

   vi. Recommend and/or issue investigation findings to the police?

   vii. Recommend discipline?

   viii. Evaluate and/or recommend changes in police policies, procedures, training, and/or management practice?

   ix. Analyze data to identify trends and patterns in police misconduct?

    x. Access closed internal affairs police files?

   xi. Access ALL internal affairs police files?

   xii. Access internal affairs electronic databases?
(2) A recoded indicator that equaled one if a respondent reported that the COA had at least one paid full-time employee, and zero otherwise.

Table A2.1 and A2.2 show the output obtained of the factor analysis procedure. We retained the first three factors as their eigenvalues are greater than 1, and they cumulatively explain 92% of the variation in the thirteen variables. The output shows that the above authorities load on to the following three factors:

a. Factor 1: Classify citizen-initiated complaints (factor loading=0.76), conduct investigations that are independent of the police (0.69), recommend and/or issue investigation findings to the police (0.55), recommend discipline (0.46), and the indicator for paid, full-time staff (0.54).

b. Factor 2: Audit/monitor police complaint investigations for compliance with investigative standards (0.26), analyze data on trends and patterns in police misconduct (0.26), access all internal affairs files (0.74), access closed internal affairs files (0.45), access internal affairs electronic databases (0.69), evaluate and/or recommend changes in police policies (0.38), and the indicator for full-time paid staff (0.30).

c. Factor 3: Review police complaint investigations (0.63), audit/monitor police complaint investigations for compliance with investigative standards (0.66), access closed internal affairs files (0.52).

Based on our reading of the literature, especially Angelis, Rosenthal, and Buchner (De Angelis, Rosenthal, and Buchner 2016), the first factor appears to be a typical representation of an investigative COA, while the second and third factors appear to be consistent with monitoring and review/audit COA. Thus, we named the latent factors for the authorities which seemed to load onto them. We then predicted the factor scores for the above three factors using all variables, except for
the ability to recommend discipline, and the ability to evaluate and/or recommend changes in police policies, procedures, training, and/or management practice. We did not use the above two variables while predicting the factors scores because these variables comprise agency teeth, whose impact we wanted to test separately.

The predicted factor scores for each agency, thus represent an index that denotes the extent to which it emphasizes an investigatory, monitoring, or review/audit focused approach towards police oversight. These predicted factors scores were used in the regression models as independent variables.
Table A2.1 Factor Analysis
Method: Principal Factors

Number of obs: 80
Retained Factors 8
Number of parameters 76

<table>
<thead>
<tr>
<th>Factor</th>
<th>Variance</th>
<th>Difference</th>
<th>Proportion</th>
<th>Cumulative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor 1</td>
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<td>.32</td>
<td>.37</td>
<td>.37</td>
</tr>
<tr>
<td>Factor 2</td>
<td>1.72</td>
<td>.42</td>
<td>.31</td>
<td>.69</td>
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<tr>
<td>Factor 3</td>
<td>1.30</td>
<td>.57</td>
<td>.24</td>
<td>.92</td>
</tr>
<tr>
<td>Factor 4</td>
<td>.73</td>
<td>.40</td>
<td>.13</td>
<td>1.06</td>
</tr>
<tr>
<td>Factor 5</td>
<td>.33</td>
<td>.16</td>
<td>.06</td>
<td>1.12</td>
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<tr>
<td>Factor 6</td>
<td>.17</td>
<td>.06</td>
<td>.03</td>
<td>1.15</td>
</tr>
<tr>
<td>Factor 7</td>
<td>.10</td>
<td>.03</td>
<td>.02</td>
<td>1.17</td>
</tr>
<tr>
<td>Factor 8</td>
<td>.07</td>
<td></td>
<td>.01</td>
<td>1.18</td>
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</table>

LR Test: independent vs. saturated: Chi-squared(78)=320.93  Prob>Chi-squared=.0000
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<thead>
<tr>
<th>Variable</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
<th>Factor 4</th>
<th>Factor 5</th>
<th>Factor 6</th>
<th>Factor 7</th>
<th>Factor 8</th>
<th>Uniqueness</th>
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<tr>
<td>Classify citizen-initiated complaints</td>
<td>.76</td>
<td>.05</td>
<td>.02</td>
<td>.10</td>
<td>.02</td>
<td>-.04</td>
<td>-.02</td>
<td>-.06</td>
<td>.40</td>
</tr>
<tr>
<td>Review police complaint investigations</td>
<td>-.05</td>
<td>.08</td>
<td>.63</td>
<td>-.02</td>
<td>.18</td>
<td>-.02</td>
<td>-.02</td>
<td>-.06</td>
<td>.55</td>
</tr>
<tr>
<td>Conduct investigations that are independent of police</td>
<td>.69</td>
<td>.18</td>
<td>.08</td>
<td>.18</td>
<td>-.13</td>
<td>.08</td>
<td>-.07</td>
<td>.16</td>
<td>.40</td>
</tr>
<tr>
<td>Audit/monitor police complaint investigations for compliance with investigative standards</td>
<td>.10</td>
<td>.26</td>
<td>.66</td>
<td>.21</td>
<td>-.05</td>
<td>.03</td>
<td>.06</td>
<td>.06</td>
<td>.44</td>
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<tr>
<td>Send complaint investigations back to the police for further investigation</td>
<td>-.01</td>
<td>.13</td>
<td>.23</td>
<td>-.04</td>
<td>.42</td>
<td>-.01</td>
<td>.00</td>
<td>-.01</td>
<td>.75</td>
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<tr>
<td>Recommend and/or issue investigation findings to the police</td>
<td>.55</td>
<td>.07</td>
<td>-.05</td>
<td>-.01</td>
<td>.27</td>
<td>.03</td>
<td>.23</td>
<td>-.02</td>
<td>.56</td>
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<tr>
<td>Analyze data on trends and patterns in police misconduct</td>
<td>.27</td>
<td>.26</td>
<td>.13</td>
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<td>.01</td>
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<td>.04</td>
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<td>Access closed IA files</td>
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<td>-.06</td>
<td>.12</td>
<td>-.12</td>
<td>-.00</td>
<td>.47</td>
</tr>
<tr>
<td>Access IA electronic databases</td>
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<td>.69</td>
<td>.14</td>
<td>.16</td>
<td>.07</td>
<td>-.04</td>
<td>.09</td>
<td>.11</td>
<td>.41</td>
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<tr>
<td>Evaluate and/or recommend changes in police policies, procedures, training and/or management practices</td>
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<td>.38</td>
<td>.22</td>
<td>.12</td>
<td>.04</td>
<td>.29</td>
<td>-.02</td>
<td>.02</td>
<td>.69</td>
</tr>
<tr>
<td>Recommend discipline</td>
<td>.46</td>
<td>.24</td>
<td>.10</td>
<td>-.21</td>
<td>-.09</td>
<td>.23</td>
<td>.09</td>
<td>-.02</td>
<td>.61</td>
</tr>
<tr>
<td>Indicator for paid full-time staff</td>
<td>.54</td>
<td>.30</td>
<td>.12</td>
<td>.43</td>
<td>.09</td>
<td>.01</td>
<td>.08</td>
<td>-.13</td>
<td>.39</td>
</tr>
</tbody>
</table>
Appendix 2-3

To test whether cities established COAs in response to sudden spikes in the dependent variables, we regressed equation (1), but instead of study variables of interest, we included a series of four indicator variables that indicated the time distance from the year in which the COA was created. None of the time leads were significant at the 5% level in the regression for either dependent variable. However, the one-period time lead was negative and significant at 10% in the equation for racial disparity in DCA. However, significance tests to check whether the time leads were simultaneously different from zero failed to reject the null that the time leads were simultaneously equal to zero ($p=0.218$ for the disparity in DCA, and $p=0.731$ for the disparity in PHC). This suggests that, on average, jurisdictions did not self-select into establishing COAs due to a sudden change in the outcomes of interest for this study. Estimates from these models are shown below.
### Table A3.1  Test for Relationship between Time Distance of COA Creation and Racial disparity in Disorderly Conduct Arrests and Police Homicides of Citizens

<table>
<thead>
<tr>
<th>Time Distance Dummies</th>
<th>Black-White Disparity in Disorderly Conduct Arrest Rate</th>
<th>Black-White Disparity in Police Homicide Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>$T$ minus 1</td>
<td>-193.44*</td>
<td>-1.10</td>
</tr>
<tr>
<td>$T$ minus 2</td>
<td>-127.53</td>
<td>-.63</td>
</tr>
<tr>
<td>$T$ minus 3</td>
<td>-2.84</td>
<td>-1.06</td>
</tr>
<tr>
<td>$T$ minus 4</td>
<td>-29.86</td>
<td>-.16</td>
</tr>
<tr>
<td>Percent Population Black</td>
<td>-7.99</td>
<td>-0.15</td>
</tr>
<tr>
<td>Per Capita Income</td>
<td>-0.01</td>
<td>-0.0004</td>
</tr>
<tr>
<td>Unemployment</td>
<td>-37.40*</td>
<td>-0.05</td>
</tr>
<tr>
<td>Percentage 25+ w/ Bachelors Degree</td>
<td>-32.35</td>
<td>-0.11</td>
</tr>
<tr>
<td>Violent Crime Rate</td>
<td>0.08</td>
<td>.001</td>
</tr>
<tr>
<td>Investigation or Oversight Decree</td>
<td>-213.89</td>
<td>15.27***</td>
</tr>
<tr>
<td>Black White Disparity in DCA</td>
<td></td>
<td>-.0009</td>
</tr>
<tr>
<td>Year and Jurisdiction-specific Fixed Effects</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Standard errors clustered at Jurisdiction level</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

$N = 1,636$  $117$

$^*p<.15; *p<.1; **p<.05; ***p<.01$
Appendix 2-4

We attempted to verify the fundamental identifying assumption of a fixed effects design, per which pre-treatment trends (in the dependent variables) in municipalities that established a COA should be the same as the pre-treatment trends in cities that did not establish a COA. While the pre-treatment trends in DCA were different for treated and untreated cities in six out of thirty-five years, a joint test comparing pre-treatment trends of treated and untreated cities found that trends in racial disparity in DCAs were statistically indistinguishable ($p=0.204$). Regarding PHCs, we found that trends were statistically indistinguishable in treated and untreated cities in fourteen out of fifteen years at the 10% significance level, which is lower than what would be expected by chance alone. Overall, the above two tests indicate that there is little or no self-selection into the creation of COAs. Estimates from these models are shown below.
<table>
<thead>
<tr>
<th>Treatment Dummy-Year interaction</th>
<th>Black-White Disparity in Disorderly Conduct Arrests</th>
<th>Black-White Disparity in Police Homicide Rate</th>
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</thead>
<tbody>
<tr>
<td>Treated × 1980</td>
<td>9.28</td>
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<td>Treated × 1981</td>
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<tr>
<td>Treated × 1982</td>
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<tr>
<td>Treated × 1983</td>
<td>-29.43</td>
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<tr>
<td>Treated × 1984</td>
<td>-15.71</td>
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<td>Treated × 1985</td>
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<td>Treated × 1987</td>
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<td>Treated × 1988</td>
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<td>Treated × 1989</td>
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<td>Treated × 2001</td>
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<tr>
<td>Treated × 2002</td>
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<td>Treated × 2003</td>
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<td>Treated × 2004</td>
<td>654.24**</td>
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<td>Treated × 2005</td>
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<td>Treated × 2006</td>
<td>310.66</td>
<td>-1.40</td>
</tr>
<tr>
<td>Treated × 2007</td>
<td>221.32</td>
<td>-1.97</td>
</tr>
<tr>
<td>Treated × 2008</td>
<td>705.60</td>
<td>.74</td>
</tr>
<tr>
<td>Treated × 2009</td>
<td>563.31</td>
<td>-2.45*</td>
</tr>
<tr>
<td>Treatment × Year</td>
<td>Estimate</td>
<td>Standard Error</td>
</tr>
<tr>
<td>-----------------</td>
<td>----------</td>
<td>----------------</td>
</tr>
<tr>
<td>Treated × 2010</td>
<td>448.53*</td>
<td>-1.25</td>
</tr>
<tr>
<td>Treated × 2011</td>
<td>379.99*</td>
<td>-.06</td>
</tr>
<tr>
<td>Treated × 2012</td>
<td>495.49*</td>
<td>-.70</td>
</tr>
<tr>
<td>Treated × 2013</td>
<td>466.38</td>
<td>-.13</td>
</tr>
<tr>
<td>Treated × 2014</td>
<td>827.94</td>
<td>.73</td>
</tr>
</tbody>
</table>

Black White Disparity in DCA: -.0004

All Covariates Included: Yes
Year and Jurisdiction-specific Fixed Effects: Yes
Standard errors clustered at Jurisdiction level: Yes

$N$ | 6,111 | 2,112

$^p<.15; *p<.1; **p<.05; ***p<.01$
Appendix 3-1

To determine whether specific COA authorities load on to certain latent factors, we conducted a factor analysis using the tetrachoric correlations between the responses to certain questions in the survey. Our goal was to classify agencies into categories based on the type of authorities they possessed. Varimax rotation was used to determine final factor loadings. We ran the factor analysis on the tetrachoric correlations between the following thirteen questions/variables:

(3) Does your agency ever have the authority to:

i. Classify the nature of a citizen-initiated complaint?

ii. Review police complaint investigations (e.g., for thoroughness, completeness, accuracy)?

iii. Conduct investigations that are independent of the police?

iv. Audit and/or monitor police complaint investigations for compliance with investigative standards?

v. Send complaint investigations back to the police for further investigation?

vi. Recommend and/or issue investigation findings to the police?

vii. Recommend discipline?

viii. Evaluate and/or recommend changes in police policies, procedures, training, and/or management practice?

ix. Analyze data to identify trends and patterns in police misconduct?

x. Access closed IA police files?

xi. Access ALL IA police files?

xii. Access IA electronic databases?
(4) A recoded indicator variable that equaled one if a respondent reported that the COA had at least one paid full-time employee, and zero otherwise.

Table A1.1 and A1.2 show the output obtained of the factor analysis procedure. We retained the first four factors as their eigenvalues are greater than 1, and they cumulatively explain 83% of the variation in the thirteen variables. The output shows that the above authorities load on to the following four factors:

d. Factor 1: Audit/monitor police complaint investigations for compliance with investigative standards (0.31), analyze data on trends and patterns in police misconduct (0.48), access all IA files (0.93), access closed IA files (0.71), access IA electronic databases (0.89), evaluate and/or recommend changes in police policies (0.95), recommend discipline (0.52), and the indicator for full-time paid staff (0.41).

e. Factor 2: Classify citizen-initiated complaints (factor loading=0.93), conduct investigations that are independent of the police (0.83), recommend and/or issue investigation findings to the police (0.91), recommend discipline (0.55), and indicator for the paid, full-time staff (0.52).

f. Factor 3: Review police complaint investigations (0.97), audit/monitor police complaint investigations for compliance with investigative standards (0.83), send complaint investigations back to the police for further investigation (0.51), analyze data on trends and patterns in police misconduct (0.31), and access closed IA files (0.45).

g. Factor 4: Conduct investigations that are independent of the police (0.35), analyze data on trends and patterns in police misconduct (0.60), and the indicator for full-time paid staff (0.60).
Based on our reading of the literature, especially De Angelis et al., (2016) the first factor appears to be a typical representation of a monitoring COA, while the second and third factors appear to be consistent with strong investigative, and review/audit COAs. The fourth factor is consistent with a weak investigative COA – this is because unlike strong investigative agencies (represented by factor 2), weak investigative agencies are not likely to have the authority to classify citizen-initiated complaints, recommend and/or issue investigation findings to the police, or recommend discipline to officers found guilty of misconduct.

Thus, we named the latent factors for the authorities which seemed to load onto them. We then predicted the factor scores for the above four factors using all thirteen variables. The predicted factor scores for each agency, thus represent an index that denotes the extent to which it emphasizes a strong investigative, monitoring, review/audit, or weak investigative approach towards police oversight. These predicted factors scores were used in the regression models as independent variables.
Table A1.1 Factor Analysis

Method: Principal Factors

<table>
<thead>
<tr>
<th>Factor</th>
<th>Eigenvalue</th>
<th>Difference</th>
<th>Proportion</th>
<th>Cumulative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor 1</td>
<td>5.65</td>
<td>3.23</td>
<td>.44</td>
<td>.44</td>
</tr>
<tr>
<td>Factor 2</td>
<td>2.42</td>
<td>.92</td>
<td>.19</td>
<td>.62</td>
</tr>
<tr>
<td>Factor 3</td>
<td>1.50</td>
<td>.23</td>
<td>.12</td>
<td>.74</td>
</tr>
<tr>
<td>Factor 4</td>
<td>1.27</td>
<td>.45</td>
<td>.10</td>
<td>.83</td>
</tr>
<tr>
<td>Factor 5</td>
<td>.82</td>
<td>.36</td>
<td>.06</td>
<td>.89</td>
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<td>Factor 6</td>
<td>.47</td>
<td>.10</td>
<td>.04</td>
<td>.93</td>
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<td>Factor 7</td>
<td>.37</td>
<td>.17</td>
<td>.03</td>
<td>.96</td>
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<td>Factor 8</td>
<td>.20</td>
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<td>.02</td>
<td>.97</td>
</tr>
<tr>
<td>Factor 9</td>
<td>.18</td>
<td>.09</td>
<td>.01</td>
<td>.99</td>
</tr>
<tr>
<td>Factor 10</td>
<td>.10</td>
<td>.09</td>
<td>.01</td>
<td>1.00</td>
</tr>
<tr>
<td>Factor 11</td>
<td>.00</td>
<td>.00</td>
<td>.00</td>
<td>1.00</td>
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<tr>
<td>Factor 12</td>
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<td>.00</td>
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</tr>
<tr>
<td>Factor 13</td>
<td>.00</td>
<td>.00</td>
<td>.00</td>
<td>1.15</td>
</tr>
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</table>

LR Test: independent vs. saturated: Chi-squared(78)=8682.13  Prob>Chi-squared=.0000
<table>
<thead>
<tr>
<th>Variable</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
<th>Factor 4</th>
<th>Uniqueness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classify citizen-initiated complaints</td>
<td>-.09</td>
<td>.93</td>
<td>.01</td>
<td>.15</td>
<td>.11</td>
</tr>
<tr>
<td>Review police complaint investigations</td>
<td>.11</td>
<td>-.09</td>
<td>.97</td>
<td>-.07</td>
<td>.03</td>
</tr>
<tr>
<td>Conduct investigations that are independent of police</td>
<td>.28</td>
<td>.83</td>
<td>.03</td>
<td>.35</td>
<td>.11</td>
</tr>
<tr>
<td>Audit/monitor police complaint investigations for compliance with investigative standards</td>
<td>.31</td>
<td>.16</td>
<td>.83</td>
<td>.23</td>
<td>.13</td>
</tr>
<tr>
<td>Send complaint investigations back to the police for further investigation</td>
<td>.21</td>
<td>.17</td>
<td>.51</td>
<td>-.62</td>
<td>.29</td>
</tr>
<tr>
<td>Recommend and/or issue investigation findings to the police</td>
<td>.13</td>
<td>.91</td>
<td>.04</td>
<td>-.23</td>
<td>.11</td>
</tr>
<tr>
<td>Analyze data on trends and patterns in police misconduct</td>
<td>.48</td>
<td>.19</td>
<td>.31</td>
<td>.60</td>
<td>.27</td>
</tr>
<tr>
<td>Access all IA files</td>
<td>.93</td>
<td>.08</td>
<td>.19</td>
<td>.02</td>
<td>.09</td>
</tr>
<tr>
<td>Access closed IA files</td>
<td>.71</td>
<td>.18</td>
<td>.45</td>
<td>.02</td>
<td>.26</td>
</tr>
<tr>
<td>Access IA electronic databases</td>
<td>.89</td>
<td>.09</td>
<td>.13</td>
<td>.04</td>
<td>.19</td>
</tr>
<tr>
<td>Evaluate and/or recommend changes in police policies, procedures, training and/or management practices</td>
<td>.95</td>
<td>.08</td>
<td>.19</td>
<td>.16</td>
<td>.05</td>
</tr>
<tr>
<td>Recommend discipline</td>
<td>.52</td>
<td>.55</td>
<td>-.05</td>
<td>-.30</td>
<td>.33</td>
</tr>
<tr>
<td>Indicator for paid full-time staff</td>
<td>.41</td>
<td>.52</td>
<td>.12</td>
<td>.60</td>
<td>.17</td>
</tr>
</tbody>
</table>
Appendix 3-2

We verified the fundamental identifying assumption of a fixed effects design, per which pre-treatment trends (in the dependent variables) in municipalities that established a COA should be the same as the pre-treatment trends in municipalities that did not establish a COA. This test was done by using only pre-treatment observations and regressing each dependent variable on treatment and year indicator variables, a full set of controls, and interaction terms of the treatment and year indicators. The significance of a given interaction term indicated whether the pre-treatment trend for the treated municipalities (that is, municipalities with a COA) was different from that of the untreated municipalities in a given year. Estimates from these models are shown in table A2.1 and A2.2 below.

The pre-treatment trends in HPOs were statistically indistinguishable (at 5% level) in treated and untreated municipalities in thirty-three out of thirty-five years. This in turn suggests that, on average, treated and untreated municipalities shared a common trend vis-à-vis HPOs.

Regarding violent crime, while pre-treatment trends were the same in treated and untreated municipalities in only twenty-six out of thirty-five years, a joint test comparing pre-treatment trends of treated and untreated cities found that overall trends in violent crime were statistically indistinguishable between the two categories ($p=0.0791$). Thus, overall, the above two tests indicate that there is little or no self-selection into the creation of COAs.
<table>
<thead>
<tr>
<th>Treatment Dummy-Year interaction</th>
<th>HPOs</th>
<th>Violent Crime Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treated × 1982</td>
<td>0.80</td>
<td>20.90</td>
</tr>
<tr>
<td>Treated × 1983</td>
<td>0.70</td>
<td>37.80</td>
</tr>
<tr>
<td>Treated × 1984</td>
<td>-0.58</td>
<td>61.65</td>
</tr>
<tr>
<td>Treated × 1985</td>
<td>0.05</td>
<td>50.60</td>
</tr>
<tr>
<td>Treated × 1986</td>
<td>-0.57</td>
<td>61.73</td>
</tr>
<tr>
<td>Treated × 1987</td>
<td>-0.66</td>
<td>67.47</td>
</tr>
<tr>
<td>Treated × 1988</td>
<td>0.28</td>
<td>89.90</td>
</tr>
<tr>
<td>Treated × 1989</td>
<td>-0.72</td>
<td>170.46*</td>
</tr>
<tr>
<td>Treated × 1990</td>
<td>1.20</td>
<td>263.51**</td>
</tr>
<tr>
<td>Treated × 1991</td>
<td>-0.78</td>
<td>261.33**</td>
</tr>
<tr>
<td>Treated × 1992</td>
<td>-0.74</td>
<td>294.13**</td>
</tr>
<tr>
<td>Treated × 1993</td>
<td>-1.72**</td>
<td>285.14**</td>
</tr>
<tr>
<td>Treated × 1994</td>
<td>-0.58</td>
<td>264.36**</td>
</tr>
<tr>
<td>Treated × 1995</td>
<td>1.38</td>
<td>287.10**</td>
</tr>
<tr>
<td>Treated × 1996</td>
<td>0.43</td>
<td>279.64**</td>
</tr>
<tr>
<td>Treated × 1997</td>
<td>-0.74</td>
<td>247.96**</td>
</tr>
<tr>
<td>Treated × 1998</td>
<td>0.13</td>
<td>220.74**</td>
</tr>
<tr>
<td>Treated × 1999</td>
<td>13.59***</td>
<td>167.36</td>
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<tr>
<td>Treated × 2000</td>
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<td>180.75*</td>
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<tr>
<td>Treated × 2001</td>
<td>-0.93</td>
<td>185.52*</td>
</tr>
<tr>
<td>Treated × 2002</td>
<td>-0.50</td>
<td>161.30</td>
</tr>
<tr>
<td>Treated × 2003</td>
<td>0.45</td>
<td>153.67</td>
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<tr>
<td>Treated × 2004</td>
<td>-0.99</td>
<td>141.97</td>
</tr>
<tr>
<td>Treated × 2005</td>
<td>-0.91</td>
<td>162.18</td>
</tr>
<tr>
<td>Treated × 2006</td>
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<td>177.83*</td>
</tr>
<tr>
<td>Treated × 2007</td>
<td>-0.29</td>
<td>185.90*</td>
</tr>
<tr>
<td>Treated × 2008</td>
<td>0.83</td>
<td>169.64*</td>
</tr>
<tr>
<td>Treated × 2009</td>
<td>-0.23</td>
<td>157.46</td>
</tr>
<tr>
<td>Treated × 2010</td>
<td>-0.28</td>
<td>141.99</td>
</tr>
<tr>
<td></td>
<td>2011</td>
<td>2012</td>
</tr>
<tr>
<td>----------------------</td>
<td>---------</td>
<td>---------</td>
</tr>
<tr>
<td>Treated ×</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>-0.44</td>
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</tr>
<tr>
<td>2012</td>
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</tr>
<tr>
<td>2013</td>
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<td>2014</td>
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<td></td>
</tr>
<tr>
<td>2015</td>
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All Covariates Included: Yes  Yes
Year and Jurisdiction-specific Fixed Effects: Yes  Yes
Exposure Variable Included: Yes  N/A
Standard errors clustered at Jurisdiction level: Yes  Yes

<p>| | | |</p>
<table>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>4,295</td>
<td>7,421</td>
</tr>
</tbody>
</table>

| AIC | 2,361.10 | 102,454.30 |

*p<.1; **p<.05; ***p<.01
Mir Usman Ali

Office
PV 412, O’Neill School of Public and Environmental Affairs
Indiana University
1315 E. Tenth Street
Bloomington, IN 47405

Email: miruali@indiana.edu
LinkedIn: https://www.linkedin.com/in/mir-usman-ali-57b73425/

CURRENT APPOINTMENT

Visiting Assistant Professor, Paul O’Neill School of Public and Environmental Affairs, Indiana University Bloomington, August 2019-present

EDUCATION

Ph.D., Public Affairs, Indiana University Bloomington, July 2019

M.S., Statistics, Texas A&M University, 2009

M.B.A., Finance, Institute of Business Administration, Karachi, 2005

B.B.A., Finance, Institute of Business Administration, Karachi, 2003

PUBLICATIONS

Published


Manuscripts under Review


Selected Works in Progress

Ali, M. U. Are Racially Representative Citizen Oversight Agencies More Effective in Reducing Racial Disparities in Law Enforcement?

Ali, M. U. Do Citizen Protests Against Police Lead to a Ferguson Effect on Violent Crime and Homicides of Police Officers?

Ali, M. U. Does Militarization Increase Racial Disparity in Police Homicides of Citizens?

Ali, M. U. Do Board Member Attributes and Transparency of Citizen Oversight Impact Equity of Policing Outcomes?

AWARDS AND HONORS

2019 Horowitz Foundation Scholarship for Social Policy Research
2018 Santosh Jain Endowed Memorial Scholarship, Indiana University
2018 Outstanding Teaching Award, School of Public and Environmental Affairs, Indiana University
2017 President’s Scholarship, National Association for Civilian Oversight of Law Enforcement (NACOLE)
2013 Best Paper Award in Policy Analysis and Management, Association of SPEA PhD Student Conference
2011 Fellowship and Tuition Remission, Ph.D. Program, School of Public and Environmental Affairs, Indiana University Bloomington
2007 Fulbright Scholarship, Texas A&M University, College Station

SELECTED CONFERENCE ACTIVITY

Papers Presented

2019 (1) Social Accountability and Institutional Change: The Case of Citizen Oversight of Police (2) Citizen Oversight Agencies and the “Ferguson Effect:” Exploring the Impact of Police Accountability, Social Equity Leadership Conference, Rutgers University, Newark.

2019 Citizen Oversight Agencies and the “Ferguson Effect:” Exploring the Impact of Police Accountability, Midwest Political Science Association Conference.

2019 Citizen Oversight Agencies and the “Ferguson Effect:” Exploring the Impact of Police Accountability, Association of SPEA Ph.D. Student Conference.

2018 Social Accountability and Institutional Change: The Case of Citizen Oversight of Police, Association for Public Policy Analysis and Management.
RESEARCH EXPERIENCE

Research Assistant, School of Public and Environmental Affairs, Indiana University, 2011-2013

TEACHING EXPERIENCE

Indiana University Bloomington

Associate Instructor, Research Methods and Statistical Techniques (Fall 2013-present)

DEPARTMENTAL TALKS

Indiana University Bloomington

Intersection of Race and Policing, Case Studies for Policy Analysis course (Fall 2017 through Spring 2018)

Impact of Gun Control Policy on Electoral Politics, Case Studies for Policy Analysis course (Spring 2018)

SERVICE

Secretary, Association of SPEA Ph.D. Students 2012-13

COMMUNITY INVOLVEMENT

Volunteer at Community Kitchen of Monroe County, Bloomington, Indiana

Volunteer in ‘Feeding the Homeless’ Drive, Islamic Center of Bloomington, Bloomington, Indiana

Mentor for underprivileged school children as part of ‘Rahbar’ program, The Citizens Foundation of Pakistan (a non-governmental, non-profit organization), Karachi, Pakistan
RELATED PROFESSIONAL SKILLS

Proficient in Stata, SAS, JMP, R, Microsoft Office, Qualtrics.

PROFESSIONAL EXPERIENCE

Graduate Assistant, Program Evaluation, Center of Excellence for Women in Technology (CEWiT), Indiana University, 2017

Senior Manager, IGI Insurance, Pakistan, 2011

Senior Research Analyst, Marketing, Aga Khan University Hospital (AKUH), Pakistan, 2010-2011

Student Consultant, Statistics Helpdesk, Texas A&M University, 2009

Senior Officer, Corporate Planning, Pakistan State Oil Company, Pakistan, 2006-2007

RESEARCH INTERESTS

Public Management, Social Equity, Social Accountability, Gradual Institutional Change, Race and Ethnic Politics, Criminal Justice Policy

TEACHING INTERESTS

Research Methods and Statistical Techniques, Case Studies in Policy Analysis, Social Equity Theory and Practice, Introduction to Public Administration, Program Evaluation, Public Management and Organizational Change

LANGUAGES

English  Reading: Fluent, Speaking: Fluent, Writing: Fluent

Urdu  Reading: Native, Speaking: Native, Writing: Native
PROFESSIONAL MEMBERSHIPS

Academy of Management
American Society for Public Administration
American Political Science Association
Association for Public Policy Analysis and Management
Midwest Political Science Association
National Association for Civilian Oversight of Law Enforcement