# REPRESENTATION IN THE FOURTH BRANCH OF GOVERNMENT: A CLOSER LOOK AT THE LINK BETWEEN EMPLOYEE DEMOGRAPHICS AND CLIENT OUTCOMES

A Dissertation

by

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# ABSTRACT

Bureaucrats play a major part in implementing government programs and—ultimately—take on a policy making role in many contexts given the broad discretion bureaucrats often have as they go about their work. Representative bureaucracy theory suggests that unelected bureaucrats can serve as representatives of members of the public as they go about making policy by virtue of having shared demographic characteristics with some members of the public. Focusing mainly on the demographic characteristic of race, I consider various ways in which the demographic makeup of a bureaucracy might influence the extent to which that bureaucracy advances the interests of various segments of the public.

After providing a theoretical framework, I conduct a series of empirical tests using large datasets of public organizations. Consistent with prior work, I generally find that clients of a particular race experience better outcomes when they are served by a bureaucracy that has more personnel who share their race. I also uncover several more novel findings. First, I measure two sets of bureaucratic values (representative role acceptance and general political ideology) and find that for the most part, differences in these values do not explain why bureaucracies with different racial compositions function differently. Second, I examine an example where the racial composition of a bureaucracy does not generally appear to affect bureaucratic outcomes and then find that effects do appear when bureaucratic clients have widely diverging service demands. Third, I find some evidence that differences in outcomes associated with bureaucratic

racial composition are not fully explained by individual-level differences in bureaucratic behavior or client responses that fall along racial lines; instead, the racial composition of a bureaucracy appears to be related to bigger, organizational-level attributes of a bureaucracy. Fourth, minority bureaucrats appear to mostly benefit bureaucratic clients of their own race, with benefits not generally extending to clients belonging to other minority racial group. Taken as a whole, these results suggest the need for representative bureaucracy theory scholars to more carefully examine organizational context, bureaucratic values, and the tradeoffs inherent in bureaucratic decision-making.

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# CHAPTER I

# INTRODUCTION

Representation stands as one of the most important concepts within the field of political science. It plays a central part in many understandings of democracy and of government accountability. Political scientists have primarily discussed representation within the context of elections and elected officials, but the concept has also been used to describe processes associated with policy decisions made by unelected officials. Since the bureaucracy plays a key role as the fourth branch of government in many policy arenas, it is crucial for political scientists to form a nuanced and careful understanding of how unelected officials fit into our conceptions of democracy. This dissertation will focus on the topic of representation within the bureaucracy.

## Bureaucracy and Democracy

The issue of unelected officials making important decisions within democratic governments has been approached from two broad perspectives. The first perspective assumes that bureaucracies uphold democratic norms when they enact policy that is consistent with the wishes of elected officials. Within this broad perspective, two specific approaches can be found. First, conformity of bureaucratic actions to elected officials' preferences might occur because of voluntary deference by members of the bureaucracy to elected officials, perhaps as a result of bureaucratic norms reflecting Finer's (1941) articulation of administrative responsibility. Alternatively, bureaucracies

might enact policies that elected officials desire because elected officials hold power allowing them to effectively control the bureaucracy in some measure. This latter possibility is the central focus of the bureaucratic control literature (Balla 1998; Chaney and Saltzstein 1998; McCubbins, Noll, and Weingast 1987; 1989; Wood and Waterman 1993). Whether examined through the lens of voluntary submission or top-down control, works adopting this first broad perspective often emphasize (sometimes implicitly) bureaucratic alignment with elected officials' preferences as a means of furthering democratic ideals (although Wood and Waterman [1993] acknowledge that elected officials can sometimes direct bureaucracies to act in a manner that is inconsistent with the will of the electorate).

A second and smaller strand of scholarship adopts a perspective which assumes that bureaucracies can carry out policy decisions that are consistent with democratic norms independent of submission to elected officials (see Gruber 1987). A policy created by unelected officials might derive a democratic character from a bureaucracy's direct responsiveness to public policy preferences, as through the use of participatory budgeting or citizen surveys (Miller, Kobayashi, and Hayden 2009). Alternatively, some have argued that it is possible for unelected bureaucrats to serve a representative role. Scholars grappling with the latter possibility developed representative bureaucracy theory, which constitutes the topic of this dissertation.

Representative bureaucracy theory began with a set of largely normative writings discussing the demographic makeup of the bureaucracy and considering its implications (Krislov 1974; Long 1952; Mosher [1968] 1982). In their normative arguments,

empirical assumptions were sometimes made, such as the assumption that bureaucrats are demographically reflective (to some extent) of the broader public and that among bureaucrats, demographic characteristics are associated with distinct sets of values which influence how bureaucrats go about their jobs. Empirical scholars began testing some of these assumptions (Meier 1975; Meier and Nigro 1976; Meier and Stewart 1992), and eventually a large literature emerged out of studying the demographic composition of government bureaucracies, including implications for serving the interests of different demographic groups in society (see Kennedy 2014).

A rather large set of studies now demonstrate that the demographic makeup of a bureaucracy can affect outcomes for clients in a variety of settings. Often (but not always), clients enjoy greater benefits when there are more bureaucrats who share a demographic characteristic with them (Andrews, Ashworth, and Meier 2014; Keiser et al. 2002; Meier, Wrinkle, and Polinard 1999; Selden 1997; Roch and Pitts 2012; Wilkins and Keiser 2006; Wilkins and Williams 2008). Despite the large number of studies reaffirming this general pattern, little is known about the mechanisms by which such relationships typically function, although there are no shortage of suggestions (Lim 2006). Many careful empirical studies will be needed to sort out the numerous ways in which the demographic characteristics of a bureaucracy's personnel can likely affect its functioning and under what conditions certain processes are most pronounced.

In this dissertation, I aim to take the discipline further down the path of formulating an understanding of the ways in which bureaucrats' demographic characteristics affect bureaucratic functioning. I work to identify potential processes or

mechanisms that have received scant empirical attention by other scholars and then set about conducting empirical tests of a handful of processes. All of my empirical tests are conducted using education data, although the tests are motivated by theoretical reasoning that is not limited to education settings and thus are always framed more broadly than being just studies of education. I see schools as a testing ground for broader theoretical arguments about the functioning of public organizations (and, in some cases, perhaps private organizations as well). Of course, it is important that these theoretical arguments be tested in other settings as well; future studies in other settings will inevitable yield new insights that might be missed if schools were all that were ever examined. Nonetheless, schools are an incredibly important and pervasive type of public organization, and they provide a perfectly suitable ground for studying representative bureaucracy theory. All of my empirical analyses also focus on race as the key demographic characteristic of interest. Again, this is not because race is the only demographic characteristic appropriate to the theories I am testing. But it is a highly salient characteristic in the U.S., and examining race can provide a window into the broader manner in which demographic characteristics matter in a bureaucratic context.

## Overview of Chapters

In Chapter II, I provide a theoretical framework for understanding the effects of a bureaucracy's demographic composition on organizational outcomes. Doing so allows me to identify several potential mechanisms or processes that have received relatively

little attention from scholars. It also provides a means of mentally organizing various potential processes and conceptualizing how they might fit together with one another.

Having established a general framework, I turn in Chapter III to one of the most frequently discussed but infrequently measured concepts in representative bureaucracy theory: bureaucratic values. Drawing on multiple sources of archival data as well as the results of a principal survey that includes self-reported measures of bureaucratic values, I conduct a series of analyses designed to disentangle the relationships among bureaucrats' demographics characteristics, their values, and various processes and outcomes of the organization that are associated with the interests of specific demographic groups.

Chapter IV considers how the demographic composition of a bureaucracy might matter more or less to client outcomes depending on the nature of the clientele base being served. I draw attention to the role that heterogeneity of citizen interests may play in producing policy conflict along demographic lines. I then test this proposition using school data that allows me to see whether the demographic composition of a school has a greater effect on students when students have varying education needs.

Chapter V focuses on the potential organizational nature of representative processes. I consider why it may be important to understand the extent to which bureaucrats exhibiting a particular demographic characteristic produce benefits for clients sharing that demographic characteristic purely through direct interactions with those bureaucrats versus through altering broader organizational processes or an organization's symbolic appeal to clients. I then conduct a unique set of empirical test

using data measured at multiple levels of an organization, which allows me to see whether clients are affected only by the demographic characteristics of those bureaucrats most likely to serve them or if they are also affected by the demographic characteristics of bureaucrats who most likely do not provide services to them.

The final substantive chapter (Chapter VI) is devoted to a consideration of the degree to which organizational functioning is affected by the simultaneous presence of multiple racial groups within the organization. I outline three competing perspectives, each of which implies a different measurement approach. One perspective states that what matters to a client is the proportion of bureaucrats who share the client's own race. A second perspective argues that what matters is the total proportion of minority (non-white) bureaucrats while a third perspective suggests that the overall level of balance among as many racial groups as possible matters the most for substantive outcomes. I then conduct a set of empirical tests to see which of the three perspectives is best supported by the data.

In Chapter VII, I conclude by considering how the findings of the previous chapters, taken as a whole, should alter how representation within the bureaucracy is viewed. I also consider the implications of my results for policy areas other than education and suggest steps forward for the field.

# CHAPTER II

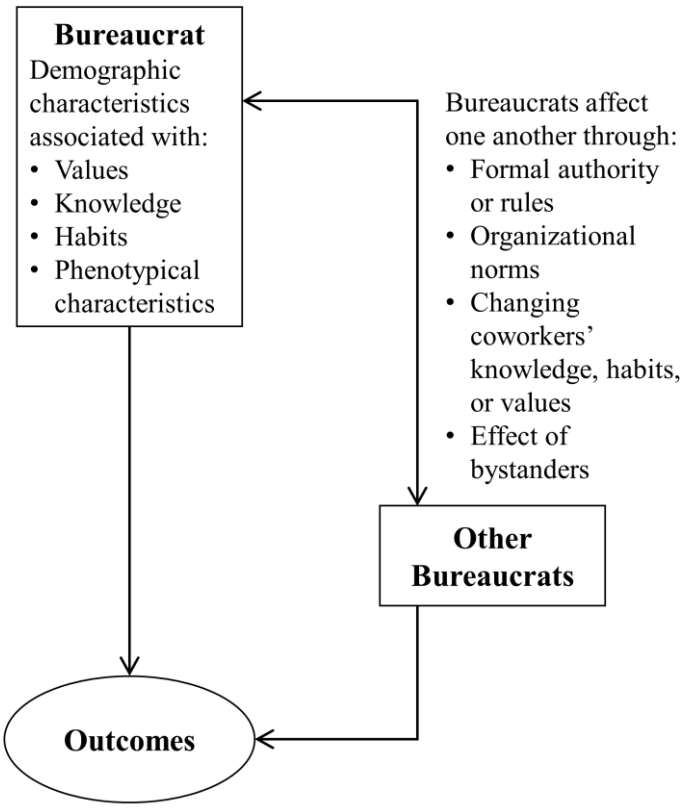
# THEORETICAL FRAMEWORK: HOW BUREAUCRATS' DEMOGRAPHIC CHARACTERISTICS CAN AFFECT OUTCOMES

In this chapter, I outline a theoretical framework that identifies several means by which the demographic characteristics of bureaucrats might be associated with organizational outcomes. In developing this framework, I aim to identify and classify the main ways in which attributes associated with demographic characteristics sometimes affect outcomes in a broad array of public organizations. This exercise yields a large number of potential mechanisms, and in the following chapters, I do not attempt to individually isolate and test each one. Instead, I draw on elements of the framework to identify a small set of potential relationships that have received little attention in prior work and that can be examined with data I was able to obtain. Many more hypotheses could be constructed using the elements of this framework, and other scholars may benefit from using it for that purpose.

Bureaucrats are the focus of my theoretical framework. The term bureaucrat can take on a variety of meanings, but I use the term throughout this dissertation to refer to an unelected employee of a government organization. One could argue that the terms government employee or public employee (which I use interchangeably with bureaucrat) more appropriately convey this meaning, but I also use the term bureaucrat because the representative bureaucracy literature often refers to public employees as bureaucrats.

Figure II-1 provides an initial overview of my framework, which builds on Favero and Molina's (2014) theoretical discussion of direct and indirect bureaucratic representation effects. Like Favero and Molina (2014, Figure 1), I start from the perspective of a single bureaucrat (depicted at the top of the figure) and consider how this bureaucrat and her attributes influence organizational outcomes both directly (through her own actions) and indirectly (through other bureaucrats or through clients). I explain each element of Figure II-1 in detail in the following sections.

**Figure II-1**
Effects of Bureaucrats' Demographic Characteristics



## Bureaucrats and Their Demographic Characteristics

Beginning with Kingsley's (1944) seminal discussion of bureaucratic representation and the social class of Britain's civil servants, representative bureaucracy theory has emphasized bureaucrats' demographic characteristics as potential determinants of bureaucratic processes or outcomes. While a number of empirical studies have found an association between the demographic makeup of a bureaucracy's personnel and bureaucratic outputs or outcomes (e.g., Meier 1993a; Meier and Nicholson-Crotty 2006; Selden 1997; Wilkins and Keiser 2006), there also instances in which no such association appears to exist (Keiser et al. 2002; Roch and Pitts 2012; Wilkins and Williams 2008; 2009). Certainly, it is possible for two bureaucrats with different demographic characteristics to perform job tasks in a virtually identical manner. As such, the first step in formulating a framework of how employees' demographic characteristics can link to bureaucratic outcomes is identifying a set of attributes which might be associated with demographic characteristics. I consider four attributes, which are listed inside the bureaucrat's box at the topic of Figure II-1.

Many demographic characteristics reflect or form the basis of important social identities. Gender, socioeconomic status, race, generation, sexual orientation, and religion are all associated with unique tendencies and experiences, often starting from an early age. For example, during childhood boys and girls begin developing differences on a number of social dimensions, such as peer relationship processes (Rose and Rudolph 2006), use of aggression (Archer 2004), and facial expression processing (McClure 2000). Low socioeconomic status has been linked to a heighten likelihood of children

experiencing problems with regards to cognition, health, and socioemotional wellbeing (Bradley and Corwyn 2002). Children belonging to racial minorities often explore their own racial identities during adolescent years, and individuals appear to develop stronger racial identities following experiences where they perceive racial discrimination (Quintana 2007).

Common socialization experiences associated with demographic characteristics can affect the formation of values, including political values (Meier 1993b). People of a certain age today were eligible to be drafted for the Vietnam War, an experience which affected peoples' political attitudes even decades later (Erikson and Stoker 2011). Given the racial history of the U.S., race remains one of the most important predictors of political partisanship and participation (Shingles 1981). Values are the first attribute I identify that can be associated with demographic characteristics. The representative bureaucracy literature's dominant explanation for why the demographic makeup of employees might affect organizational outcomes assumes that demographic characteristics are associated with differences in values (e.g., Long 1952; Meier 1993b; Meier and O'Toole 2006; Roch and Pitts 2012). Within government bureaucracies, Meier and Nigro (1976) find that most demographic characteristics have little association with political values, although race appears to have relatively strong effects. Later work by Selden (1997) confirms that race can be associated with substantial differences in bureaucratic values, which in turn are associated with variation in bureaucratic outcomes. Nonetheless, the role of bureaucratic values may be overemphasized in much of the current literature (Lim 2006).

Socialization experiences connected to certain social identities can also result in knowledge of particular topics or cultures. For example, a Latina police officer may find it easier to communicate with many Latino residents because of her familiarity with Latino culture or—in the case of many immigrant children—because she happens to speak Spanish. This knowledge enabling her to more effectively interact with Latino members of the public will not necessarily diminish from her ability to serve non-Latino residents. That demographic characteristics may be associated with certain types of knowledge relevant to a bureaucrat's job has been largely ignored by the representative bureaucracy literature, with Lim's (2006) articulation of "empathic understanding" being an exception.

A third attribute that may be associated with demographic characteristics is a bureaucrat's habits. Habits consist of behaviors that are usually done without much thought at the time the action is being taken. Some examples of habits are the manner in which people dress, the accent with which they speak, they ways in which they react to people with different characteristics, and how they show affection in various settings. Cultures are often distinguished by the distinct habits they prescribe, and race is often associated with distinct ethnic or cultural identities. Gender roles and generational differences also contribute to differences in habits that can be found along demographic lines. Bureaucrats' habits are important to consider because many actions are influenced not just by the values and knowledge that an individual holds but also by other factors such as implicit cognitive processes (Greenwald et al. 2009). Even something as basic as feeling empathy at the sight of another person in pain might have important implications

for bureaucratic behavior given biases that have been found along racial lines (Forgiarini, Gallucci, and Maravita 2011). Unlike specific pieces of knowledge, most habits are not easily transferred to others.

Phenotypical features—a fourth attribute—are associated with some demographic characteristics. For example, age and gender tend to correspond to distinct physical appearances, although imperfectly so. Similarly, self-ascribed racial identities are often associated to some extent with phenotypical characteristics such as skin color and facial features (Garcia 2013). Phenotypical characteristics are potentially important because other individuals may perceive and respond to a bureaucrat differently based on observable physical traits.

The most obvious way in which the traits associated with a bureaucrat's demographic characteristics can affect outcomes is by partially shaping the way that the bureaucrat performs his job. A public employee writing a report, for example, may produce a somewhat different product depending on his own values, knowledge, and habits—which may be linked to his demographic characteristics. The arrow in Figure II-1 that connects the bureaucrat to the outcomes bubble at the bottom of the chart represents this direct effect.

### Interactions with Other Bureaucrats

Individual bureaucrats do not function in isolation (although some bureaucrats do spend much of their day working apart from other bureaucrats). Figure II-1 contains a box corresponding to other bureaucrats to recognize the potential moderating role that

other bureaucrats play in the link between a given bureaucrat and organizational outcomes (Favero and Molina 2014). Of course, each bureaucrat within an organization has demographic characteristics and attributes that may influence outcomes; the depiction of one bureaucrat at the top of Figure II-1 and all other bureaucrats in a single box to the side merely provides a convenient means of illustrating the interplay that can take place among all bureaucrats within a bureaucracy. The arrow linking the two bureaucrat boxes points both ways to reflect the reciprocal relationships that bureaucrats have with one another. Many representative bureaucracy studies examine bureaucratic characteristics only at the organizational level and thus do not allow for a direct examination of the potential interplay among bureaucrats.

There are several ways in which bureaucrats might influence the actions of other bureaucrats. First, some bureaucrats are able to exercise or affect the use of formal authority and rules to shape the behavior of other bureaucrats. In some cases, a bureaucrat can even change who the other bureaucrats in the organization are through hiring and firing authorities. Managers generally have greater ability to modify rules and have more formal authority over others than street-level bureaucrats. Nonetheless, lower-level employees in many bureaucracies have some opportunities to influence rules or the formal use of authority. For example, street-level employees may sit on hiring committees and give recommendations regarding who to hire. Managers may solicit input from employees either formally in informally when making a variety of decisions; studies of management support the notion that soliciting employee participation in decision making can be an important aspect of good management (Favero, Meier, and

O'Toole 2016; Miller and Monge 1986). To the extent that a bureaucrat can influence use of formal rules and authority, her values, knowledge, and habits can influence the manner in which others in the organization conduct their own work. A black public teacher might advocate within his district for changing curriculum to include more coverage of black history and literature, or a female police officer might help revise protocol for responding to domestic violence calls.

Just as bureaucrats can affect the use of formal authority and rules, they may also contribute to changes in the informal norms of an organization. Organizational culture describes the shared practices and assumptions that guide employees' work within an organization (Schein 1992). Employees have an opportunity to informally change the behavior of their coworkers to the extent that they are able to change their coworkers' perceptions of what working for the organization can look like or by challenging assumptions about how tasks are supposed to be accomplished. Managers are in the most obvious position to take on a leadership role that helps shape the norms of an organization, but other bureaucrats may be able to change the culture of their workplace in small ways, such as introducing a new way of completing a frequent task or promoting collegiality by planning social events. Collectively, several bureaucrats may be able to more easily affect an organization's culture. Representative bureaucracy scholars have suggested that minority bureaucrats are more likely to act on their own values in a manner that affects outcomes once they achieve a "critical mass" of minority representation within the bureaucracy (Keiser et al. 2002; Thompson 1976). Some empirical studies have supported this argument, finding evidence of a nonlinear

relationship between the percentage of minority bureaucrats and outcomes that is initially negative or flat and becomes positive only after reaching a certain threshold (Meier 1993a; Meier, Wrinkle, and Polinard 1999). One interpretation of this critical mass effect would be that minorities' distinctive attributes have an amplified effect once their size has become large enough that organizational norms adjust in order to allow them to act on these attributes.

In addition to shaping the broader norms of an organization, some bureaucrats may also have opportunities to change the knowledge or values of particular bureaucrats. In a study of teen pregnancy rates, Atkins and Wilkins (2013) find qualitative evidence that white teachers seek advice from African-American teachers when navigating sensitive issues with African-American students. While knowledge is often freely exchanged among coworkers, personal values are usually more difficult to alter. Nonetheless, sustained relationships between coworkers can result in strong bonds being formed that may allow for new experiences or perspectives to be shared that alter an individual's values. Lim (2006) calls this a resocialization effect. Meier and Nicholson-Crotty (2006) argue that female police officers might affect the way some of their male coworkers react to sexual assault cases either by changing their attitudes or simply modeling a different type of behavior. This effect could amount to a change in the organization's norms, or it might remain small enough to affect only a few male colleagues.

A final way that a bureaucrat might influence his coworkers is by being a bystander in situations where his presence alters how his coworkers behave. Lim (2006)

describes how being observed by a minority bureaucrat may evoke restraint in a bureaucrat who might otherwise act in a racially biased manner. Or in rarer instances, a minority bureaucrat might intervene to stop another bureaucrat from engaging in behavior that the minority bureaucrat finds objectionable (Lim 2006). Social psychology studies suggest that white people in North America generally want to be seen as likeable and moral by minorities in interracial interactions (Bergsieker, Shelton, and Richeson 2010), and people tend to behave more cooperatively when they have the sense they are being observed (Bateson, Nettle, and Roberts 2006). One's phenotypical characteristics and cultural habits may affect how others perceive a person in terms of gender or race. As such, the phenotype and habits of a bureaucrat might influence his effect as an observer of actions by other bureaucrats.

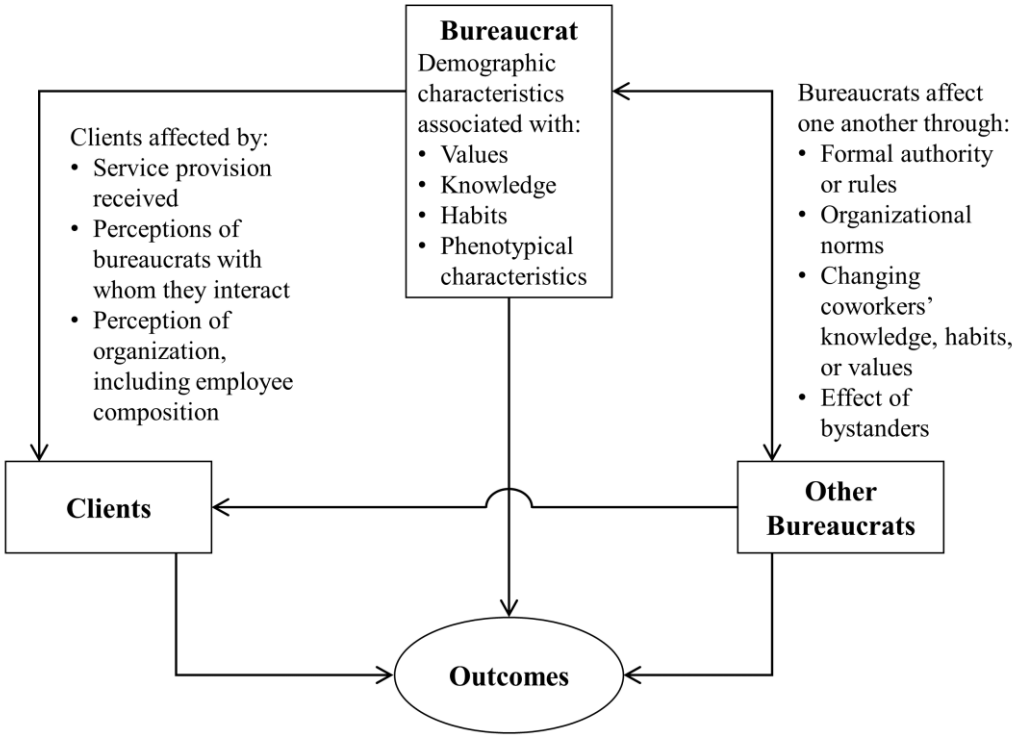
Other bureaucrats can directly influence organizational outcomes, or they can influence them indirectly through the bureaucrat from whose perspective Figure II-1 has been drawn. Representative bureaucracy theory has typically considered outcomes in terms of distributional results, but a few studies within this literature have examined the association between bureaucrats' demographic characteristics and overall effectiveness in achieving desired bureaucratic outcomes (Andrews, Ashworth, and Meier 2014; Meier, Wrinkle, and Polinard 1999; Pitts 2005). A mostly-distinct literature on diversity management (largely situated within the generic management literature) has devoted substantial attention to the effect of diversity on organizational effectiveness (see Choi 2009; Pitts 2005). Changes in bureaucratic behavior stemming from the attributes and mechanisms I identify can certainly alter the overall effectiveness of a bureaucracy in

either a positive or negative direction, in addition to possibly altering the relative effectiveness with which an organization achieves different goals or serves different populations.

## Service-Oriented Bureaucracies

Most empirical studies of representative bureaucracy that model outputs or outcomes have examined service-oriented bureaucracies. Perhaps this is because such organizations often provide straightforward measures of distributional outcomes (outcomes for different groups of clients) and are also the type of public organization where personnel demographics are expected to most strongly affect distributional outcomes (Schröter and von Maravić 2015). One unique aspect of service-oriented bureaucracies is that they often rely on action by the clients in order to "coproduce" desired bureaucratic outcomes (Whitaker 1980; Sharp 1980). Patients must take care of themselves to get well; students must listen to their teacher and perhaps study on their own in order to learn. This coproduction relationship introduces another important set of actors who may play a role in moderating the link between bureaucrats' demographic characteristics and organizational outcomes. Meier and Nicholson-Crotty (2006) find that members of the public report more sexual assaults to the police when there are more female police officers. Figure II-2 depicts an expanded version of my framework which accounts for client coproduction. Again, this representation builds on that of Favero and Molina (2014, Figure 1). Clients are shown at the left side of the figure, and they are affected by all bureaucrats in the figure. They, in turn, have an effect on outcomes.

**Figure II-2**
Effects of Bureaucrats' Demographic Characteristics in Service-Oriented Bureaucracies




Clients' behavior can be affected by three different factors. First, clients will respond to the service provision they receive. Clients who receive instructions or advice from bureaucrats that is inapplicable to their situation or that is communicated in a manner that they cannot understand will suffer from not receiving proper guidance regarding how to effectively coproduce. In the context of public schools, a minority teacher may provide more effective instruction to co-ethnic students because the teacher holds higher expectations of co-ethnic students than other teachers do (Dee 2005; Oates 2003; Ouazad 2008). Co-ethnic teachers may also be able to draw on common cultural

expressions and understandings in order to more effectively engage and communicate with students (Feldman 1985; Irvine 1989).

Beyond reacting to the substance of the services they receive, clients may respond based on their perceptions of the bureaucrats with whom they interact. Before even interacting with a bureaucrat, a client may see the bureaucrat and ascribe social identities to her based on her phenotypical characteristics and the manner in which she dresses, speaks, and carries herself. Some clients have positive or negative reactions to certain social identities, even if these reactions are implicit on the part of the client. Clients may have a preference for interacting with a bureaucrat who has a common social identity. For example, a female rape victim may be more comfortable reporting a rape to a female police officer (Meier and Nicholson-Crotty 2006). It may even be that interacting with a bureaucrat with a common social identity will positively alter the way that a client sees herself, as in the case of a female student who sees herself as more capable of succeeding in math if her math teacher is a woman (Keiser et al. 2002). Conversely, clients may be less likely to be motivated and cooperative coproducers if bureaucrats are rude to them or if they sense that bureaucrats treat them in a biased manner because of their own demographic characteristics. Bureaucrats who hold values that cause them to care about a particular client, have knowledge enabling them to effectively meet the clients, and exhibit habits that are not off-putting to the client are likely to evoke a positive coproduction response.

Just as clients can form perceptions of individual bureaucrats that may affect how they relate to that bureaucrat, clients can form perceptions of organizations. When a

client sees that a bureaucracy hires or is run by people who appear to have certain social identities, that may affect the way that the client sees the organization and thus the manner in which he relates to the organization. These perceptions may hold irrespective of the specific bureaucrats with whom he interacts. For example, an organization with employees that appear to share a minority client's racial identity may communicate acceptance to that client, even if that client directly interacts only with a white bureaucrat. One study finds that women are more likely to express a willingness to participate in a recycling program when female names have been used to identify officials associated with the program (Riccucci, Van Ryzin, and Lavena 2014). Clients may hold opinions about legitimacy or fairness that cause them to care about the employee composition of an organization. Or they may simply believe that they are more likely to receive good service from an organization with many employees who appear to share a salient social identity. Whatever perceptions a client forms may impact the willingness and effort they exhibit with regards to coproducing a desirable bureaucratic outcome.

The centrality of clients to outcomes in many service-oriented bureaucracies suggests that many important effects of bureaucrats' demographic characteristics may be filtered through clients' experiences and coproduction activities. Empirical researchers have begun to examine the role that clients play in shaping the relationship between employee demographics and organizational outcomes of public agencies (Meier and Nicholson-Crotty 2006; Riccucci, Van Ryzin, and Lavena 2014; Thielemann and Stewart 1996), but little is known about the extent to which clients are responding to the

services they receive, the perceptions they form of bureaucrats with whom they interact, or their broader perceptions of the agency and its workforce.

The literature is similarly sparse with regards to evidence regarding the relative roles that bureaucrats' values, knowledge, habits, and phenotypical characteristics play in driving relationships between demographic characteristics and outcomes of interest. Finally, very little work has examined the extent to or manner in which bureaucrats affect one another through the attributes associated with their demographic characteristics. Findings on critical mass effects (Hindera and Young 1998; Meier 1993a; Meier, Wrinkle, and Polinard 1999) provide some insight, as does recent work by Favero and Molina (2014). Much can be learned about the manner in which individual attributes are filtered through organizational processes to affect outcomes. The remaining chapters of the dissertation provide empirical studies of a few of these topics and collectively contribute to a broader understanding of how bureaucrats' demographic characteristics can affect the functioning of an agency.

# CHAPTER III

# ARE BUREAUCRATIC VALUES REALLY KEY?

Research on the effects of the demographic makeup of government agencies has typically drawn on the lens of representative bureaucracy theory. A large number of empirical works find support for the claim that the presence of minority personnel within a service-oriented bureaucracy can (under certain conditions) lead to better outcomes for minority clients (for a review, see Kennedy 2014). Early works on representative bureaucracy theory were largely grounded in the political science literature, which perhaps explains the theory's emphasis on competing political values as a key theoretical mechanism accounting for findings that differences in outcomes that are associated with differences in the demographic characteristics of government employees. As the political control literature (see Wood and Waterman 1993; McCubbins, Noll, and Weingast 1987; 1989) makes clear, one of the main topics of interest among political scientists examining the bureaucracy is how unelected officials making political decisions relate to the formal political systems of a democracy.

Competing political values are not, however, the only possible mechanism that could account for many of the empirical findings that have been accumulating in the representative bureaucracy literature over the last few decades (Lim 2006). Indeed, scholars have begun to document evidence of other mechanisms that are at work. In particular, clients may be more likely to seek services from the bureaucracy or engage in the coproduction process when there are bureaucrats who share their own demographic

characteristics (Thielemann and Stewart 1996; Meier and Nicholson-Crotty 2006; Keiser et al. 2002). There has been very little direct examination within this literature, though, of whether the political values bureaucrats hold affect client outcomes along demographic lines. Selden's 1997 study stands out as the main exception.

This study revisits values as a potentially important mechanism linking the demographic composition of a service agency's personnel and to outcomes for clients of different demographic groups. Drawing on data from Texas schools, I first examine whether or not the race of a school manager predicts two different measures of that manager's values. I then consider whether variation in managers' values is associated with differences in personnel practices, placement of students in gifted and talented programs, discipline of students, and academic outcomes. I conclude by summarizing the results and discussing their implications.

## Values and Representative Bureaucracy Theory

As the framework in Chapter II makes clear, a number of mechanism can explain empirical relationships between the demographic composition of a bureaucracy and substantive outcome. Yet from the earliest works on representative bureaucracy, values have been emphasized as a central mechanism. In many instances, an association between demographic characteristics and values has simply been assumed (e.g., Meier and O'Toole 2006; Roch and Pitts 2012), with the two being treated as almost equivalent at times (e.g., Long 1952). Central to the importance placed on demographic characteristics by the theory is an assumption that people with different demographic

characteristics tend to have different values because of different socialization experiences (Meier 1993b). The strength of the association between demographic characteristics and values has been questioned, most notably by Meier and Nigro (1976) who found that most demographic characteristics are poor predictors of bureaucrats' political attitudes. Of the factors they examined, race appeared to be the most important predictor of attitudes. Meier (1993b) later argued that race is the demographic characteristic most likely to produce linkages between passive and active representation in the United States because so many political issues in the United States are racialized. It is perhaps no coincidence that race has been the demographic characteristics most often studied within the representative bureaucracy literature (Kennedy 2014). Other studies have demonstrated that the gender makeup of a bureaucracy can predict outcomes in policy areas where gender is salient (Keiser et al. 2002; Meier and Nicholson-Crotty 2006; Wilkins and Keiser 2006).

Despite the widespread assumption that values provide a mechanism by which the demographic makeup of bureaucrats affects substantive outcomes, very few studies directly examine the values of bureaucrats (Lim 2006). Selden (1997, 125-133) provides the only quantitative study I am aware of that models the mediating effect that values play in linking bureaucrats' demographic characteristics and policy outcomes. In her examination of rural loan programs, she used a survey to measure the extent to which supervisors saw themselves as representatives of minority interests within their workplace—a construct she called representative role acceptance. She found that supervisors who saw themselves as representatives of minority interests approved more

loans for minority applicants. Minority supervisors tended to report higher levels of representative role acceptance than non-minority supervisors, but it was ultimately their scores on this survey measure—not their race—that predicted the rate at which they approved loans from minority applicants. Both the representative role acceptance measure and the supervisor's race were significant predictors of the extent to which the supervisor reported publicizing their loans program in minority communities.

In the following section, I explain the data I use to conduct an analysis similar to Selden's in a different context—education—where passive representation has been consistently linked with positive outcomes for the represented group. I examine the extent to which the racial identity of public managers is associated with differences in self-reported values, and I also examine the extent to which racial identities and values are associated with measures of favorable school conditions and outcomes for minority students.

## Data

I combine publicly available school-level data on Texas primary and secondary schools with the results of an online survey of Texas school principals. The primary source of archival data is the public website of the Texas Education Agency (TEA). Annual TEA records provide information on a variety of school characteristics, including measures of student demographic characteristics, teacher characteristics, school resources, and standardized exam results. I also use some data from the 2011-2012 Civil Rights Data Collection, a dataset maintained by the U.S. Department of

Education's Office for Civil Rights. The online survey of school principals took place during the spring of 2014 and was sent to 7992 principals based on a list of all principals in the state provided by the TEA. 10.5% of the principals responded to the survey, yielding 842 respondents.

### *Bureaucrat's Values and Demographic Characteristics*

My measures of manager demographic characteristics and manager values come from the 2014 principal survey. Separate questions asked principals to indicate their race and their ethnicity. A dummy variable indicating whether or not each principal is a member of a minority was coded as a one if the respondent selected anything other than white and non-Hispanic. Two more dummy variables were created to indicate whether or not a principal identified as black and whether a principal identified as Hispanic (these two categories are not mutually exclusive; one respondent indicated that they were both black and Hispanic). 30% of principals in our sample belong to a racial minority, with 19% indicating they are Hispanic and 7% indicating they are black. These figures are slightly smaller than for the full population of principals; archival data indicates that 23% of principals are Hispanic and 12% are black. Other survey items asked principals to identify their gender and how many years they have been a principal (at any school).

I use two separate measures of manager values. The first one consists of a set of five survey items adapted from the scale of representative role acceptance created by Selden (1997).[1] I reworded the questions such that they referred to an educational

[1] Selden's scale contained more than these five items, but versions of the other items were not included on the Texas principal survey.

context rather than a federal workplace. I conducted a principal components factor analysis of the five items, and a scree plot indicated that a one factor solutions is appropriate. The five items as well as the factor scores are contained in Table III-1. Factor loadings are above acceptable levels, and the first factor accounts for 57% of the variation in the items. I computed a factor index for the first factor, which I use as my measure of minority representative role acceptance (manager values).

**Table III-1**
Principal Components Factor Analysis of Representative Role Acceptance Items

| *Item* | *Loadings* |
|---|---|
| I see myself as an advocate for minority students. | 0.72 |
| I seek to provide information to my superintendent, school board members, or other policy makers to assist them in making decisions concerning our minority community needs and perspectives. | 0.70 |
| I recommend or actively advocate in favor of policies which address the needs and concerns of minority students. | 0.86 |
| I implement and/or encourage changes in school practices that will improve educational opportunities and outcomes for minority students. | 0.83 |
| I implement and/or encourage hiring and promoting practices that may result in greater minority representation and ethnic balance in school personnel. | 0.65 |
| Eigenvalue | 2.84 |
| N | 660 |

A five-point Likert scale allowed respondents to select from the following (coding of response in parentheses): Strongly Agree (5), Agree (4), Neither Agree nor Disagree (3), Disagree (2), or Strongly Disagree (1).

I also use a single survey item asking principals to identify their personal political ideology as a second measure of manager values. Respondents were presented with the following prompt: "On a scale of political ideology, individuals can be arranged from strongly liberal to strongly conservative. Which of the following categories best describes your views?" Principals could choose from the following five categories: "Very liberal," "Slightly liberal," "Middle of the road," "Slightly conservative," or "Very conservative." Responses are coded with interval values ranging from one to five, with higher values indicating a more liberal ideology. The measure of principals' political ideology is only correlated with the measure of representative role acceptance at 0.13 (meaning 2% common variation).

In addition to bureaucratic demographic characteristics, I use several measures of school characteristics in the 2013-2014 school year to predict principals' values. TEA records indicate the percentage of black, Hispanic, and low income students in each school. I also use TEA data on the size of the school (total student enrollment) and dummy indicators of whether the school is a charter school and whether it is an alternative school (not mutually exclusive categories).

*Minority Teachers*

I consider four different measures of school attributes or outcomes that may further minority interests. Each measure is used as a dependent variable in a separate set of models. I run separate regressions for indicators of black and Hispanic interests. The first measure is the share of black or Hispanic teachers in the school during the 2013-2014 school year. The raw percentages of black teachers and Hispanic teachers have

distributions with substantial outliers, so I create logarithmic transformations of the percentages of black and Hispanic teachers.[2] I control the share of black or Hispanic teachers in the prior year (a lagged dependent variable) as well as the change in the percentage of black or Hispanic students between the 2012-2013 and 2013-2014 school years. All other indicators of school characteristics are drawn from the 2012-2013 school year since hiring for the 2013-2014 school year typically takes place before the start of the fall semester. I control for the demographic makeup of the student body (% black, % Hispanic, and % low income) and for student academic achievement (the percentage of students who pass all subjects of the State of Texas Assessments of Academic Readiness), factors which have been shown to influence decisions by teachers about where to work (Hanushek, Kain, and Rivkin 2004). I also control for teacher turnover (which may indicate an opportunity to change the racial composition of the teaching force), average teacher experience, and the average teacher salary (measured in thousands of dollars). I also control for the size of the school and for district characteristics (size and the percentage of students who are black or Hispanic) which may serve as indicators of the broader environment in which principals operate when making hiring decisions.

### *Gifted/Talented Placement and School Discipline*

The next two measures of activities or outcomes tied to minority interests are the placement of students in gifted and talented programs and the disciplinary actions taken

[2] In order to avoid dropping observations where there are no black or Hispanic teachers, I add one to the percentage before taking the log: log(1 + % black/Hispanic teachers).

toward students. Both measures were obtained from the 2011-2012 Civil Rights Data Collection, the most recent Civil Rights Data Collection for which data are currently available. Since this data describes activity two years prior to the school year in which the principal survey I use to measure bureaucratic values was conducted, I restrict the sample for these models to include only observations where the principal indicated on the survey that she had been employed by her current school for more than two years and that she had also been a principal (of any school) for more than two years. Assuming that principal's values are relatively stable over time, the values of a principal in 2014 should be a good proxy for their values in 2012.

The dependent variables that I use are logarithmic transformations of the percentages of black or Hispanic students who have been placed in gifted and talented programs or who have received at least one out-of-school suspension during the school year. I control for the share of white students (again using a logged measure) placed in gifted and talented programs or who have received out-of-school suspensions in order to control for the overall level of program use or disciplinary harshness in the school.

Minority teachers can improve minority student outcomes on school placement and discipline measures (Rocha and Hawes 2009), but the presence of minority teacher might itself be caused by principal characteristics. As such, I consider minority teachers to be a potential mediator in the relationship between principal characteristics and placement/discipline outcomes, so I first run models that exclude a measure of same-race teachers and then see if adding such a measure produces coefficients consistent with a mediating relationship. I measure the percentage of same-race teachers and all other

independent variable taken from TEA records using data from the 2011-2012 school year. The other TEA variables I include measure student characteristics (the same measures as in prior models), teacher characteristics (the average teacher salary and the percentage of first-year teachers), the student-teacher ratio, school size, and dummy variables for charter and alternative schools. For the models of out-of-school suspensions, I also control for the percentage of black or Hispanic students who are male, as reported in the Civil Rights Data Collection.

*Standardized Exam Performance*

My final set of dependent variables indicates the level of academic success among black and Hispanic students. Academic outcomes for minority students are measured using standardized exam results from the State of Texas Assessments of Academic Readiness (STAAR). TEA reports the proportion of students who passed all subjects of the exam by racial subgroups.[3] As a rough proxy for the overall quality of the school, I include a measure of the STAAR pass rate among white students in my regression equations. Research suggests that students are influenced in their learning by their peers (see Hanushek, Kain, and Rivkin 2009), so I included the same measures of student demographics as in previous models. Teacher quality is known to be a major factor influencing educational outcomes (Hanushek and Rivkin 2006), so I include measures of the average teacher salary and the percentage of first-year teachers. I also control for the student-to-teacher ratio, the school size, and whether the school is a

[3] Results are not reported any time fewer than five students have valid exam scores in a reported category.

charter or alternative school. All models are estimated using OLS regression with robust standard errors to account for heteroscedasticity.

## Findings

### *Bureaucrat's Values and Demographic Characteristics*

First, I examine to what extent minority school managers (principals) express a different values than white principals. The results of my analyses are reported in Table III-2. The first model looks at the association between individual principal characteristics and the representative role acceptance measure. Black principals have significantly higher levels of representative role acceptance than other principals (the black principal coefficient is significantly different from the Hispanic principal coefficient at the .05 level). The coefficient size indicates that they generally score half a standard deviation higher than the omitted category (consisting mostly of non-Hispanic whites) on the representative role acceptance measure. The coefficient for Hispanic principals is not significant. Furthermore, the confidence interval centers rather narrowly around zero, suggesting that at most, Hispanic principals could plausibly be a quarter of a standard deviation above the omitted category and still yield these results because of sampling error. Gender and experience also produce no significant effects.

**Table III-2**
OLS Models of Bureaucratic Values

| | Rep. Role Acceptance | | Pol. Ideology (Liberalism) | |
|---|---|---|---|---|
| | *b/se* | *b/se* | *b/se* | *b/se* |
| Principal: | | | | |
| - Black | 0.502* | 0.315* | 0.820* | 0.702* |
| | (0.151) | (0.158) | (0.166) | (0.183) |
| - Hispanic | 0.023 | -0.215 | 0.293* | 0.039 |
| | (0.112) | (0.133) | (0.112) | (0.148) |
| - Female | -0.023 | -0.060 | 0.121 | 0.052 |
| | (0.090) | (0.090) | (0.095) | (0.096) |
| - Experience (Yr.) | -0.001 | -0.001 | 0.003 | 0.001 |
| | (0.006) | (0.006) | (0.006) | (0.006) |
| % Black Students | | 0.007* | | 0.009+ |
| | | (0.004) | | (0.005) |
| % Hispanic Students | | 0.005* | | 0.011* |
| | | (0.003) | | (0.003) |
| % Low Income Students | | -0.000 | | -0.008* |
| | | (0.003) | | (0.003) |
| Log(Enrollment) | | 0.145* | | 0.091 |
| | | (0.067) | | (0.072) |
| Charter School | | -0.089 | | 0.272 |
| | | (0.202) | | (0.244) |
| Alternative School | | 0.557* | | 0.057 |
| | | (0.251) | | (0.271) |
| (Constant) | 0.009 | -1.118* | 2.324* | 1.752* |
| | (0.094) | (0.434) | (0.099) | (0.492) |
| Adj R-sqr | 0.009 | 0.038 | 0.039 | 0.075 |
| N | 533 | 533 | 533 | 533 |

+ p<0.10, * p<0.05 (two-tailed); robust standard errors in parentheses

In the second model, I control for various school characteristics. The coefficient estimate for black principals becomes slightly smaller but retains significance. Several of the school characteristics are significant, and the R-squared value jumps from .01 to .04. Though the model still only explains 4% of the variation in representative role

acceptance, these results indicate that school characteristics are a substantial predictor of this principal values measure relative to the predictive power of principal race (and other principal demographic characteristics). Representative role acceptance is generally higher in schools with more Hispanic and black students, in larger schools, and in alternative schools.

The third and fourth models in Table III-2 explain variation in principals' personal political ideology. OLS models are used even though the dependent variable is measured at an ordinal level because ordered logit models produced very similar substantive results but are not as easy to compare with the OLS models of representative role acceptance.[4] The political ideology measure has a standard deviation of 1.1 (compared with 1.0 for the representative role acceptance measure), making the coefficients from the representative role acceptance models and the political ideology model nearly comparable in terms of effect size measured in standard deviation units.

The third model in Table III-2 indicates that black and Hispanic principals both report being more liberal than other principals in the sample. Black principals are, on average, three quarters of a standard deviation above the omitted category while Hispanic principals are, on average, only a quarter of a standard deviation above the omitted category. The larger effect of black principals is statistically distinguishable from the effect of Hispanic principals (the two coefficients are significantly different from one another at the .05 level). The adjusted R-squared value indicates that the model

[4] The cut points estimated by the ordered logit models also suggest a linear (or very nearly linear) positioning of response choices.

explains approximately 4% of the variation in political ideology, which is still very modest but noticeably greater than the 1% of variation in representative role acceptance explained by principal demographic characteristics.

The fourth column of Table III-2 adds school characteristics to the model of principal political ideology. As with representative role acceptance, school characteristics improve the explanatory power of the model; the adjusted R-squared indicates that the larger model explains about 8% of the variation in the dependent variable. Principals report being more liberal in schools with more black and Hispanic students as well as in schools with fewer low income students.

### *Minority Teachers*

The models of minority teachers produce results that are shown in Table III-3. The first two columns correspond to models of the proportion of black teachers in a school while the next two columns show results for regressions predicting the share of Hispanic teachers. The lagged dependent variable has a very strong effect in all four models, indicating that the share of minority teachers is relatively stable from one year to the next (as one might expect). Several of the other control variables are significant, but I do not offer a substantive interpretation of each one here since they are not my main substantive interest. The first model indicates that having a black principal is associated (at the .10 level) with having a greater share of black teachers. This supports the notion that black principals sometimes attempt to further the interests of black students through hiring more black teachers. Alternatively, it could be that black principals are better at retaining black teachers who otherwise might leave the school (Grissom and Keiser

2011). The second column of Table III-3 shows what happens when I add the two principal values measures to the regression equation. Neither measure is statistical significant, and the effect of having a black principal is not at all attenuated. Thus, there is no support for the proposition that black principals hire more black teachers only because they tend to have greater representative role acceptance or tend to be more politically liberal.

The final two columns of Table III-3 reveal that Hispanic principals do not have any statistically significant effect on the share of Hispanic teachers in the school. Representative role acceptance and political ideology also produce no significant effect on the proportion of Hispanic teachers. Because null effects could be the result of insufficient statistical power, I tried using an archival measure of principal race that was obtained from the TEA which allows me to expand the sample to schools whose principal did not respond to the online survey.[5] The results (shown in Table A-1 of the Appendix) indicate that Hispanic principals are associated with a greater share of Hispanic teachers (even after controlling for the share of Hispanic teachers in the previous year), although the estimated effect is somewhat smaller than the estimated effect of black principals on the share of black teachers.

[5] Archival data on principal race was obtained from the TEA by filing a request with them. In the TEA's data, Hispanic and black are mutually exclusive categories. The archival principal race measures were coded as missing when TEA listed more than one principal for the same school if the principals did not all have the same race (if two principals were listed but both were Hispanic, the school was simply coded as having a Hispanic principal). For principal's who responded to the online survey and for whom TEA race data was available, the archival-based measures matched closely (but not perfectly) with their survey-based measures. One principal was coded differently on the two black dummy variables, and eight principals were coded differently for the Hispanic principal dummies.

**Table III-3**

OLS Models of Logged Percent Black or Hispanic Teachers

| | Black Teachers | | Hispanic Teachers | |
|---|---|---|---|---|
| | *b/se* | *b/se* | *b/se* | *b/se* |
| Principal: | | | | |
| - Black | 0.179+ | 0.186+ | | |
| | (0.092) | (0.095) | | |
| - Hispanic | | | 0.028 | 0.031 |
| | | | (0.051) | (0.051) |
| - Rep. Role Acceptance | | 0.018 | | 0.010 |
| | | (0.023) | | (0.020) |
| - Pol. Ideology (Liberalism) | | -0.024 | | 0.001 |
| | | (0.020) | | (0.019) |
| Change in % Black Students | -0.004 | -0.005 | | |
| | (0.011) | (0.011) | | |
| Change in % Hispanic Students | | | 0.010 | 0.010 |
| | | | (0.011) | (0.011) |
| Remaining Vars from Prior Year: | | | | |
| Lagged D.V. | 0.804* | 0.804* | 0.747* | 0.747* |
| | (0.030) | (0.030) | (0.038) | (0.038) |
| % Black Students | 0.004* | 0.004* | | |
| | (0.002) | (0.002) | | |
| % Hispanic Students | | | 0.007* | 0.007* |
| | | | (0.002) | (0.002) |
| % Low Income Students | 0.002 | 0.002 | -0.002 | -0.002 |
| | (0.001) | (0.001) | (0.001) | (0.001) |
| % Teacher Turnover | 0.001 | 0.001 | -0.003 | -0.003 |
| | (0.002) | (0.002) | (0.002) | (0.002) |
| Avg. Teacher Experience | -0.019* | -0.020* | -0.017* | -0.017* |
| | (0.009) | (0.010) | (0.008) | (0.008) |
| Avg. Teacher Salary | 0.013* | 0.013* | 0.022* | 0.022* |
| | (0.006) | (0.007) | (0.010) | (0.009) |
| Standardized Exam Pass Rate | 0.003 | 0.003 | -0.001 | -0.001 |
| | (0.003) | (0.003) | (0.002) | (0.002) |
| Log(Enrollment) | 0.075* | 0.075* | 0.050 | 0.049 |
| | (0.025) | (0.026) | (0.038) | (0.038) |
| District: | | | | |
| - % Black Students | 0.008* | 0.008* | | |
| | (0.002) | (0.002) | | |
| - % Hispanic Students | | | 0.003+ | 0.003+ |
| | | | (0.002) | (0.002) |
| - Log(Enrollment) | -0.030+ | -0.029+ | -0.021 | -0.021 |
| | (0.017) | (0.017) | (0.024) | (0.024) |
| (Constant) | -0.812* | -0.786* | -0.616 | -0.602 |
| | (0.360) | (0.361) | (0.545) | (0.541) |
| Adj R-sqr | 0.859 | 0.859 | 0.909 | 0.909 |
| N | 528 | 528 | 511 | 511 |

+ p<0.10, * p<0.05 (two-tailed); robust standard errors in parentheses

**Table III-4**
OLS Models of Black Gifted/Talented Placement (Logged % in G/T Programs)

| | *b* | *se* | *b* | *se* | *b* | *se* |
|---|---|---|---|---|---|---|
| Principal: | | | | | | |
| - Black | 0.387+ | (0.215) | 0.327 | (0.219) | 0.362+ | (0.218) |
| - Rep. Role Acceptance | | | -0.001 | (0.055) | -0.001 | (0.055) |
| - Pol. Ideology (Liberalism) | | | 0.080 | (0.060) | 0.081 | (0.060) |
| % Black Teachers | | | | | -0.004 | (0.008) |
| White G/T Placement | 0.382* | (0.084) | 0.379* | (0.084) | 0.377* | (0.084) |
| % Black Students | 0.024* | (0.006) | 0.024* | (0.006) | 0.026* | (0.008) |
| % Hispanic Students | 0.010* | (0.004) | 0.009* | (0.004) | 0.009* | (0.004) |
| % Low Income Students | -0.010* | (0.005) | -0.010* | (0.005) | -0.010* | (0.005) |
| Avg. Teacher Salary | 0.028 | (0.019) | 0.026 | (0.019) | 0.027 | (0.019) |
| % 1st-year Teachers | -0.001 | (0.013) | -0.003 | (0.013) | -0.003 | (0.013) |
| Student-Teacher Ratio | 0.069* | (0.029) | 0.070* | (0.029) | 0.071* | (0.029) |
| Log(Enrollment) | 0.018 | (0.119) | -0.001 | (0.124) | -0.003 | (0.123) |
| Charter School | -0.205 | (0.935) | -0.177 | (0.926) | -0.143 | (0.908) |
| Alternative School | 0.736 | (0.929) | 0.803 | (0.920) | 0.804 | (0.897) |
| (Constant) | -2.324* | (1.043) | -2.320* | (1.045) | -2.358* | (1.048) |
| Adj R-sqr | 0.257 | | 0.257 | | 0.254 | |
| N | 304 | | 304 | | 304 | |

+ p<0.10, * p<0.05 (two-tailed); robust standard errors in parentheses

*Gifted/Talented Placement and School Discipline*

Next, I model placement of minority students in gifted and talented programs. Table III-4 and Table III-5 show the results. The first set of columns indicates that a significantly greater (at the .10) share of black students are placed in gifted and talented programs in schools where the principal is black. In the second model, measures of principal values are added to the regression equation. The effect of a black principal attenuates slightly compared to the prior model and just misses .10 significance (p = 0.14), but neither of the principal values measures are significant. Liberal political

ideology does, however, have a positive coefficient with a t-score of 1.3, and a joint-F test reveals that the political ideology and black principal coefficients are jointly significant at the .10 level ($F = 2.48$; $p = 0.09$). Thus, the findings suggest that principals' political ideology or race (or both) affects black placement in gifted and talented programs, although there is insufficient statistical power to distinguish which variable exerts an effect independent of the other. The third set of columns of Table III-4 adds a measure of the share of black teachers to the equation, but black teachers do not produce any significant effect. This null result is surprising given positive findings in prior studies (Grissom, Rodriguez, and Kern forthcoming; Rocha and Hawes 2009). The black principal coefficient becomes significant again in this model, suggesting that black principals do have an effect on gifted and talented placement independent of their political ideology.

Table III-5 shows results for Hispanic students. In the first model of Hispanic gifted and talented program placement, Hispanic principals have a positive and significant effect. The second model shows that while the representative role acceptance measure has no significant effect, political ideology has a positive and significant coefficient. More liberal principals are associated with a larger share of Hispanic students being placed in gifted and talented program. The Latino principal coefficient, while slightly attenuated, is still significant at the .10 level. This suggest that while it is possible that some of the effect of Latino principals on Hispanic student placement in gifted and talented classes is due to Latino principals' tendency to be slightly more politically liberal, political ideology cannot fully explain the effect of Latino principals

on gifted and talented placements. The final model in Table III-5 adds Hispanic teachers to the previous model. The estimated effect of a Hispanic principal becomes virtually zero (and is insignificant), and Hispanic teachers have a positive, significant effect on placement of Hispanic students in gifted and talented programs. This finding supports the argument that the relationship between Hispanic principals and placement of Hispanic students in gifted and talented programs is moderated by Hispanic teachers. Political ideology remains significant in this model at the .10 level.

**Table III-5**

OLS Models of Hispanic Gifted/Talented Placement (Logged % in G/T Programs)

| | *b* | *se* | *b* | *se* | *b* | *Se* |
|---|---|---|---|---|---|---|
| Principal: | | | | | | |
| - Hispanic | 0.244* | (0.119) | 0.225+ | (0.118) | 0.020 | (0.121) |
| - Rep. Role Acceptance | | | -0.053 | (0.040) | -0.043 | (0.039) |
| - Pol. Ideology (Liberalism) | | | 0.090* | (0.042) | 0.080+ | (0.042) |
| % Hispanic Teachers | | | | | 0.011* | (0.003) |
| White G/T Placement | 0.357* | (0.054) | 0.356* | (0.052) | 0.378* | (0.053) |
| % Black Students | 0.014* | (0.006) | 0.014* | (0.005) | 0.014* | (0.006) |
| % Hispanic Students | 0.007* | (0.003) | 0.007* | (0.003) | 0.001 | (0.004) |
| % Low Income Students | -0.006+ | (0.003) | -0.006+ | (0.003) | -0.005 | (0.004) |
| Avg. Teacher Salary | 0.027+ | (0.015) | 0.025+ | (0.015) | 0.021 | (0.015) |
| % 1st-year Teachers | 0.019+ | (0.011) | 0.018 | (0.011) | 0.020+ | (0.011) |
| Student-Teacher Ratio | 0.039+ | (0.023) | 0.038+ | (0.023) | 0.028 | (0.022) |
| Log(Enrollment) | 0.046 | (0.093) | 0.040 | (0.096) | 0.071 | (0.092) |
| Charter School | 0.597* | (0.127) | 0.674* | (0.131) | 0.583* | (0.141) |
| Alternative School | -0.492* | (0.216) | -0.451* | (0.220) | -0.344 | (0.233) |
| (Constant) | -1.524* | (0.657) | -1.612* | (0.648) | -1.456* | (0.688) |
| Adj R-sqr | 0.309 | | 0.318 | | 0.342 | |
| N | 318 | | 318 | | 318 | |

+ p<0.10, * p<0.05 (two-tailed); robust standard errors in parentheses

**Table III-6**
OLS Models of Black Out-of-School Suspensions (Logged % Suspended)

| | *b* | *se* | *b* | *se* | *b* | *se* |
|---|---|---|---|---|---|---|
| Principal: | | | | | | |
| - Black | 0.203 | (0.254) | 0.154 | (0.261) | 0.078 | (0.277) |
| - Rep. Role Acceptance | | | 0.005 | (0.070) | 0.005 | (0.069) |
| - Pol. Ideology (Liberalism) | | | 0.084 | (0.052) | 0.084 | (0.052) |
| % Black Teachers | | | | | 0.007 | (0.009) |
| White Out-of-Sch. Susp. | 0.555* | (0.089) | 0.555* | (0.088) | 0.548* | (0.089) |
| % Male among Black Stu. | -0.008* | (0.004) | -0.008* | (0.004) | -0.008* | (0.004) |
| % Black Students | 0.027* | (0.005) | 0.026* | (0.005) | 0.023* | (0.007) |
| % Hispanic Students | 0.003 | (0.004) | 0.002 | (0.004) | 0.002 | (0.004) |
| % Low Income Students | 0.001 | (0.004) | 0.002 | (0.004) | 0.001 | (0.004) |
| Avg. Teacher Salary | 0.017 | (0.022) | 0.015 | (0.021) | 0.014 | (0.021) |
| % 1st-year Teachers | 0.006 | (0.007) | 0.005 | (0.008) | 0.006 | (0.008) |
| Student-Teacher Ratio | -0.023 | (0.028) | -0.021 | (0.028) | -0.023 | (0.029) |
| Log(Enrollment) | 0.298* | (0.135) | 0.288* | (0.134) | 0.292* | (0.131) |
| Charter School | -0.399 | (0.358) | -0.380 | (0.366) | -0.414 | (0.365) |
| Alternative School | -0.262 | (0.550) | -0.231 | (0.550) | -0.186 | (0.540) |
| (Constant) | -1.749+ | (0.946) | -1.790+ | (0.969) | -1.684+ | (0.981) |
| Adj R-sqr | 0.321 | | 0.321 | | 0.321 | |
| N | 338 | | 338 | | 338 | |

+ p<0.10, * p<0.05 (two-tailed); robust standard errors in parentheses

I also model out-of-school suspensions for minority students (Table III-6 and Table III-7). The first three sets of columns reveal that having a black principal is never a significant predictor of black student suspensions. Both principal values measures also lack significant coefficients across models, and the black teacher variable is insignificant. Using an archival measure of principal race in the 2011-2012 school year

allows for a much larger sample, but the black principal coefficient is still insignificant (Table A-2 of the Appendix).

Table III-7 indicates that for Hispanic students, having a same-race principal is also an insignificant predictor of student suspensions. Liberal political ideology does appear to have a significant effect, but politically liberal principals are associated with a greater share of Hispanic students receiving out-of-school suspensions. Given that Hispanic principals tend to be more politically liberal, it is somewhat unexpected that politically liberal principals appear to work against the interests of Hispanic students when it comes to out-of-school suspensions. A greater proportion of Hispanic teachers is associated at the .10 level with fewer Hispanic students receiving out-of-school suspensions, which is consistent with expectations. The Hispanic student discipline model in the Appendix (Table A-2) that uses archival data on principal race indicates that in a broader sample, Hispanic principals are associated with more Hispanic students receiving out-of-school suspensions. This again cuts against expectations regarding out-of-school suspensions for Hispanic students.

**Table III-7**
OLS Models of Hispanic Out-of-School Suspensions (Logged % Suspended)

| | *b* | *se* | *b* | *se* | *b* | *se* |
|---|---|---|---|---|---|---|
| Principal: | | | | | | |
| - Hispanic | 0.015 | (0.128) | 0.006 | (0.127) | 0.127 | (0.147) |
| - Rep. Role Acceptance | | | -0.039 | (0.046) | -0.041 | (0.045) |
| - Pol. Ideology (Liberalism) | | | 0.085* | (0.037) | 0.088* | (0.036) |
| % Hispanic Teachers | | | | | -0.006+ | (0.004) |
| White Out-of-Sch. Susp. | 0.475* | (0.050) | 0.478* | (0.051) | 0.461* | (0.052) |
| % Male among Hispanic Stu. | 0.002 | (0.005) | 0.001 | (0.005) | 0.001 | (0.005) |
| % Black Students | 0.007 | (0.004) | 0.007 | (0.004) | 0.007 | (0.004) |
| % Hispanic Students | 0.007* | (0.003) | 0.006* | (0.003) | 0.009* | (0.003) |
| % Low Income Students | -0.001 | (0.003) | -0.001 | (0.003) | -0.001 | (0.003) |
| Avg. Teacher Salary | 0.013 | (0.013) | 0.010 | (0.013) | 0.011 | (0.013) |
| % 1st-year Teachers | -0.008+ | (0.004) | -0.009* | (0.004) | -0.009* | (0.004) |
| Student-Teacher Ratio | -0.051* | (0.016) | -0.050* | (0.017) | -0.045* | (0.017) |
| Log(Enrollment) | 0.326* | (0.088) | 0.328* | (0.085) | 0.326* | (0.085) |
| Charter School | 0.071 | (0.238) | 0.095 | (0.248) | 0.125 | (0.240) |
| Alternative School | 0.271 | (0.280) | 0.320 | (0.274) | 0.335 | (0.258) |
| (Constant) | -1.789* | (0.664) | -1.861* | (0.659) | -2.004* | (0.650) |
| Adj R-sqr | 0.376 | | 0.383 | | 0.390 | |
| N | 357 | | 357 | | 357 | |

+ p<0.10, * p<0.05 (two-tailed); robust standard errors in parentheses

*Standardized Exam Performance*

My final set of models predict standardized exam performance for black and Hispanic students. The first three columns of Table III-8 present the results for black students. Having a black principal has no significant effect in any of the three models. The representative role acceptance and political ideology measures do not produce any significant results either, and the one model that includes the percentage of black

teachers shows a null result for that variable. The appendix results (Table A-3) indicate that even in a larger sample that uses only archival data, black principals are not associated with a higher pass rate among black students.

The results for Hispanic students (shown in the final three columns of Table III-8) also find no effect of a same-race principal or of principal values. The final model indicates that Hispanic teachers are positively and significantly associated with Hispanic students' academic performance. The larger sample in Table A-3 of the Appendix yields a positive and significant coefficient for Hispanic principals. Thus, Hispanic principals may have a positive effect on student performance—just not one that reliably shows up in the smaller sample produced by the principal survey.

## Conclusion

My findings support the notion that bureaucratic values can play a role in shaping organizational outcomes corresponding to the interests of distinct demographic groups. But curiously enough, a single-item measure of a school principal's general political ideology appears to be a better predictor of minority student outcomes in her school than a five-item measure tailored specifically to measuring the extent to which a principal sees herself as an advocate for minority interests in the school. Perhaps this is, at least in part, because the latter measure suffers from serious social desirability bias. Mean responses for the individual items, which are coded on a five-point (1-5) scale, range from 3.7 to 4.2, with at most 5.5% of respondents selecting the disagree or strongly disagree category for any item.

**Table III-8**

OLS Models of Standardized Exam Pass Rates

| | Black Students | | | Hispanic Students | | |
|---|---|---|---|---|---|---|
| | *b/se* | *b/se* | *b/se* | *b/se* | *b/se* | *b/se* |
| Principal: | | | | | | |
| - Black | -0.485 | 0.118 | -0.757 | | | |
| | (1.850) | (1.916) | (2.024) | | | |
| - Hispanic | | | | 0.370 | 0.286 | -0.596 |
| | | | | (1.061) | (1.064) | (1.123) |
| - Rep. Role Acceptance | | -0.834 | -0.870 | | -0.407 | -0.376 |
| | | (0.682) | (0.681) | | (0.388) | (0.391) |
| - Pol. Ideology (Liberalism) | | -0.415 | -0.474 | | -0.136 | -0.143 |
| | | (0.601) | (0.602) | | (0.373) | (0.373) |
| % Black Teachers | | | 0.119 | | | |
| | | | (0.075) | | | |
| % Hispanic Teachers | | | | | | 0.070* |
| | | | | | | (0.033) |
| White Pass Rate | 0.667* | 0.669* | 0.689* | 0.520* | 0.520* | 0.520* |
| | (0.084) | (0.085) | (0.086) | (0.047) | (0.047) | (0.048) |
| % Black Students | -0.062 | -0.055 | -0.120 | -0.047 | -0.043 | -0.041 |
| | (0.065) | (0.064) | (0.075) | (0.045) | (0.045) | (0.046) |
| % Hispanic Students | 0.058 | 0.063 | 0.060 | -0.076* | -0.073* | -0.112* |
| | (0.048) | (0.048) | (0.048) | (0.027) | (0.027) | (0.033) |
| % Low Income Students | -0.201* | -0.201* | -0.205* | -0.062+ | -0.062+ | -0.058+ |
| | (0.054) | (0.055) | (0.055) | (0.033) | (0.033) | (0.033) |
| Avg. Teacher Salary | 0.191 | 0.206 | 0.195 | 0.472* | 0.480* | 0.456* |
| | (0.189) | (0.191) | (0.192) | (0.111) | (0.111) | (0.113) |
| % 1st-year Teachers | -0.062 | -0.054 | -0.050 | -0.188* | -0.184* | -0.187* |
| | (0.086) | (0.085) | (0.087) | (0.058) | (0.058) | (0.058) |
| Student-Teacher Ratio | 0.358 | 0.329 | 0.280 | 0.099 | 0.088 | 0.059 |
| | (0.286) | (0.288) | (0.296) | (0.210) | (0.207) | (0.207) |
| Log(Enrollment) | -1.869+ | -1.531 | -1.609 | -1.324+ | -1.205 | -1.158 |
| | (1.117) | (1.171) | (1.193) | (0.765) | (0.774) | (0.787) |
| Charter School | -2.668 | -2.295 | -2.795 | 1.223 | 1.272 | 1.019 |
| | (4.133) | (4.033) | (4.072) | (3.542) | (3.508) | (3.490) |
| Alternative School | 24.882* | 24.751* | 23.405* | -10.474+ | -10.174+ | -9.446+ |
| | (9.475) | (8.989) | (9.532) | (5.526) | (5.459) | (5.401) |
| (Constant) | 23.231+ | 21.314 | 21.901+ | 24.458* | 23.628* | 25.335* |
| | (12.942) | (13.047) | (13.203) | (7.270) | (7.310) | (7.435) |
| Adj R-sqr | 0.404 | 0.405 | 0.406 | 0.556 | 0.556 | 0.560 |
| N | 384 | 384 | 384 | 488 | 488 | 488 |

+ p<0.10, * p<0.05 (two-tailed); robust standard errors in parentheses

Overall, I am able to explain a very small share of variation in principals' minority representative role acceptance. My findings do indicate that black school principals have a slightly greater tendency than other principals to view themselves as representatives of minority student interests within their schools. Hispanic principals do not appear to exhibit this same elevated sense of a representative role. Perhaps this is due to the long history in the U.S. of civil rights advocacy for black and the extent to which education of black students has been historically politicized in a very public manner.

Perhaps what is more notable about my findings is that the representative role acceptance measure appears to be more strongly related to the characteristics of the school they serve than to their own racial identity. This is consistent with Meier and Nigro's (1976) finding that the agency in which a public employee works is a better predictor of their political values than their demographic characteristics. These results could indicate that public employees' values are being influenced by the environment in which they work. Or they could reflect selection effects, whereby citizens with certain sets of values choose to work for (or have the applications accepted by) certain public organizations.

Slightly more variation can be explained in the general political ideology measure than in representative role acceptance measure. Political ideology also appears to be related to institutional characteristics, although school characteristics add less to the explanatory power of the model since race is a better predictor for political ideology. As in the broader population, black and Hispanic school principals tend to be more

politically liberal than other principals, and this liberal-leaning tendency is greater among black principals.

I find no evidence that the representative role acceptance measure is associated with any of the four school attributes or outcomes associated with minority interests that I examine. Principals' race and general political ideology do appear to affect some of these measures of active representation but not all of them. That more substantive effects of principals' race and values are not detected is not particularly surprising given previous findings that passive representation at the street level (among teachers) has a much stronger association with student outcomes than at the management level (Meier 1993a; Meier and O'Toole 2006). That I find any effects at all might suggest that results would be even stronger at the street-level. Future work should measure bureaucratic values at this level and estimate their effects.

The presence of a black or Hispanic principal appears to be associated with more teachers of the principal's race or ethnicity working at that school. No effects of political ideology, however, are found. One explanation could be that simply holding values that compel one to desire hiring or retaining more minority personnel is insufficient. Minority principals may have knowledge or networks that allow them to recruit minority personnel, or their social identity may draw minority teachers to them in a way that someone else who holds the same values could not attract minority teachers. Minority teachers may prefer working for a principal who shares their racial or ethnic identity for symbolic reasons or because minority principals tend to create an environment that they prefer. Or it could be that minority bureaucrats hold distinctive values that have gone

unmeasured. They may have a stronger desire and therefore make more serious efforts to recruit minority personnel than other principals who score equivalently on my values measures. Another possibility is that the relationship observed here does not reflect a causal effect of principals on teachers. District administrators who successfully hire minority principals may also tend to hire more minority teachers. Or a minority principal may be more likely to agree to come work at a school that is hiring minority teachers for the coming year (controlling for the proportion of same-race teachers in the prior year should account for any effect the school's current teachers have on the school's ability to recruit or retain a minority principal during the normal annual hiring period).

Black and Hispanic principals also appear to have a positive effect on the placement of students who share their race or ethnicity in gifted and talented programs. Having a principal with a liberal general political ideology also appears to positively affect Hispanic (and possibly black) students' chances of being placed in a gifted and talented program. These two effects (of principal race and of principal ideology) appear to largely function independently of one another, rather than political ideology being a strong moderator of principal race.

The effects of principal race on out-of-school suspensions and standardized exam pass rates are less consistent than the other areas I examine for evidence of active representation. Black principals do not have any significant effect on the proportion of black students who receive out-of-school suspensions or who pass the state's standardized exams. Hispanic principals are positively associated with both outcome measures for Hispanic students but only in the larger sample that uses only archival data.

The positive relationship between Hispanic principals and out-of-school suspensions for Hispanic students is surprising. Principals with more liberal political ideologies are also associated with more out-of-school suspensions for Hispanic students. Perhaps principals who generally work to advance Hispanic interests hold nuanced views of how to best go about pursuing such interests that motivate them to enact harsh punishments, even ones that take Hispanic students out of the educational environment when they exhibit severe behavioral issues. Meier and Rutherford (forthcoming) find that black administrators are associated with harsher discipline for black students and suggest that this may reflect a need for administrators to impose strict discipline in order to advance in their careers.

Bureaucratic values do appear to be associated with race in an education context, and their values do appear to have meaningful effects on students belonging to certain demographic groups. At the same time, values may not be the only mechanism linking passive representation to substantive benefits for those being represented. The measures of values employed in this chapter can explain a most only a portion of the substantive effects that appear to exist for clients who are passively represented. Future work should consider whether there are other ways of measuring values or other types of values that can explain a greater portion of the substantive effects that are observed. Or it may be fruitful to consider and explicitly measure other potential sources of effects, such as bureaucratic knowledge, at the same time that bureaucratic values are measured. Future work could also try to investigate why general political ideology appears to be associated with outcomes along demographic lines in a context like education since it is not

necessarily obvious how a conservative or political ideology would motivate one to behave differently in an education context. Given the prominent attention that bureaucratic values have received in theoretical discussions of bureaucratic representation, it is time to devote more serious empirical attention to directly observing the role that they play.

# CHAPTER IV

## WHEN REPRESENTATION MATTERS: WE ALL AGREE

Recent studies of representative bureaucracy have focused primarily on empirically examining whether there is a link between the demographic makeup of a bureaucracy (passive representation) and how the outputs or outcomes of the bureaucracy affect particular demographic groups (active representation). A large body of work now establishes that such a link can exist, although there are cases in which passive representation for a group does not appear to improve substantive outcomes for the group being represented (e.g., Wilkins and Williams 2008; 2009). Unpacking the reasons that passive representation is sometimes (but not always) linked to active representation may have important implications for our understanding of bureaucracies as potentially democratic institutions. On a more practical level, knowing where passive representation is most strongly linked to active representation may suggest locations where diversity recruitment efforts may be especially important.

While significant theoretical work has been done to try to explain under what conditions passive and active representation are linked, empirical studies that explicitly test the moderating effect of a third variable on the link between passive representation and bureaucratic outcomes are rare. In this chapter I present the results of such a study. I begin by reviewing existing theoretical and empirical work describing the conditions under which passive and active representation are most strongly linked. I then highlight the role that heterogeneity of client interests may play in producing policy conflict,

which theory has identified as a necessary condition for passive representation to translate into active representation. Next, I describe how the unique context of the New York City public school system provides variation in the degree to which clients exhibit needs which are heterogeneous. I then conduct a quantitative analysis using a large panel dataset of New York City schools over six year. My results provide robust support for the hypothesis that heterogeneity of clients' interests moderates the link between passive and active representation.

## When Are Passive and Active Representation Linked?

The existing representative bureaucracy literature has devoted some attention to the question of under what conditions the demographic makeup of a bureaucracy's personnel is likely to affect the outputs or outcomes of the bureaucracy. These discussions have often been framed in terms of the conditions under which passive (or descriptive) representation is likely to translate into active (or substantive) representation. Thompson (1976) proposed five factors that may affect the link between passive and active representation. First, he recognized that social movements might encourage minority personnel to act on behalf of a demographic group to which they belong. Second, he suggested that "linkage is more likely when minority officials deal with issues which have patent ramifications for the well-being of their race" (Thompson 1976, 215). A third factor Thompson identifies is the presence of minority employee associations, which may also encourage active representation. His fourth factor is job discretion, and he suggests that active representation may be particularly strong when

minorities occupy positions at or near the street level that allow them to exercise discretion. The final factor Thompson identifies is the proximity of minority employees to one another. Specifically, he argues that minority employees who interact frequently with other minority employees are more likely to actively represent.

Meier (1993b) built on this early theoretical work and offered several falsifiable hypotheses concerning the conditions under which passive and active representation should be more strongly linked. Several of Meier's hypotheses build on or slightly modify claims made by Thompson (1976). Particularly relevant to this chapter is Meier's treatment of issue areas. Whereas Thompson focused attention on whether an issue area has "patent ramifications for the well-being" (1976, 215) of a demographic group, Meier argued that the key consideration is whether a demographic factor is associated with values which "are the focus of policy disputes in that political system" (1993b, 10). Meier's framing could be used to argue that even when multiple groups are affected by the work of a bureaucracy, passive representation for those groups will only influence the bureaucracy's actions if the various groups have reasons to prefer different policies.

Several of Meier's (1993b) hypotheses also suggest new factors that Thompson (1976) did not identify. Meier discusses how stronger agency socialization might reduce the link between passive and active representation. He explicitly discusses the role that agency rules can play in constraining bureaucrats, thus weakening the link between passive and active representation. Meier hypothesized that the link between the two types of representation will be stronger when there are slack resources available because

discretion should increase. He also suggests that professions and education can influence employees' values, thus moderating the link between passive and active representation.

Keiser et al. (2002) produced a more recent article which focused on gender representation and highlighted seven factors that may influence the link between passive and active representation. They argued that two factors—discretion and policy salience to the demographic group being represented—are necessary (but not sufficient) conditions for passive representation to translate into active representation. The other five factors, while not necessary, were hypothesized to affect the strength of a possible link between passive and active representation. Specifically, the link should be stronger in organizations with (1) an advocacy mission, (2) less hierarchy, (3) representation in multiple parts of the organization, (4) representation in sufficiently large numbers (a "critical mass"), and (5) professionalization that encourages advocacy for the group in question.

Drawing heavily on the theoretical work of Thompson (1976), Meier (1993b), and Keiser et al. (2002), quantitative studies have attempted to test the conditions under which passive and active representation are most strongly linked. At least three studies have demonstrated a nonlinear relationship between passive and active representation, supporting the existence of a "critical mass" effect (Hindera and Young 1998; Meier 1993a; Meier, Wrinkle, and Polinard 1999). A handful of studies have also found that active representation is more strongly linked to passive representation at lower levels of the bureaucracy (Meier 1993a; Meier and O'Toole 2006; Meier and Stewart 1992; see also Meier, Stewart, and England 1989, 94), although Wilkins and Keiser (2006) find the

opposite (perhaps because there is less discretion for the street-level workers they study). Meier and Bohte (2001) used a split sample approach to show that there is a stronger link between passive and active representation in public organizations with a wider span of control, which presumably afford street-level employees more discretion. Using a similar methodology, Keiser et al. (2002) found evidence that for certain outcomes, the link between passive and active representation is stronger when there is less hierarchy and greater representation among managers. Grissom, Nicholson-Crotty, and Nicholson-Crotty (2009) used an interaction term to show that passive representation for blacks has a stronger effect on black student outcomes in the South, presumably because race is a more salient characteristic in the South.

Beyond the analyses mentioned above, several studies have made suggestions regarding why a link between passive and active representation might be found with some populations (or variables) but not others. For example, Meier and Stewart (1992) argued that variation in discretion and issue salience could account for inconsistent findings on racial representation. Similarly, Keiser et al. (2002) suggested that prior studies of gender representation produced null results because they did not consider gendered issues (see also Wilkins and Keiser 2006). Wilkins and Williams (2008; 2009) argue that agency socialization should dampen the link between passive and active representation in police departments, and their empirical results provide no evidence of a positive link, instead indicating that minority representation increases racial profiling.

## Hypothesis

Given discrepant findings on the link between passive and active representation, it is important to further examine how this link is moderated. As noted above, Meier (1993b) highlighted the importance of policy disputes in forming the link between passive and active representation. Unless there are disagreements over policy that are rooted in ideas or preferences associated with demographic factors, the demographic characteristics of a bureaucracy should have no effect on the policies a bureaucracy pursues.

There are almost certainly cases where demographic factors—even if they are associated with distinct norms and values—are unrelated to preferences on particular policies, as Meier and Nigro (1976) found. After all, different sets of values shouldn't produce policy conflict if the various sets of values all lead to the conclusion that the same policy is optimal. Similarly, bureaucrats who prioritize the interests of different populations should not experience policy conflict if the various populations share very similar interests. For example, suppose two different sets of bureaucrats are particularly concerned about the interests of two different groups of clients—working mothers and college students. There are many policies which can simultaneously benefit both sets of clients. Examples might include producing shorter wait times to receive services or reducing the difficulty of paperwork. In this sense, the two groups—though very different—have shared interests.

Policy disputes will arise when different values or different groups demand different actions or policies. When these disputes are rooted in values or ideas linked to

demographic characteristics, the disputes will make the demographic characteristics salient, providing bureaucrats with motivation to act in a way that will produce active representation. Within the context of a service-oriented bureaucracy, policy disputes are likely to arise when different demographic groups have different service needs. Bureaucrats are expected to prioritize the service needs of their own demographic group, which will produce conflict (and active representation) when needs diverge.

> **Hypothesis IV-1**: The link between passive and active representation in a service-oriented bureaucracy will be stronger when its clients' needs/interests are more heterogeneous (because policy disputes are more likely).

## Schools in New York City

The New York City (NYC) public school system—which constitutes the largest public school system in the U.S.—provides a unique context allowing one to study the effect of passive representation under varying levels of heterogeneity of client interests. Scholars of representative bureaucracy have frequently utilized school data to test their theories, drawing on nationwide datasets (e.g., Meier, Stewart, and England 1989; Rocha and Hawes 2009) as well as datasets of schools in Georgia (e.g., Atkins and Wilkins 2013; Roch and Pitts 2012), Florida (e.g., Meier 1993a; Meier and Stewart 1992), and especially Texas (e.g., Keiser et al. 2002; Meier, Wrinkle, and Polinard 1999). NYC provides a novel context for a study of representative bureaucracy in schools because of its highly urban environment and unique demographic characteristics. Most students in

NYC public schools are Latino/a or black. In the dataset I examine (described below), the average school has 39.7% Latino students and 32.5% black students. There are also a substantial number of Asians in these schools—12.4% on average. Almost no white students are present in the majority of schools; the median level is equal to just 2.7% (mean = 14.3%). Additionally, the students in the NYC public schools are overwhelmingly low income. In the average school, 69.1% of students receive free school lunches, and another 8.2% receive reduced price lunches. A final distinguishing characteristic of NYC schools is their immigrant population. In 2010, approximately 49% of the population of NYC spoke a foreign language in the home. Relatedly, an average of 13.4% of each school's students are designated English Language Learners in my sample. NYC's immigrant population differs from that of Texas and many other regions of the country in that the majority of first generation immigrants do not come from Mexico. Among foreign-born residents, the most common country of origin is the Dominican Republic, followed by China and then Mexico.[6]

NYC's unique context has important implications for a study of representative bureaucracy. Given that low income and minority students typically constitute the vast majority of students in any given public school, it is hard to imagine how a school could define success in a way that does not include maximizing the learning achievements of historically underachieving groups. Thus, compared with teachers in other public school

[6] Statistics on use of foreign language and country of origin were obtained from the website of the New York City Mayor's Office of Immigrant Affairs: http://www.nyc.gov/html/imm/html/news/stats.shtml (accessed January 14, 2014). Country of origin statistics were for 2011.

systems, teachers in NYC—regardless of their race—may be more uniformly oriented towards implementing policies and practices believed to improve the learning of low income and minority students. In other words, race (and associated values) may be a weak determinant of bureaucrats' policy preferences in NYC public schools because of the relatively homogeneous interests/needs of its clients. By relatively homogenous, I mean that the needs of black and Latino students, for example, may be more similar than the needs of black and white students in many school systems.

This argument assumes that there are policies and practices which are at least believed to improve the learning of low income and minority students as an entire group. Put differently, the argument assumes that there is perceived commonality in the needs of low income and minority students, despite the vast diversity among students who are low income and nonwhite. There is limited research indicating whether or not the same educational practices are effective in aiding different groups of traditionally underperforming students. Slavin and Madden (2002) found that both Latino and black students benefited from the same school intervention program, but results from Aaronson, Barrow, and Sander (2007, 126-128, 131) indicate that teacher quality and teacher-student race matching may affect black and Latino students differently (at least in terms of magnitude of effects). Even if different racial minorities are affected somewhat differently by interventions, all that is assumed in the argument outlined in the preceding paragraph is that teachers *believe* the same policies generally improve learning for multiple minority groups. This assumption may be implicitly held by teachers who think in terms of policies that benefit at-risk students as opposed to policies that benefit

students of a particular race. Ferguson (1998, 342) writes "Few instructional interventions specifically aim to reduce the black-white test score gap. However, many aim to assist children who are at risk of failure." In my dataset of NYC schools, black and Latino exam pass rates are correlated more highly with one another than with white exam pass rates. Regardless of the causal mechanism at play, this pattern of correlations is consistent with the notion that schools that produce high achievement levels for black students also tend to produce high achievement levels for Latino students. Such relationships should tend to reinforce notions that various types of at-risk students have a relatively homogenous set of needs/interests. Thus, I believe there is good reason to expect that teachers in NYC public schools generally perceive there to be common needs among their low income and minority students.

There is, however, an important caveat to this general expectation. When students have not yet attained English proficiency, they will possess some very distinct needs. Special programs (including English as a Second Language, transitional bilingual, and dual language programs) are used in NYC schools to assist students designated as English Language Learners.[7] Activities aimed at helping English Language Learners may compete for resources (including teachers' time and attention) with other activities that benefit traditional students. Furthermore, if the English Language Learners within a school do not all speak the same language natively, there may be substantial heterogeneity of needs among the English Language Learners. In the language of the

[7] Information on bilingual programs was found on the website of the NYC Department of Education: http://schools.nyc.gov/Academics/ELL/default.htm (accessed February 14, 2014).

hypothesis I outlined in the prior section (Hypothesis IV-1), I am contending that the needs/interests of clients belonging to distinct demographic groups are more heterogeneous in schools with English Language Learners. Thus, differences in teachers' values may become more salient when there are English Language Learners present in a school.

## Data

I utilize a panel dataset containing school-level records on 1046 elementary and middle schools over a six year period, starting with the 2006-2007 school year and ending with 2011-2012. Because data were missing for some schools in some years, a total of 5885 observations are included in my dataset. Data were downloaded from the public websites of the NYC Department of Education and the New York State Education Department. Additional teacher data were obtained from the NYC Department of Education under a confidentiality agreement. Charter schools were omitted from the dataset.[8]

I use standardized exam results to measure bureaucratic outcomes for three different racial groups (Latino, black, and Asian). The NYC Department of Education provides records on the percentage of students who pass (score a three or four on) standardized state exams in English and math. Students are required to take these exams annually from 3rd through 8th grade. I examine English and math exam pass rates

[8] Schools with fewer than four students were also dropped, and data with obviously incorrect values (such as percentages that summed to greater than 100%) were marked as missing.

(expressed as percentages) separately for Latino, black, and Asian students. Because test data are not publicly reported whenever fewer than five students in a given racial category take the exam, the number of observations varies depending on the racial group I examine. Most noticeably, the number of observations drops down to 3638 when I examine Asians because a large number of schools contain very few Asian students.

I measure representation as the percentage of teachers who belong to the racial category being considered in the particular model (Latino, black, or Asian). This variable was created by aggregating records from an individual-level teacher dataset obtained under a confidentiality agreement with the NYC Department of Education.[9] The other main independent variable is the percentage of enrolled students designated as English Language Learners, which was obtained from publicly available city records.

An important set of control variables are included in my models. Because it is difficult to fully measure the overall quality of a school, I control for the exam pass rate among students belonging to racial categories other than the one being considered.[10] Teacher quality is known to be a major factor influencing educational outcomes (Hanushek and Rivkin 2006). Since teacher race is used to measure one of my main independent variables of interest, it is particularly important to control for other teacher characteristics which may correlate with both race and performance. I measure the percentage of male teachers using records from the individual-level teacher dataset. State

[9] When creating variables from this dataset, I considered only those teachers who were on regular active status.

[10] I computed the pass rate among other students as a weighted average of the pass rates among all racial groups for which data were available (except for the racial group being considered). Weights were determined according to the number of students in each racial category who took the exam.

records indicate the percentage of teachers who are not certified and the percentage of teachers who have fewer than three years of experience teaching. The individual-level teacher dataset was used to compute the average number of days that teachers in a school were absent for discretionary reason during the year. My final teacher variable is the annual turnover rate, as reported by the state.

Beyond the impact of teachers, research suggests that students are influenced in their learning by their peers (see Hanushek, Kain, and Rivkin 2009). Thus, I control for the demographic characteristics of the student body.[11] I use city records to measure the percentage of students who are Asian, black, Latino, and female. I also control for the percentage of students who receive free lunches and the percentage of students who receive reduced price lunches, figures which are reported by the state. The city reports the percentage of students who are designated as special education students and the total enrollment at each school.

I create a standardized measure of class size based on state records, which indicate the average class size separately for elementary classes and for each of four subjects in eighth grade. The four eighth grade indicators were averaged to create a single middle school indicator. The middle school and elementary school indicators were then standardized separately. A weighted average of the standardized middle and elementary school indicators was computed, using the number of students who took the state math exam in grades 3-6 (7-8) as the elementary (middle) school weight. The

[11] Student demographic characteristics may also provide information about the types of neighborhoods in which students live.

combined measure was then standardized to create the final class size measure. I also include in my regression models a dummy variable for middle schools, which was coded as a one if any students in the school took the 7th or 8th grade math exams. In order to account for heteroskedasticity and correlated errors from my panel dataset, I cluster standard errors by school and include year fixed effects. In my final set of models, I also include a lagged dependent variable to allow for dynamic effects.

## Findings

The results from my initial models are displayed in Table IV-1. R-squared values are fairly high, indicating that the regression models explain between 60% and 82% of the variation in the dependent variables. The lowest R-squared values are for the models of Asian student performance, probably because there are very few Asian students in many schools, leading to higher levels of random variability in the aggregated outcome measure. The control variables, though not always significant, generally produce relationships that are consistent with expectations. Teacher absences and teacher turnover appear to negatively affect performance, and male teachers are negatively associated with performance in most equations. The presence of minority students (Asians, blacks, and Latinos) in the schools appears to generally be positively associated with minority student performance. A higher proportion of female students is associated with higher black student performance. Test scores appear to be higher when there are fewer special education students and fewer students receiving free lunches. Finally, smaller schools and elementary schools appear to perform better.

**Table IV-1**
Initial Models of Exam Pass Rates

| | English | | | Math | | |
|---|---|---|---|---|---|---|
| | Latino | Black | Asian | Latino | Black | Asian |
| | *b/se* | *b/se* | *b/se* | *b/se* | *b/se* | *b/se* |
| Group Representation | 0.023 | -0.011 | 0.092 | 0.040 | 0.011 | 0.106* |
| | (0.024) | (0.015) | (0.051) | (0.022) | (0.015) | (0.039) |
| % Engl. Lang. Learners | -0.277* | -0.015 | -0.274* | -0.241* | -0.101* | -0.104* |
| | (0.025) | (0.038) | (0.040) | (0.030) | (0.035) | (0.036) |
| Others' Pass Rate | 0.655* | 0.701* | 0.699* | 0.726* | 0.764* | 0.576* |
| | (0.022) | (0.021) | (0.030) | (0.016) | (0.017) | (0.024) |
| Teachers | | | | | | |
| % Male | -0.091* | -0.030 | -0.090* | -0.087* | -0.081* | 0.030 |
| | (0.024) | (0.026) | (0.039) | (0.025) | (0.025) | (0.032) |
| % Uncertified | -0.075 | -0.025 | 0.091 | -0.049 | -0.042 | -0.062 |
| | (0.041) | (0.048) | (0.111) | (0.042) | (0.050) | (0.114) |
| % < 3 Yrs. Exper. | -0.019 | 0.002 | 0.030 | -0.009 | -0.001 | -0.001 |
| | (0.019) | (0.022) | (0.040) | (0.019) | (0.020) | (0.031) |
| Avg. Days Absent | -0.113 | -0.146 | -0.115 | -0.212* | -0.215* | -0.069 |
| | (0.082) | (0.084) | (0.146) | (0.083) | (0.089) | (0.125) |
| % Turnover | -0.047* | -0.075* | -0.052 | -0.056* | -0.074* | -0.007 |
| | (0.017) | (0.020) | (0.036) | (0.018) | (0.019) | (0.035) |
| Students | | | | | | |
| % Asian | 0.070* | 0.061* | 0.068* | -0.013 | 0.015 | 0.076* |
| | (0.019) | (0.031) | (0.021) | (0.020) | (0.030) | (0.017) |
| % Black | 0.030 | 0.163* | -0.031 | 0.041* | 0.148* | -0.033 |
| | (0.017) | (0.023) | (0.022) | (0.014) | (0.021) | (0.017) |
| % Latino | 0.097* | 0.137* | 0.146* | 0.122* | 0.145* | 0.059* |
| | (0.018) | (0.024) | (0.021) | (0.017) | (0.023) | (0.017) |
| % Female | 0.010 | 0.132* | 0.112 | 0.020 | 0.072* | 0.091 |
| | (0.041) | (0.034) | (0.094) | (0.041) | (0.035) | (0.063) |
| % Free Lunch | -0.030* | -0.057* | -0.045* | -0.008 | -0.054* | -0.010 |
| | (0.012) | (0.014) | (0.017) | (0.011) | (0.014) | (0.013) |
| % Reduced Lunch | -0.019 | 0.107 | 0.081 | 0.005 | 0.086 | 0.025 |
| | (0.042) | (0.056) | (0.061) | (0.042) | (0.053) | (0.050) |
| % Special Ed. | -0.308* | -0.306* | -0.019 | -0.248* | -0.254* | 0.113* |
| | (0.041) | (0.048) | (0.071) | (0.040) | (0.047) | (0.054) |
| Log(Enrollment) | -2.552* | -0.559 | 2.589* | -2.041* | -1.251* | 1.619* |
| | (0.459) | (0.529) | (0.646) | (0.468) | (0.509) | (0.548) |
| Avg. Class Size | 0.062 | -0.130 | 0.112 | -0.306 | -0.024 | -0.093 |
| | (0.188) | (0.224) | (0.306) | (0.183) | (0.200) | (0.259) |
| Middle School | -0.167 | -1.951* | -2.688* | -1.028 | -2.872* | -0.603 |
| | (0.578) | (0.687) | (0.917) | (0.563) | (0.636) | (0.742) |
| Adj R-sqr | 0.809 | 0.740 | 0.674 | 0.821 | 0.780 | 0.606 |
| N | 5872 | 5509 | 3638 | 5872 | 5509 | 3638 |

* p<0.05 (two-tailed); clustered standard errors in parentheses; constant and year dummies not shown

The results in Table IV-1 show little evidence of a link between passive and active representation. Descriptive representation for the given racial group produces a significant effect on the group's pass rates in only one out of six models—the one explaining Asian performance on math exams. The representation coefficient is, however, positive in five out of six cases, including the one case where it is statistically significant. Thus, the sign of the representation coefficient is generally in the direction predicted by arguments favoring a link between passive and active representation, even though one cannot be confident that the effect is different from zero in most models. Comparable studies in Texas schools have produced coefficient estimates for teacher representation in the range of .08 to .28 (Meier et al. 2001; Meier and Bohte 2001).[12] Given the relatively small standard errors produced by my models, it appears that even if an effect does exist for Latinos and blacks, it is substantially smaller than the effects generally found in previous studies. Based on 95% confidence intervals, the largest plausible value for the representation coefficient appears to be around .07 or .08 for Latinos and .02 or .04 for blacks. The only models producing point estimates for the representation coefficient falling within the range of values from previous studies are those modeling the performance of Asians—a group that has received almost no attention in the existing literature.

[12] By comparable studies, I mean those that estimate a linear effect of teacher representation (measured as the percent minority/black/Latino teachers) on the minority/black/Latino pass rate and include white student performance as a control variable in a non-autoregressive model. Using more recent data, Meier et al. (2006) also produced coefficient estimates in this range, but they use an autoregressive modelling approach, which substantially alters how coefficients are interpreted.

**Table IV-2**
Interactive Models of Exam Pass Rates

| | English | | | Math | | |
|---|---|---|---|---|---|---|
| | Latino | Black | Asian | Latino | Black | Asian |
| | *b/se* | *b/se* | *b/se* | *b/se* | *b/se* | *b/se* |
| Group Representation | -0.060 | -0.027 | -0.084 | -0.055 | -0.026 | -0.078 |
| | (0.037) | (0.019) | (0.062) | (0.040) | (0.018) | (0.051) |
| % Engl. Lang. Learners | -0.356* | -0.035 | -0.339* | -0.330* | -0.147* | -0.175* |
| | (0.038) | (0.046) | (0.047) | (0.039) | (0.041) | (0.042) |
| Representation × ELL | 0.003* | 0.002 | 0.007* | 0.004* | 0.004* | 0.008* |
| | (0.001) | (0.001) | (0.002) | (0.001) | (0.001) | (0.002) |
| Others' Pass Rate | 0.652* | 0.703* | 0.708* | 0.725* | 0.769* | 0.581* |
| | (0.022) | (0.022) | (0.030) | (0.016) | (0.017) | (0.024) |
| Teachers | | | | | | |
| % Male | -0.092* | -0.032 | -0.090* | -0.089* | -0.087* | 0.029 |
| | (0.024) | (0.026) | (0.039) | (0.025) | (0.025) | (0.031) |
| % Uncertified | -0.071 | -0.022 | 0.091 | -0.044 | -0.035 | -0.062 |
| | (0.041) | (0.048) | (0.111) | (0.042) | (0.050) | (0.114) |
| % < 3 Yrs. Exper. | -0.015 | 0.002 | 0.035 | -0.003 | -0.001 | 0.004 |
| | (0.019) | (0.021) | (0.040) | (0.019) | (0.020) | (0.031) |
| Avg. Days Absent | -0.114 | -0.144 | -0.097 | -0.211* | -0.209* | -0.053 |
| | (0.082) | (0.084) | (0.145) | (0.083) | (0.090) | (0.124) |
| % Turnover | -0.044* | -0.077* | -0.044 | -0.052* | -0.078* | 0.002 |
| | (0.017) | (0.020) | (0.036) | (0.018) | (0.019) | (0.034) |
| Students | | | | | | |
| % Asian | 0.083* | 0.064* | 0.075* | 0.002 | 0.022 | 0.084* |
| | (0.019) | (0.031) | (0.021) | (0.020) | (0.029) | (0.017) |
| % Black | 0.029 | 0.168* | -0.028 | 0.040* | 0.161* | -0.030 |
| | (0.017) | (0.024) | (0.022) | (0.014) | (0.022) | (0.017) |
| % Latino | 0.106* | 0.137* | 0.160* | 0.134* | 0.145* | 0.074* |
| | (0.018) | (0.025) | (0.022) | (0.017) | (0.022) | (0.017) |
| % Female | 0.011 | 0.132* | 0.110 | 0.019 | 0.074* | 0.089 |
| | (0.040) | (0.034) | (0.094) | (0.040) | (0.035) | (0.063) |
| % Free Lunch | -0.025* | -0.056* | -0.045* | -0.002 | -0.052* | -0.011 |
| | (0.012) | (0.014) | (0.017) | (0.011) | (0.014) | (0.013) |
| % Reduced Lunch | -0.024 | 0.111* | 0.083 | -0.001 | 0.096 | 0.027 |
| | (0.042) | (0.056) | (0.061) | (0.041) | (0.053) | (0.049) |
| % Special Ed. | -0.304* | -0.309* | -0.017 | -0.241* | -0.262* | 0.112* |
| | (0.041) | (0.047) | (0.071) | (0.040) | (0.046) | (0.053) |
| Log(Enrollment) | -2.495* | -0.572 | 2.622* | -1.973* | -1.290* | 1.639* |
| | (0.464) | (0.528) | (0.645) | (0.476) | (0.506) | (0.530) |
| Avg. Class Size | 0.064 | -0.147 | 0.123 | -0.305 | -0.058 | -0.078 |
| | (0.188) | (0.223) | (0.303) | (0.182) | (0.199) | (0.254) |
| Middle School | -0.283 | -1.905* | -2.632* | -1.145* | -2.765* | -0.556 |
| | (0.579) | (0.689) | (0.914) | (0.563) | (0.636) | (0.733) |
| Adj R-sqr | 0.809 | 0.740 | 0.675 | 0.822 | 0.781 | 0.609 |
| N | 5872 | 5509 | 3638 | 5872 | 5509 | 3638 |

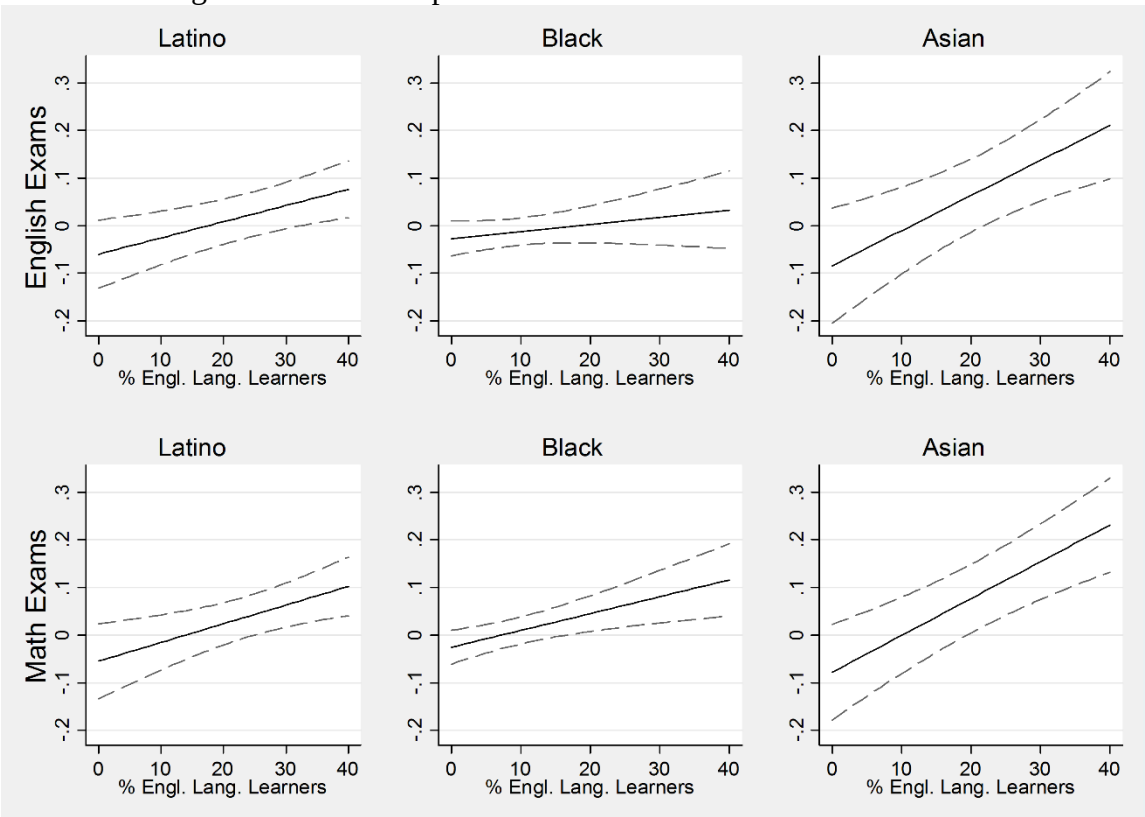
* p<0.05 (two-tailed); clustered standard errors in parentheses; constant and year dummies not shown

Taken as a whole, the results from Table IV-1 (particularly the Latino and black student performance models) are consistent with the notion that passive and active representation are weakly linked because the students in these schools have a relatively homogeneous set of needs (compared to school systems with more white students and more socioeconomic diversity). The results from Table IV-1 for the English Language Learner variable are also worth noting. For Latinos and Asians, an increase in the size of the English Language Learner population is associated with lower pass rates on English and math exams. A similar relationship is found for black students on math exams but not on English exams. Perhaps the effect for blacks is weaker because Latino and Asian students are more likely to be English Language Learners.

Table IV-2 shows the results of interacting representation with the percentage of English Language Learners. Because of the interactive term, the linear representation coefficient (shown in the first row) should be interpreted as the marginal effect of representation when there are zero English Language Learners in the school. In each model this coefficient is insignificant, indicating that the effect of representation when there are no English Language Learners is not statistically distinguishable from zero. The interactive term, however, is positive and significant in five out of six models, indicating that the effect of passive representation on outcomes for the given racial group becomes more positive when there are more English Language Learners. Marginal effects graphs (Figure IV-1) indicate that for these five models, the effect of representation becomes significant (at the .05 level) when the percentage of English Language Learners reaches anywhere between approximately 17% and 32%, depending

on the model. Given that the median value of the English Language Learners variable is 10.3 and that the middle 90% of observations fall between 1.2 and 36.6, there are many cases within the sample for which representation is estimated to have a significant effect.

**Figure IV-1**
Estimated Marginal Effects of Representation with 95% Confidence Intervals




The magnitude of the representation effect can be substantial when there are a large number of English Language Learners. For purposes of comparing the results from different models, I will consider the case when the share of English Language Learners in the school is 40% (equal to the 96.7th percentile). Given this value for the English Language Learners variable, the marginal effect of representation for Latinos is

approximately .08 for English and .10 for math. Substantively, a 10 point increase in the percentage of Latino teachers is associated with an additional .8% of Latino students passing the English exam and with an additional 1.0% of Latino students passing the math exam. For blacks, the effect of representation on English exam pass rates is insignificant; an F-test of the joint significance of the linear and interactive representation terms could not reject the null hypothesis of no effect. Black representation does, however, significantly affect math pass rates when there are a large number of English Language Learners. When 40% of students are English Language Learners, the marginal effect of black representation is estimated to be equal to .12 in the model of Math exam results. Thus, a 10 point increase in the percentage of black teachers coincides with an additional 1.2% of black students passing the math exam. The estimated effects for Asian students are the strongest. Given the same scenario, the marginal effect of representation for Asian students is expected to be .21 for English exams and .23 for math exams. In other words, Asian pass rates are expected to increase by 2.1 percentage points on the English exams and 2.3 percentage points on the math exams when the share of Asian teachers increases by 10 percentage points.

**Table IV-3**

Autoregressive Models of Exam Pass Rates

| | English | | | Math | | |
|---|---|---|---|---|---|---|
| | Latino | Black | Asian | Latino | Black | Asian |
| | *b/se* | *b/se* | *b/se* | *b/se* | *b/se* | *b/se* |
| Group Representation | -0.027 | -0.015 | -0.058 | -0.019 | -0.006 | -0.038 |
| | (0.022) | (0.011) | (0.039) | (0.024) | (0.011) | (0.034) |
| % Engl. Lang. Learners | -0.186* | -0.014 | -0.211* | -0.164* | -0.075* | -0.072* |
| | (0.024) | (0.029) | (0.031) | (0.024) | (0.027) | (0.025) |
| Representation × ELL | 0.002* | 0.001 | 0.005* | 0.002* | 0.002* | 0.004* |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| Lagged DV | 0.460* | 0.491* | 0.442* | 0.452* | 0.466* | 0.452* |
| | (0.016) | (0.015) | (0.022) | (0.015) | (0.014) | (0.024) |
| Others' Pass Rate | 0.403* | 0.408* | 0.458* | 0.465* | 0.480* | 0.366* |
| | (0.017) | (0.016) | (0.024) | (0.014) | (0.016) | (0.020) |
| Teachers | | | | | | |
| % Male | -0.040* | -0.009 | -0.025 | -0.016 | -0.019 | 0.041* |
| | (0.014) | (0.016) | (0.025) | (0.015) | (0.016) | (0.020) |
| % Uncertified | -0.004 | 0.043 | 0.071 | 0.039 | 0.035 | -0.050 |
| | (0.034) | (0.038) | (0.079) | (0.034) | (0.039) | (0.086) |
| % < 3 Yrs. Exper. | -0.011 | -0.006 | 0.050 | 0.005 | -0.009 | 0.016 |
| | (0.014) | (0.014) | (0.027) | (0.014) | (0.015) | (0.024) |
| Avg. Days Absent | -0.034 | -0.061 | -0.045 | -0.161* | -0.134 | 0.057 |
| | (0.061) | (0.060) | (0.107) | (0.062) | (0.069) | (0.087) |
| % Turnover | -0.020 | -0.042* | -0.030 | -0.031* | -0.034* | 0.006 |
| | (0.013) | (0.015) | (0.029) | (0.014) | (0.016) | (0.029) |
| Students | | | | | | |
| % Asian | 0.045* | 0.025 | 0.034* | -0.011 | -0.001 | 0.040* |
| | (0.012) | (0.018) | (0.013) | (0.012) | (0.018) | (0.010) |
| % Black | 0.028* | 0.091* | -0.007 | 0.033* | 0.087* | -0.005 |
| | (0.010) | (0.015) | (0.014) | (0.008) | (0.014) | (0.011) |
| % Latino | 0.065* | 0.077* | 0.101* | 0.076* | 0.085* | 0.045* |
| | (0.011) | (0.015) | (0.014) | (0.010) | (0.014) | (0.011) |
| % Female | -0.011 | 0.061* | 0.052 | -0.013 | 0.036 | 0.045 |
| | (0.026) | (0.022) | (0.056) | (0.026) | (0.025) | (0.035) |
| % Free Lunch | -0.008 | -0.018* | -0.001 | 0.006 | -0.019* | -0.001 |
| | (0.008) | (0.009) | (0.012) | (0.007) | (0.009) | (0.009) |
| % Reduced Lunch | -0.043 | 0.047 | 0.079* | -0.019 | 0.041 | 0.026 |
| | (0.026) | (0.034) | (0.038) | (0.026) | (0.033) | (0.032) |
| % Special Ed. | -0.127* | -0.120* | 0.037 | -0.076* | -0.076* | 0.109* |
| | (0.026) | (0.028) | (0.044) | (0.025) | (0.028) | (0.035) |
| Log(Enrollment) | -1.406* | -0.247 | 1.725* | -1.233* | -0.694* | 1.192* |
| | (0.289) | (0.313) | (0.407) | (0.290) | (0.312) | (0.358) |
| Avg. Class Size | -0.099 | -0.082 | 0.169 | -0.174 | -0.014 | -0.114 |
| | (0.121) | (0.144) | (0.194) | (0.121) | (0.135) | (0.179) |
| Middle School | 0.296 | -0.664 | -1.464* | 0.277 | -0.419 | 0.608 |
| | (0.354) | (0.408) | (0.552) | (0.350) | (0.396) | (0.466) |
| Adj R-sqr | 0.861 | 0.816 | 0.759 | 0.874 | 0.844 | 0.706 |
| N | 5844 | 5431 | 3428 | 5844 | 5431 | 3428 |

* p<0.05 (two-tailed); clustered standard errors in parentheses; constant and year dummies not shown

The findings reported in Table IV-2 strongly suggest that passive representation for a given racial minority is linked to better outcomes for students belonging to that racial minority only when there is a sufficiently large proportion of English Language Learners. Assuming that a higher proportion of English Language Learners corresponds to greater heterogeneity of interests among clients, these results strongly support Hypothesis IV-1. It is also worth noting that the direct effect of the English Language Learners variable on student pass rates tends to be negative for Latinos and Asians, unless there are very high levels of representation.

Because I am using panel data, errors may be correlated from one year to the next within a given school. One approach to accounting for correlated errors as well as for the inertial nature of many public organizations (O'Toole and Meier 1999) is to create an autoregressive model by included a lagged dependent variable on the right side of the equation. This modeling approach provides a more rigorous test of my findings.

Table IV-3 shows the results of running autoregressive models which account for the dynamic nature of organizations. Because exam pass rates for the 2005-2006 school year were available from the NYC Department of Education, relatively small numbers of cases are dropped when lagged dependent variables are added to the models. The autoregressive terms are all positive and highly significant, as one would expect. Interpreting coefficients from autoregressive models is somewhat more difficult than with OLS since the coefficients represent only the short term impact of an independent variable on performance. Because I produced autoregressive models primarily as a robustness check, I will not interpret the magnitudes of the coefficient estimates here.

The results in Table IV-3 show that the direction and significance of the key independent variables in each model remain exactly the same as in Table IV-2. Thus, the findings that representation has no effect when there are no English Language Learners and that the effect of representation generally becomes more positive as the share of English Language Learners increases are robust to the autoregressive specification. Marginal effects graphs (not shown) also indicate that for the five autoregressive models where the interaction is significant, the marginal effect of representation becomes significant when the English Language Learners variable reaches levels well within the range of the sample.

## Conclusion

Schools are generally thought to provide a favorable environment for linking passive and active representation for racial minorities because of the discretion afforded to teachers and the salience of minority achievement gaps (see Meier and Stewart 1992). Indeed, many existing studies of schools demonstrate that passive representation of blacks and Latinos among teachers does result in improved outcomes for black and Latino students. The findings in this article, however, demonstrate that this link is not always present in public schools. My theoretical argument suggests a possible explanation for this result. Since most schools in NYC primarily serve students traditionally considered to be at-risk, there should be few internal disputes regarding whether or not policies and procedures believed to help at-risk students should be implemented with the greatest possible rigor. Education interventions are typically

oriented towards helping at-risk students as a whole rather than specific racial groups, so the interests of students—despite diverse racial identities—can be considered relatively homogeneous in most NYC schools (compared to school systems also serving many middle-class, white students).

This explanation of why the link between passive and active representation is very weak in NYC schools is further supported by the results from my interactive models. These models show that the proportion of English Language Learners positively interacts with passive representation. In other words, passive and active representation appear to be linked more strongly when more heterogeneity is introduced—here in the form of students who are not yet English proficient. When large numbers of English Language Learners are present in a school, the estimated effects of representation are comparable in magnitude to effects found in other studies. If the needs of students in other public school systems tend to be more diverse than in NYC, the interactive effect I observe may explain why scholars have consistently found a link between passive and active representation in other school systems.

One practical implication of my theoretical and empirical conclusion is that passive representation assumes the most substantive importance when a bureaucracy serves clients whose needs are relatively heterogeneous. When working with clients who have diverse needs, service-oriented bureaucracies should make strong efforts to provide descriptive representation to minority groups in order to enhance responsiveness to their interests. Descriptive representation may be somewhat less important when clients of different demographic backgrounds share very similar needs in relation to the services a

bureaucracy is offering. This is not to say that descriptive representation assumes no importance in such situations; as others have argued, descriptive representation may be an important signal of legitimacy and can even be considered a normative end in its own right (e.g., Meier 1993b). Nonetheless, this article provides insights regarding the circumstances under which descriptive representation may have a greater impact on bureaucratic outcomes.

This line of reasoning also suggests that the lack of a relationship between the demographic makeup of a particular bureaucracy's personnel and its outcomes does not always indicate that there is a breakdown in representation. It may simply be the case that various demographic groups tend to share similar interests with regards to the bureaucracy or that the differences in interests do not fall along demographic lines (don't correlate with the specific demographic characteristics being measured). Holding talent constant, who controls the bureaucracy should matter little if there is a consensus regarding what the bureaucracy should do. The same is true regarding representation in legislative bodies. Since there is a near-universal consensus that robbery and arson should be considered criminal acts, the policy to criminalize these acts should remain in place regardless of who is elected. The lack of a relationship between this particular outcome and who holds office does not imply that the public is not being represented on the issue; it simply reflects the consensus on the topic. Similarly, we should expect there to be cases (perhaps many cases) when bureaucrats of different demographic backgrounds agree at a fundamental level on what the bureaucracy should be doing. At the same time, existing empirical evidence documents the existence of cases in which

there is not agreement regarding how bureaucrats should act (e.g., Selden 1997). In such cases, who gets hired may have important implications for how the bureaucracy will ultimately function (assuming that bureaucrats have sufficient discretion).

While my empirical analysis is limited to an evaluation of service-oriented bureaucracies, the theoretical ideas that motivated this study are not. In any type of bureaucracy, the values or concerns for particular groups' interests that bureaucrats may possess should not influence their work when conflicting values/concerns do not produce conflicting policy preferences. This does not necessarily imply a failure of representation mechanisms. Instead, there may be a sense in which the representation is latent—unobserved until interests among different groups (or the policies suggested by different sets of values) start to diverge. Thus, the absence of a universal link between passive and active representation need not necessarily be cause for concern regarding the normative claims of representative bureaucracy theory. In order to more accurately assess the merits of the theory, scholars might look for evidence of whether or not active representation does in fact consistently react to passive representation when there is known heterogeneity of interests. The empirical results from the present study provide one case in which passive representation does appear to form a link with active representation when known heterogeneity of interests is present. More empirical and theoretical work must follow if one wishes to better understand both the generalizability of these findings and their full normative implications.

# CHAPTER V

# IS REPRESENTATIVE BUREAUCRACY AN ORGANIZATIONAL-LEVEL PHENOMENON?

Bureaucrats' values—like elected official's values—translate into political decisions. Because bureaucracies are important institutions of political decision making, their decision making processes deserve serious scrutiny, just as scholars carefully evaluate the decision making processes of elected political bodies. Within the context of a democracy, representation constitutes an essential concept for normatively evaluating decision making processes. The representative bureaucracy literature has applied the concept of representation to the bureaucracy, but the existing literature focuses almost exclusively on measuring the distribution of demographic characteristics (or political opinions) among government workers and on evaluating whether (or when) the characteristics of the workers have consequences for policy. While examining who an agency comprises of (and if that matters for policy) is an important facet of representation, it is not the whole picture. Representation is about both *who* is selected to participate in decision making and *how* participants' preferences are translated into political decisions. Thus, it is essential to consider the internal processes dictating the manner in which members of the bureaucracy make political decisions.

Elected bodies often rely, at least in part, on formal rules to dictate how individual representatives' preferences are to be aggregated into a collective decision. These rules often stipulate that a majority of members must support a policy before it is

adopted, although there are also instances where supermajorities are required. Formal procedures normally give all members of the elected body the opportunity to participate in each decision. The involvement in each decision of actors representing multiple constituencies (and thus perspectives) of the public arguably increases the legitimacy of the decision making process (and of individual decisions). Furthermore, allowing a multiplicity of the public's perspectives to be voiced during the decision making process may produce compromise, concessions, and—ultimately—policies that are more palatable to broader range of people than if any single perspective were allowed to dominate the process.

Existing scholarship provides little insight regarding the extent to which the varying perspectives of employees within a bureaucracy are jointly taken into account through collective processes like those of an elected body. Put differently, little is known about whether the presence of more personnel who exhibit a consequential demographic characteristic is likely to affect how the entire bureaucracy functions or if their presence will only affect activities which they themselves perform. On the one hand, formal authority for many decisions in the bureaucracy may lie in the hands of one individual, such as a supervisor or a front-line bureaucrat who is expected to exercise discretion. At the same time, bureaucrats may be able to affect the behavior of their colleagues in several ways, as outlined in the framework presented in Chapter II. Empirical studies of representative bureaucracy almost always measure the demographic characteristics of bureaucrats exclusively at either the organizational (e.g., Meier and Nicholson-Crotty 2006) or individual (e.g., Theobald and Haider-Markel 2009) level. I am aware of only

two studies that explicitly measure bureaucrats' demographic characteristics at two different levels within an organization and consider the independent effects of each level (Favero and Molina 2014; Nicholson-Crotty et al. forthcoming). One study does not find any effect of school-level racial composition on the equity of student outcomes after controlling for racial match at the individual-level (Nicholson-Crotty et al. forthcoming) while the other study finds that Hispanic student outcomes are positively associated with a greater presence of Hispanic teachers at other schools in their district even after controlling for the proportion of Hispanic teachers at their own school (Favero and Molina 2014). Further examination of the topic is needed.

In this chapter, I use California public school data to examine whether Hispanic student performance on standardized exams in a given grade level is positively associated with the presence of Hispanic teachers in higher grade levels after controlling for the percentage of Hispanic teachers in the students' own grade level. I find no significant effects of Hispanic teachers in the same grade or in higher grades on English exams. For math exams, I find significant effects of Hispanic teachers at both levels, although the effect of Hispanic teachers in higher grade levels becomes insignificant when I add a control for the performance of white students. These results some limited support for the notion that bureaucratic representative effects function (at least in part) at an organizational level.

## Bureaucratic Representation at an Organizational Level

Mosher's ([1968] 1982) concepts of passive representation—which refers to the presence of personnel in a bureaucracy who exhibit a given demographic characteristic—provides a useful starting point for discussing organizational-level effects of a bureaucracy's demographic composition. As Lim (2006) makes clear, studies have established a link between passive representation and favorable outcomes for the represented group in many contexts, but there is somewhat of a black box regarding how passive representation is translated into outcomes. The framework offered in Chapter II suggests that a bureaucrat offering passive representation to a group might indirectly influence organizational outcomes through other bureaucrats or—in the case of service-oriented bureaucracies—through clients' coproduction efforts. While a growing number of studies have devoted attention to examining of whether or not clients positively alter behavior in response to interacting with bureaucrats who share their demographic characteristics (Andrews, Ashworth, and Meier 2014; Meier and Nicholson-Crotty 2006; Riccucci, Van Ryzin, and Lavena 2014; Thielemann and Stewart 1996), scholars are just beginning to directly study whether the effect of an individual minority bureaucrat can extend beyond the clients that bureaucrat directly serves (Favero and Molina 2014; Nicholson-Crotty et al. forthcoming).

Determining whether passive representation's effect on outcomes functions through organizational-level processes requires going beyond the traditional approach of either measuring passive representation at the individual level or the organizational level. Studies that measure passive representation only at the individual level (e.g., Dee

2004; Theobald and Haider-Markel 2009) can establish the existence of benefits for a client that accrue from direct interactions with a bureaucrat who passively represents her,[13] but they cannot rule out the possibility that effects also exist at the organizational level. Studies that only measure passive representation at the organizational level (e.g., Meier and Nicholson-Crotty 2006; Wilkins and Keiser 2006) are limited by the fact that greater passive representation at the organizational-level also indicates a greater likelihood of interaction with passive representative at the individual level. Though just stated in terms of client experiences with service-oriented bureaucracies, organizational-level and individual-level representation effects can also exist in other bureaucracies. In such cases, individual-level representation effects would describe effects on outcomes that occur only when bureaucrats who passively represent a particular group directly participate in activities that contribute to production of the affected outcomes. Organizational-level effects would describe instances where the presence of a passively representative bureaucrat in an agency affects activities performed by other bureaucrats (in a manner that influences outcomes).

Two recent studies directly address the lack of research on organizational-level representation effects by measuring passive representation at multiple levels within the bureaucracy. Using a nationally representative sample of schools, Nicholson-Crotty et al. (forthcoming) test whether an organizational-level measure of passive representation in

[13] It is possible that an individual-level measure of a match in demographic characteristics could function as a proxy for organizational-level passive representation (meaning that the organizational-level effect of passive representation could be incorrectly attributed to an individual-level match in demographic characteristics if one does not control for organizational-level passive representation), but the inclusion of fixed effects for organizations eliminates this potential problem.

schools has any effect on assignment of black students to gifted programs while controlling for an individual-level match between student and teacher race. They find that racial match at the individual-level has a positive effect but do not find any evidence of a positive effect of organizational-level passive representation for black students. Favero and Molina (2014) do not have access to individual-level data, so they use subunits of organizations as their lower-level units of analysis. They first try examining Texas public schools offering education services to both primary (1st-6th grade) and secondary (7th-12th grade) students since they can obtain separate records for teachers offering instruction at each level. However, the level of multicollinearity and number of observations in their data do not allow them to draw any meaningful substantive conclusions from this analysis. They also examine Texas public school districts, using schools as subunits and districts as broader organizations. They find that Latino elementary school students' performance on standardized exams is positively associated with passive representation among teachers at other schools within the district while controlling for passive representation among the teachers in their own school. In some ways, school districts are unusual units to consider because most frontline employees do not regularly interact with employees at other schools within their district. Favero and Molina suggest two potential causal mechanisms, both of which involve the district's central administration. There may be a bottom-up effect in which Latino teachers influence administrative decisions regarding district-wide policy. Alternatively, teachers may have no causal district-wide effect, and instead administrators who are attuned to

minority interests may make an effort to hire Latino teachers and also to adopt other policies that are favorable to Latino students.

One set of earlier studies does offer some indirect support for the existence of organizational-level effects. These studies test for and find evidence of non-linear effects of organizational-level passive representation (Hindera and Young 1998; Meier 1993a; Meier, Wrinkle, and Polinard 1999), which is consistent with the proposition that the link between passive representation and positive outcomes for a group is stronger once a critical mass of minority bureaucrats has been achieved (Keiser et al. 2002; Thompson 1976). The results from Hindera and Young's (1998) study of Equal Employment Opportunity Commission (EEOC) offices have been interpreted as evidence that black bureaucrats influenced their white coworkers (see Lim 2006, 198), but a careful reading of their results reveals little support for this conclusion. Specifically, Hindera and Young's model of EEOC offices' actions on behalf of black citizens finds a positive and significant interaction between the percentage of black employees and a dummy variable indicating whether or not black employees constitute a plurality. This result certainly suggests the existence of some sort of non-linear relationship between passive and active representation, but the traditional interpretation of such non-linear effects is that minority bureaucrats behave differently when they have reached a critical mass, not that non-minority bureaucrats necessarily alter their behavior in response to the minority bureaucrats (Meier 1993a; 1993b; Meier, Wrinkle, and Polinard 1999; Thompson 1976). Hindera and Young also note that the variable measuring the percentage of employees who are white becomes significant (and positive) once their interactive term is added to

the equation, but they incorrectly interpret this as an indication that white representation is positively associated with black outcomes only when blacks constitute a plurality (testing this would require a separate interaction term or sample splitting).

One study by Selden (1997, 129-130) included an analysis that directly estimated the effect of the presence of minority colleagues on a bureaucrats' responses to a set of survey items asking about the extent to which bureaucrats saw themselves as representatives of minority interests within their workplace (a construct she called representative role acceptance). Her results indicate a negative relationship, although she conducts a one-tailed test for a positive relationship and thus does not find statistical significance (the relationship would be significant under a two-tailed test).

Despite the limited number of compelling empirical tests (and somewhat inconsistent results), there is good reason to believe that minority bureaucrats may often influence their non-minority coworkers. Within the context of education, research has demonstrated that teachers can contribute in important ways to the broader functioning of their schools. High levels of teacher turnover can negatively affect students throughout the school, even those students who are not taught by a teacher who ends up leaving or one who comes in to replace a departing one (Ronfeldt, Loeb, and Wyckoff 2013). Qualitative work by Atkins and Wilkins (2013) suggests that white teachers form networks with minority teachers, sometimes referring minority students to them, and that white teachers and administrators can be influenced in their policy decisions by minority teachers. Given how much time most teachers spend working apart from their coworkers as they each provide instruction in their own classrooms, any coworker effects found in

schools are likely to be even stronger in organizations where greater collaboration among employees is required.

## Hypotheses

Though there is reason to believe that passive representation may have organizational-level effects for clients of service-oriented bureaucracies, many of the ways in which passive representation can translate into substantive outcome effects do not function at an organizational level. The framework offered in Chapter II acknowledges several ways that individual-level representation effects might function. Street-level bureaucrats generally have much greater discretion over their own activities than they have influence over other bureaucrats, even accounting for the multiple ways that bureaucrats can affect one another's behavior. As such, I expect the values, knowledge, and habits associated with their demographic characteristics to usually have a larger effect on their own behavior than on other bureaucrats' behavior. From the client's perspective, although observing the presence with an agency of bureaucrats exhibiting certain attributes may influence her perception of the organization, tangible experiences interacting with individual bureaucrats probably play a larger role in shaping how that client goes about coproducing. My first hypothesis in this chapter reflects this expectation that individual-level representation effects are larger than organizational-level representation effects:

**Hypothesis V-1**: A client's outcomes will be most positively associated with the level of passive representation among those bureaucrats with whom the client has the most frequent direct interactions.

Although individual-level representation effects may be larger than organizational-level effects, this does not mean that organizational-level effects are unimportant. Institutions often play important roles in shaping individual behavior, and many bureaucrats have real opportunities to affect the behaviors of their coworkers. Furthermore, clients who observe that they are passively represented in a public organization may experience a greater sense of belonging in that space and form a more positive image of the organization even if they never interact with a bureaucrat who passively represents them on a given social dimension. To the extent that organizational-level representation effects exist, they suggest that passive representation for a clientele group can benefit them even if employees and clients are not matched along demographic lines. My second hypothesis states that such effects do exist:

**Hypothesis V-2**: A client's outcomes will be positively associated with the level of passive representation among bureaucrats with whom the client has very little or no direct interactions.

## Data & Methods

I utilize publicly available data on California public elementary schools to assess the extent to which clients are affected by substantive representation among bureaucrats who do not directly serve them. California public schools constitute a very racially

diverse setting. The California Department of Education reports that in the 2006-2007 school year, 48.1% of students were Hispanic, 29.4% were white, 11.4% were Asian or Pacific Islander, 7.6% were African American, and the remaining 3.5% fell into some other category.[14] I focus on the largest racial or ethnic group, Hispanics, in part because more data is available for them than any other group since they constitute a sizeable portion of the student body in most schools (some data is suppressed when too few students are included in a cell). Though passive representation is not always associated with substantive benefits for clients (Keiser et al. 2002; Roch and Pitts 2012; Wilkins and Williams 2008; 2009), prior studies have found positive effects of passive representation among teachers on Hispanic student outcomes (Meier 1993a; Rocha and Hawes 2009). I desire to look at representation in an area where effects of passive representation are likely to be found so that I can analyze whether the effects appear to function at a broad organizational level. The large number of public schools in California allows for a test with more degrees of freedom than many other datasets would allow, which is helpful for overcoming the potential imprecision (inflated standard errors) posed by likely collinearity between passive representation measures constructed at different levels of the organizations.

The California Department of Education publishes on their public website data on student exam performance at the grade level within each school and also provides de-identified individual-level teacher data that can be matched to their school and the

[14] http://dq.cde.ca.gov/dataquest/EnrollEthState.asp?Level=State&TheYear=2006-07&cChoice=EnrollEth1&p=2

courses (subject and grade level) that they teach. In California elementary schools, a single teacher generally teaches all subjects to a set of students enrolled in the same grade level (whereas middle and high school teachers often teach the same subject to students in multiple grade levels). As such, I am able to construct an elementary school dataset that measures passive representation at both the grade-level and the school-level within each school. This provides a significantly finer level of measurement than Favero and Molina's (2014) dataset containing data on primary (1st-6th grade) and secondary (7th-12th grade) education within schools and thus reduces the likelihood that lower-level and higher-level passive representation measures are highly collinear.

I construct a panel dataset of 4028 elementary schools that contains five years of data (beginning with the 2003-2004 school year and ending with 2007-2008). I restrict the dataset to traditional public schools (charter schools and alternative schools are omitted), and the unit of analysis is the school-grade-year (e.g., 3rd grade at George Washington Elementary School in 2005). I consider only grades two through five because state standardized exams are not taken until second grade, and sixth grade students often attend middle schools rather than elementary schools. Standardized exam performance data is not reported for a subgroup any time that subgroup contains fewer than 50 students, and observations with missing data were omitted from the sample. Since the number of students in a given grade can fluctuate at a school over time, the same units are not always observed in every year of the dataset (making it an unbalanced panel).

My dependent variable is the percentage of Hispanic students (in a given school, grade, and year) who score at or above proficient on the California Standards Test. Separate measures record the pass rate for English and math exams, and two separate models are run to predict the English and math pass rates.

The main independent variables measure passive representation at two different levels of the school. One measure is the percentage of teachers at the students' own grade level (i.e., the grade level of the students whose standardized exam pass rate is being explained) who are Hispanic, and the other measure is the percentage of teachers of higher grade levels in the school who are Hispanic. Teachers of higher grade levels are unlikely to have directly provided services to the students of a given grade, so any effect of passive representation among such teachers will likely reflect indirect effects of teachers on clients whom they have not directly served. (The converse cannot be said; teachers in a student's own grade level may or may not have provided instructional services to that student, so the same-grade measure reflects the potential for both direct and indirect effects on students.) Teachers of lower grade levels are not included in either measure because even though they do not currently teach the students under consideration, they may have taught many of these students in the past. Some teachers teach classes at multiple grade levels or teach at least one course that is ambiguous as to the grade levels included.[15] Teachers are included in the same-grade measure as long as

[15] In traditional elementary schools, approximately 21% of teachers taught at least one course that spanned multiple grades or that was ambiguous as to the grades included (grade level was coded as ambiguous unless the course was identified as kindergarten/pre-first or corresponding to one of grades one through six).

they teach at least one course at the given students' own grade level. Teachers are only included in the higher-grade measure if every course they teach is solely at grade levels higher than the given students' own grade level (in order to avoid the possibility of including teachers who may teach at the students' own grade level or at lower grade levels).[16]

The two measures of passive Hispanic representation are correlated with one another at only 0.37. This is probably due to the relatively small number of teachers assigned to any given grade at most elementary schools and the fact that most teachers throughout the California school system are white. Both Hispanic teacher measures have an average value of about 13%, but given the small number of teachers in each grade, the median value is 0%.

I also include a set of several control variables in my models. It is important to control for teacher characteristics since I wish to isolate the effect of teachers' ethnicity independent of other teacher characteristics. I use school-level measures of the percentage of teachers with a master's degree or higher and the average years of teaching experience. I also include a school-level measure of the student-teacher ratio as an indicator of resources. At the school-grade-level, I include measures of a number of

[16] Formally, the same-grade passive representation measure is calculated as $\frac{H\_teachers_{s,g,t}}{teachers_{s,g,t}} \times 100$, where $teachers_{s,g,t}$ indicates the number of teachers in school $s$ who taught at least one course at grade level $g$ in year $t$, and $H\_teachers_{s,g,t}$ indicates the number of Hispanic teachers among those counted in $t_{s,g,t}$. The higher-grades passive representation measure is calculated as $\frac{H\_teachers\_hg_{s,g,t}}{teachers\_hg_{s,g,t}} \times 100$, where $teacher\_hg_{s,g,t}$ indicates the number of teachers in school $s$ in year $t$ for whom all courses taught were at grade level $g + 1$ or higher, and $H\_teachers\_hg_{s,g,t}$ indicates the number of Hispanic teachers among those counted in $teachers\_hg_{s,g,t}$.

student characteristics. Specifically, I control for the percentage of students who are English language learners, low income (eligible to receive free or reduced price lunch), Hispanic, black, and Asian as well as the percentage of students with a parent who holds a college degree. School size is measured as logged enrollment. In a second set of models, I also control for the exam pass rate among white students since white student performance may reflect aspects of overall school quality that are not fully accounted for with the other control variables. Including this measure mitigates the risk of omitted variable bias but also may make it more difficult to detect the effect of a variable that also affects white student performance.

Given the panel structure of my dataset, correlated errors are likely present. I account for this by running OLS with two sets of fixed effects and with clustered standard errors. Year fixed effects to account for state-wide idiosyncratic effects over time, such as the exam being more difficult in a given year. I also include fixed effects at the grade level, which will account for any differences in the difficulty of exams at different grade levels. Finally, I cluster standard errors by school in order to account for correlation of errors among observations from the same school.

**Table V-1**
OLS Models of Hispanic Student Performance

| | English | | Math | |
|---|---|---|---|---|
| | *b* | *se* | *b* | *se* |
| Teachers: | | | | |
| % Hisp. (Same Grade) | 0.005 | (0.004) | 0.009+ | (0.005) |
| % Hisp. (Higher Grades) | 0.001 | (0.006) | 0.015* | (0.008) |
| % w/ Adv. Degrees | 0.041* | (0.007) | 0.051* | (0.009) |
| Avg. Experience | 0.072 | (0.045) | -0.007 | (0.053) |
| Student-Teacher Ratio | -0.152+ | (0.079) | -0.176* | (0.085) |
| Students: | | | | |
| % English Learner | -0.255* | (0.011) | -0.224* | (0.013) |
| % Low Income | -0.122* | (0.010) | -0.083* | (0.012) |
| % Hispanic | 0.098* | (0.012) | 0.112* | (0.014) |
| % Black | -0.013 | (0.017) | -0.009 | (0.020) |
| % Asian | 0.109* | (0.016) | 0.060* | (0.018) |
| % Parent w/ College Deg. | 0.204* | (0.013) | 0.193* | (0.015) |
| Log(Enrollment) | 2.993* | (0.418) | 3.117* | (0.507) |
| Grade 2 | 3.209* | (0.257) | 14.974* | (0.328) |
| Grade 3 | -7.519* | (0.229) | 13.723* | (0.306) |
| Grade 4 | 7.125* | (0.204) | 10.461* | (0.280) |
| Year 2004 | -10.764* | (0.210) | -12.477* | (0.256) |
| Year 2005 | -5.769* | (0.194) | -6.068* | (0.230) |
| Year 2006 | -2.872* | (0.175) | -3.494* | (0.206) |
| Year 2007 | -1.711* | (0.150) | -2.462* | (0.175) |
| (Constant) | 23.020* | (2.711) | 22.966* | (3.172) |
| Adj R-sqr | 0.486 | | 0.307 | |
| N | 38,336 | | 38,333 | |

+ $p<0.10$, * $p<0.05$ (two-tailed)
Unit of observation is the school-grade-year (e.g., 3rd grade at George Washington Elementary School in 2005).
Standard errors are clustered by school.

## Findings

Table V-1 displays the results of my initial models. R-squared values indicate that the regressions explain substantially more of the variation in English exam pass rates (49%) than in math pass rates (31%). Most of the controls behave as expected and

have a similar effect across the two models. Hispanic student performance is positively associated with teachers who have advanced degrees and is negatively associated with the student-teacher ratio. Hispanic students perform worse when there are more English language learners and more low income students in their grade, and they perform better when there are more Hispanic students, Asian students, and students with a parent who earned a college degree. The size of the school is positively associated with performance.

In the model for English exams, neither measure of passive Hispanic representation among teachers is significant. Even if only one of the two measures is included in the model (not shown), the results remain insignificant regardless of which measure is used. This result is somewhat unexpected but could be due to the unusual distribution of the passive representation measures. Both Hispanic representation variables exhibit distributions with long, fat tails extending out to 100% even though most observations fall at or near 0%. In order to reduce the relative extremity of unusually high values, I try using a logarithmic transformation of the variables in my next set of models (discussed below).[17]

The math exam model in Table V-1 does yield significant results for Hispanic teachers. Both passive representation terms have a positive and significant effect, although the same-grade representation variable is only significant at the .10 level. The positive association between students' math exam pass rates and passive representation

[17] In order to avoid dropping cases where the original value of one of the Hispanic teacher measures is 0%, I add a value of one to the variables before taking their log.

among teachers in higher grade levels supports Hypothesis V-2, which states that clients' outcomes are positively associated with passive representation among bureaucrats who do not directly serve them. The estimated effect sizes are rather modest, however. Increasing the percentage of Hispanic teachers in a given grade level by 40 points (approximately two standard deviations) is associated with only a 0.4 point increase in the percentage of Hispanic students who pass the math exam in that grade. The indirect representation effect is estimated to be slightly larger (although not significantly so); a 0.6 point increase in the percent pass rate for a given grade level is estimated to accompany a 40 percentage point increase in Hispanic representation among teachers of higher grade levels within the same school.

The models in Table V-2 are equivalent to Table V-1 except that the Hispanic representation measures are logged. The same-grade measure of passive representation now has a significant effect on the English exam pass rate, but the higher-grades measure remains insignificant. Though only one of the two variables attains significance, a joint-F test fails to reject the hypothesis that the two coefficients are equal to one another ($F = 1.48$; $p = 0.22$). Interpreting effect magnitudes for these nonlinearly transformed variables is complicated somewhat since the effect of a 40 percentage point increase depends on the initial percentage of Hispanic teachers. A move from 0% Hispanic teachers to 40% Hispanic teachers in the students' same grade is associated with a 0.5 point increase in the percentage pass rate on the English exam. For math exams, both representation variables retain significance, but now the same-grade measure is significant at the .05 level and has a slightly larger (but not significantly

different) effect than the higher-grades measure. A change from 0% to 40% Hispanic teachers at students' own grade level is associated with a 0.8 percentage point increase in the pass rate while the same change in the proportion of Hispanic teachers at higher grade levels corresponds to an estimated 0.6 percentage point increase in the math pass rate. These effect sizes remain relatively modest.

A final set of models includes a control for the white student pass rate. Table V-3 shows that the white student pass rate has a strong and significant relationship with Hispanic performance on both exams. The logged measure of passive Hispanic representation at the same grade level continues to be significantly associated with the English exam pass rate, although only at the .10 level because of a larger standard error estimate. The size of the coefficient estimate is nearly identical to that of the prior model in Table V-2. The higher-grades measure of passive representation remains insignificant and now has a negative coefficient estimate. In this case, a joint-F test finds that the coefficients of the two passive representation measures are significantly different from one another at the .10 level ($F = 3.50$; $p = 0.06$). This result yields some support for Hypothesis V-1, which predicted that the effect of same-grade representation would be more positive than the effect of representation in other parts of the organization.

**Table V-2**
OLS Models of Hispanic Student Performance (Logged Representation)

| | English | | Math | |
|---|---|---|---|---|
| | *b* | *se* | *b* | *se* |
| Teachers: | | | | |
| Logged % Hisp. (Same Grade) | 0.123* | (0.054) | 0.216* | (0.067) |
| Logged % Hisp. (Higher Grades) | 0.023 | (0.070) | 0.173* | (0.086) |
| % w/ Adv. Degrees | 0.041* | (0.007) | 0.051* | (0.009) |
| Avg. Experience | 0.074 | (0.045) | -0.005 | (0.053) |
| Student-Teacher Ratio | -0.148+ | (0.079) | -0.168* | (0.085) |
| Students: | | | | |
| % English Learner | -0.255* | (0.011) | -0.224* | (0.013) |
| % Low Income | -0.123* | (0.010) | -0.084* | (0.012) |
| % Hispanic | 0.096* | (0.012) | 0.110* | (0.013) |
| % Black | -0.014 | (0.017) | -0.010 | (0.020) |
| % Asian | 0.109* | (0.016) | 0.059* | (0.018) |
| % Parent w/ College Deg. | 0.204* | (0.013) | 0.192* | (0.015) |
| Log(Enrollment) | 2.896* | (0.424) | 2.872* | (0.513) |
| Grade 2 | 3.149* | (0.266) | 14.762* | (0.336) |
| Grade 3 | -7.570* | (0.234) | 13.557* | (0.311) |
| Grade 4 | 7.105* | (0.206) | 10.390* | (0.281) |
| Year 2004 | -10.760* | (0.210) | -12.466* | (0.256) |
| Year 2005 | -5.764* | (0.194) | -6.060* | (0.230) |
| Year 2006 | -2.868* | (0.176) | -3.491* | (0.206) |
| Year 2007 | -1.711* | (0.150) | -2.464* | (0.175) |
| (Constant) | 23.584* | (2.742) | 24.386* | (3.203) |
| Adj R-sqr | 0.486 | | 0.307 | |
| N | 38,336 | | 38,333 | |

+ $p<0.10$, * $p<0.05$ (two-tailed)
Unit of observation is the school-grade-year (e.g., 3rd grade at George Washington Elementary School in 2005).
Standard errors are clustered by school.

The results for the math exam model in Table V-3 again indicate that passive Hispanic representation at the same grade level has a positive effect on the Hispanic student pass rate. The estimated magnitude of the effect is closer to that of the higher-grades representation measure in the prior model (in Table V-2). The higher-grades

representation effect, however, becomes insignificant in the math exam model in Table V-3. Unlike for English exams, the two representation coefficient estimates are not significantly different from one another in the math exam model ($F = 1.28$; $p = 0.26$).

**Table V-3**
OLS Models of Hispanic Student Performance (Controlling for White Performance)

| | English | | Math | |
|---|---|---|---|---|
| | *b* | *se* | *b* | *se* |
| White Student Pass Rate | 0.300* | (0.010) | 0.502* | (0.009) |
| Teachers: | | | | |
| Logged % Hisp. (Same Grade) | 0.111+ | (0.063) | 0.181* | (0.067) |
| Logged % Hisp. (Higher Grades) | -0.061 | (0.080) | 0.064 | (0.085) |
| % w/ Adv. Degrees | 0.032* | (0.008) | 0.026* | (0.008) |
| Avg. Experience | 0.005 | (0.048) | -0.062 | (0.048) |
| Student-Teacher Ratio | -0.020 | (0.084) | -0.012 | (0.077) |
| Students: | | | | |
| % English Learner | -0.296* | (0.015) | -0.257* | (0.015) |
| % Low Income | -0.058* | (0.012) | 0.008 | (0.012) |
| % Hispanic | 0.044* | (0.014) | 0.046* | (0.014) |
| % Black | -0.013 | (0.021) | 0.000 | (0.021) |
| % Asian | 0.139* | (0.020) | 0.097* | (0.020) |
| % Parent w/ College Deg. | 0.089* | (0.013) | 0.039* | (0.013) |
| Log(Enrollment) | 3.476* | (0.512) | 3.028* | (0.526) |
| Grade 2 | 2.236* | (0.286) | 7.784* | (0.333) |
| Grade 3 | -5.534* | (0.279) | 7.357* | (0.305) |
| Grade 4 | 5.385* | (0.233) | 5.983* | (0.268) |
| Year 2004 | -7.569* | (0.273) | -6.704* | (0.289) |
| Year 2005 | -4.220* | (0.235) | -3.316* | (0.249) |
| Year 2006 | -2.124* | (0.212) | -1.946* | (0.226) |
| Year 2007 | -1.191* | (0.186) | -1.193* | (0.199) |
| (Constant) | 4.120 | (3.331) | -4.613 | (3.271) |
| Adj R-sqr | 0.523 | | 0.463 | |
| N | 27,507 | | 27,519 | |

+ $p<0.10$, * $p<0.05$ (two-tailed)
Unit of observation is the school-grade-year (e.g., 3rd grade at George Washington Elementary School in 2005).
Standard errors are clustered by school.

## Conclusion

This study finds support for the argument that minority clients can accrue benefits from being passively represented throughout a bureaucracy. Hispanic students in California elementary schools appear to pass the state's standardized exams in greater numbers when there are more Hispanic teachers in their schools. Specifically, in five of the six models, I find a positive effect of at least one measure of the share of Hispanic teachers on Hispanic students' exam performance, although the substantive size of the effects is modest. On English exams, students' performance is positively related to the share of Hispanic teachers in their own grade level (at least when the share of Hispanic teachers is measured with a logarithmic transformation of the percentage of Hispanic teachers). No evidence is found that students' English exam performance is affected by the presence in the school of more Hispanic teachers at grade levels higher than the students' own. These findings are consistent with the proposition that a client is most greatly affected by passive representation among those bureaucrats in an organization who are most likely to interact with the client, but one should be cautious about interpreting null results as evidence of no or a lesser effect (Gelman and Stern 2006). The evidence does extend somewhat beyond null findings in that one model of English exams indicates (at the .10 level) that the larger coefficient for the same-grade measure of Hispanic representation is significantly different from the smaller coefficient for the measure of representation at other grade levels.

The analyses of math exam results provide some evidence that students' performance is sometimes associated with representation among teachers at their school

who do not teach their own grade level (nor a grade level lower than their own). Two of the three models of math exam pass rates find a positive and significant effect for Hispanic students of having more Hispanic teachers in grade levels higher than their own. Additionally, all three models find that more Hispanic students pass the math exam when there is a larger share of Hispanic teachers in their own grade level. Together, these results suggest that students can be positively affected by passive representation throughout their school, both among those bureaucrats with whom they are likely to interact and among those with whom they are not. Though determining the exact mechanisms of an effect extending to students with whom a teacher is not expected to interact is beyond the scope of this study, two obvious possibilities exist. First, Hispanic students may be affected by seeing Hispanic teachers in their school building, even if those teachers do not instruct them. The sight of someone who shares a salient social identity operating in a position of esteem and expertise may change how the student sees herself and what she is capable of accomplishing (Cole 1986; Darder 1995; Keiser et al. 2002). In other words, a teacher may serve as a "role model from afar" for students whom he does not instruct. A second possibility is that Hispanic teachers affect their coworkers throughout the school in important ways. Other teachers may draw on them as a resource when trying to learn how to motivate or connect with their Hispanic students. Or Hispanic teachers may act as advocates for Hispanic students and their interests at the level of school policy or administrative decisions.

From the perspective of representative bureaucracy theory, the results of this study are important in multiple ways. First, the finding that substantive effects of passive

representation can extend to clients whom a passive representative does not directly serve suggests that bureaucratic representation functions (at least in part) at an organizational level. This would seem to bolster arguments made by Long (1952) and Krislov (1974) that bureaucratic representation effects can be a means of providing for bureaucratic accountability in the sense of ensuring that a bureaucracy's activities are not dominated by serving the interests of just one group. Rather than individual bureaucrats each showing partiality to particular members of the public, as Lim (2006) and Mosher ([1968] 1982) seemed to worry about, substantive benefits of passive representation flow (at least to some extent) even to clients who aren't primarily served by the bureaucrats passively representing them. Such a pattern would appear to be the result of collaborative bureaucratic processes or client reactions to the symbolic meaning that passive representation engenders.

At the same time, not all substantive benefits of passive representation appear to accrue at an organizational level. The empirical findings of this study provide some indication that the largest substantive benefits of passive representation are observed among those groups of clients who are most likely to be served by a passive representative. While this result is perhaps not surprising, effects that accrue from an individual-level match in demographic characteristics do not necessarily benefit from the same normative ground that might be claimed by organizational-level effects and potentially pose some puzzling logistical dilemmas. With regards to the latter, if students experience the best academic outcomes when there is a racial or ethnic match with their teacher, maximizing academic outcomes might require segregating students within a

school into different classrooms so that as many students as possible may be taught by a teacher of their own race or ethnicity. Clearly, segregating students in this manner would raise a whole host of concerns that would almost certainly make such a practice highly problematic. Nonetheless, schools and other public organizations may be able to find creative means of facilitating opportunities for clients to interact with bureaucrats who share their own demographic characteristics without imposing segregational structures or rigid rules that would be deemed objectionable.

Given the likely presence of representation effects at both the organizational and individual levels, organizational-level measures of passive representation may indeed offer the most precise single indicator of the overall representation climate, as Meier and Nicholson-Crotty (2006, 852-853) argue. This should be particularly true in settings where organizational climate plays a greater role in driving substantive effects of passive representation. Future work should evaluate the extent to which substantive effects of passive representation accrue at the individual level versus the organizational level in settings other than education. While education is a setting ripe for passive representation of certain demographic groups to translate into substantive benefits (Keiser et al. 2002; Meier and Stewart 1992), it may not be the setting most conducive to organizational-level representation effects since the average teacher spends most of her day teaching to a classroom by herself (apart from her coworkers). Given that organizational-level effects appear to exist in schools, these effects may be even stronger elsewhere.

# CHAPTER VI

# ORGANIZATIONAL DYNAMICS AND GROUP IDENTITIES: DO EFFECTS EXTEND ACROSS RACES?

In many political contexts, racial (or ethnic) identities are closely associated with conflicting political values or priorities. These associations make race a potentially important characteristic of individuals charged with executing governmental powers, whether in the context of a legislative body or an administrative arm of government. Indeed, existing scholarship indicates that the racial composition of government bodies can affect citizen perceptions of legitimacy (Scherer and Curry 2010) and can also have tangible effects on distributional outcomes associated with government activities (e.g., Preuhs 2006; Meier and Stewart 1992). A proper understanding of how race is associated with government outcomes requires attention to the institutional dynamics at play within the organizations that create and execute government policies. In other words, it is not enough simply to know who holds positions of power and what characteristics those individuals exhibit (in terms of values, expertise, and skills); one must also learn something about the manner in which individuals jointly contribute to the processes of the organizations in which they function. The relationship between the racial makeup of a government entity and salient outcomes may depend on factors such as how distinct racial groups relate to one another and how the opinions and expertise of various organizational members are aggregated into group-level decisions or procedures. The organizational nature of legislatures is largely studied in terms of parties, coalitions,

procedural rules, and strategic voting behavior (such as logrolling). These familiar political science topics offer little guidance, however, to the scholar wishing to account for the organizational processes at work within the bureaucracy.

The theory of representative bureaucracy has provided the dominant framework for existing studies of racial dynamics in bureaucracies (for a review, see Kennedy 2014). This theory posits that the demographic makeup of a bureaucracy can provide a means of representing the interests of the public (Long 1952; Krislov 1974). One of the key assumptions of the theory is that bureaucrats who exhibit a given demographic characteristic will tend to advance the interests of members of the public who share that demographic characteristic (Meier and Nigro 1976). Several empirical studies lend support to the notion that bureaucratic clients experience better outcomes when they are served by bureaucrats who share their own race (e.g., Long 1952, Dee 2004). But since the theory is rooted in a language of shared demographic characteristics, studies of representative bureaucracy rarely break down racial categories beyond same-race (relative to the client) and different-race (for an exception, see Rocha and Hawes 2009; see also Meier et al. 2004).

In this chapter, I consider three competing explanations of racial dynamics in bureaucracy: representative bureaucracy, rainbow coalitions, and organizational diversity. I provide a loose framework to compare these three explanations, which consists of three factors relating bureaucracy to its outputs and outcomes. I then illustrate how each explanation can be used to make predictions about the effects of the demographic composition of a bureaucracy's workforce on outputs and outcomes. I

provide a set of empirical tests of these predictions with two large panel datasets of public organizations. Included in my analysis are three racial groups (Asian, Native American, and white) which have received little attention in existing representative bureaucracy studies. My findings indicate the strength of representative bureaucracy effects and suggest that diversity may also play a secondary role in shaping outcomes along racial lines by benefiting minority clients and harming white clients (in relative terms). I discuss the implications of my results and explain how they can be used to inform future directions for research.

## Three Competing Explanations of Racial Dynamics in Bureaucracy

A substantial literature attempts to understand the role racial dynamics play in government bureaucracy. Studies in this literature have frequently drawn on three potentially distinct theoretical approaches, sometimes combining aspects of multiple approaches. The most commonly cited and well-articulated approach is that of representative bureaucracy theory. According to the theory, when active representation occurs, a bureaucrat pursues interests associated with members of the population who have demographic characteristics similar to those of the bureaucrat. Another approach—sometimes discussed in association with representative bureaucracy—suggests that multiple minority groups will join together and advocate for one another's interests, forming a "rainbow coalition." This argument was not originally developed to describe behavior within a bureaucracy, but it has been applied to this setting by scholars of bureaucracy. What distinguishes the rainbow coalition hypothesis from representative

bureaucracy is the suggestion that minority bureaucrats serve not only the interests of their own racial group but also those of other minority groups. A final approach suggests that the overall level of diversity in an organizational will affect its operation. Like the rainbow coalition hypothesis, the diversity approach was developed outside of the bureaucracy literature. While existing studies utilizing the diversity approach have focused on how the level of diversity among personnel may affect the overall efficiency or effectiveness of a bureaucracy, the diversity approach can be extended to consider possible distributional effects.

### *Representative Bureaucracy Theory*

The theory of representative bureaucracy has its origins in normative writings about the need for government accountability within the bureaucracy. As Krislov (1974, 21) argues, "The greater the degree of discretion imputed to a bureaucracy, the more vigorous its functions, the stronger the need for the type of accountability and sense of responsibility implied by the call for representativeness." Representative bureaucracy theory attempts to offer a solution to this problem by suggesting that representation of the people can occur within the bureaucracy, despite the fact that bureaucrats are not elected by the people. Long (1952) argues that the diversity of the personnel within the bureaucracy provides for representation of the people. In other words, if the various values and interests held by the public are also found among the various members of the bureaucracy, the people's values and interests will enter into the decision making processes of the bureaucracy (assuming that the bureaucrats' values and interests affect the decisions of the bureaucracy).

Implicit in Long's vision of the bureaucracy are two empirical presumptions. First, the bureaucracy really does mirror the diversity of the public in some sense (and to some sufficient extent). Second, this mirroring of the public translates into bureaucratic behavior that accounts for various public interests in some (democratic) manner. These two empirical matters are related to Mosher's ([1968] 1982) concepts of passive and active representation, which emphasize demographic characteristics and their potential association with diverse interests.

Empirical studies of representative bureaucracy have examined both of these empirical concerns. A set of studies considers the extent to which bureaucratic personnel mirror the public, either in terms of values or in terms of demographic characteristics (e.g., Meier 1975; Garand, Parkhurst, and Seoud 1991; Lewis 1990). More relevant to the research question at hand is the fairly extensive set of studies which examines whether the demographic makeup of the bureaucracy affects bureaucratic outcomes. Among these studies, associations between demographic characteristics and bureaucratic outcomes are often found, although these associations appear to be contingent on factors such as bureaucratic discretion, policy salience, and institutional socialization (Keiser et al. 2002; Wilkins and Williams 2008; 2009).

While much of the representative bureaucracy literature has emphasized bureaucratic values as a possible source linking representation for a particular demographic group with favorable outcomes for that group, some recent research has focused on the role representation may play in altering client's coproduction behavior. Clients may be more likely to seek services from the bureaucracy or engage in the

coproduction process when there are bureaucrats who share their demographic characteristics (Thielemann and Stewart 1996; Meier and Nicholson-Crotty 2006; Keiser et al. 2002). Lim (2006) calls this phenomenon coproduction inducement.

The representative bureaucracy literature has largely ignored the role technical knowledge may play in producing better outcomes for clients of bureaucracies which provide them better representation. Lim (2006) acknowledges some of the possible effects of technical knowledge with his conception of empathic understanding. Bureaucrats may possess knowledge which enables them to better communicate, understand, and serve clients with whom they share certain demographic characteristics. For example, a Latina school teacher may find it easier to communicate with her Latino students' parents because of her familiarity with Latino culture or—in the case of many immigrant children—because she happens to speak Spanish. This knowledge enabling her to more effectively educate her Latino students will not necessarily diminish from her ability to teach non-Latino students.

Whether the mechanism is shared values, coproduction inducement, or unique technical knowledge, representative bureaucracy predicts that outcomes for a group should be more favorable when they are better represented.

> **Hypothesis VI-1**: Better bureaucratic representation of a racial group will yield better outcomes for that group.

### *Rainbow Coalitions*

Rainbow coalitions form when multiple minority groups band together to support one another's interests. With their combined numbers, the coalesced groups may be able

to produce greater influence than the sum of what they could produce separately. Rainbow coalitions have been studied in a number of context, and evidence is mixed regarding whether or not minorities form coalitions with one another, suggesting that the likelihood of a rainbow coalition forming depends on the context (Hajnal and Trounstine 2014; Meier and Stewart 1991; Rocha 2007; Segura and Rodrigues 2006). Meier et al. (2004) find support for their argument that rainbow coalitions are more likely to form when the outcomes or policies of interest are not zero-sum.

With regards to the race of bureaucrats, one can build on the logic of representative bureaucracy to envision how rainbow coalitions might influence bureaucratic outcomes. If bureaucrats bring with them interests associated with their demographic factors, minority bureaucrats might band together to promote common interests or to promote one another's interests. Many client outcomes for service-oriented bureaucracies are not zero-sum (a better outcome for one client does not imply that another client is worse off), making service-oriented bureaucracies are a setting where one might expect rainbow coalitions to frequently form (Meier et al. 2004). Such coalitions could involve explicit agreements which are negotiated among individuals or—more likely—would consist of informal understandings that protecting minority interests is a priority, regardless of the particular minority being affected by an individual policy or practice. In this manner, the values of minority bureaucrats might produce benefits for all minority clientele. Rocha and Hawes (2009) found empirical evidence indicating that minority teachers were associated more favorable usage of tracking and disciplinary measures for minorities who were not co-ethnics. Furthermore,

the effects for members of a different racial group were similar in magnitude for those for members of the same racial group.

Minority bureaucrats might also bring to the bureaucracy technical knowledge that will benefit not just clients who share their demographic characteristics but minority clients belonging to a variety of demographic groups. To the extent that minority bureaucrats have a heightened awareness of issues of cultural sensitivity or understand the ways in which historically disenfranchised groups may require or prefer different policies or practices, racial bureaucratic effects resulting from technical knowledge will also follow the pattern of a rainbow coalition. In other words, a minority client may be able to benefit from the representation of minorities in general, even if the specific demographic group to which the client belongs is unrepresented.

Finally, the public opinions about legitimacy may be tied to whether or not there is reasonable minority representation within a bureaucracy. Even if a client's specific demographic group is underrepresented in a bureaucracy, the client may have greater confidence in the organization's legitimacy if there are other minorities represented in the organization. This may be particularly relevant for very small demographic groups, which are unlikely to be well represented in most organizations. The hiring of other minority bureaucrats may indicate to the public that the bureaucracy is making efforts to be inclusive, even if representation for a particular group is not impressive. Perceptions of legitimacy may be linked to coproduction efforts on the part of the client.

Rainbow coalitions may not always form within bureaucracies, but when they do, they should produce benefits for minority clients. Members of a minority can benefit

from ways in which bureaucrats from other minority groups affect the values, technical knowledge, and legitimacy of a bureaucracy.

**Hypothesis VI-2**: Better bureaucratic representation of minority groups as a whole will yield better outcomes for specific minority groups.

*Organizational Diversity*

Studies of diversity found in the organization theory literature suggest another way that the demographic makeup of a bureaucracy may affect outcomes. While there are currently few studies of the effects of diversity in public organizations, a substantial literature on diversity exists among studies of private sector organizations (see Choi 2009; Pitts 2005). Demographic heterogeneity is theorized to produce two different effects on group processes (Pelled, Eisenhardt, and Xin 1999; Pitts 2005; Watson, Kumar, and Michaelsen 1993). On the one hand, differences in culture and belief structures can produce interpersonal conflict within an organization. On the other hand, the heterogeneity of perspectives, information, and ideas can expand the scope of considerations an organization takes into account which may improve its ability to solve complex problems. Empirical studies have found both effects, and the overall impact of diversity on organizational performance does not appear to be consistent (Choi 2009; Pelled, Eisenhardt, and Xin 1999; Herring 2009; Thomas 1999; Watson, Kumar, and Michaelsen 1993).

Existing work has primarily focused on the effects diversity may have on efficiency rather than its potential distributional effects. Nonetheless, diversity may be theorized to positively affect outcomes for minorities. Diversity may increase social

contact between bureaucrats of different races, which the contact hypothesis predicts will improve racial attitudes (Sigelman and Welch 1993). Thus, diversity may alter the values of bureaucrats in ways that are beneficial to minority interests.

More traditional approaches to examining the organizational effects of diversity consider the ways in which diversity can spawn innovation and improve organizational performance (see Pitts 2005). The diversity management literature (Pitts 2005) and a representative bureaucracy study by Meier, Wrinkle, and Polinard (1999) support the notion that all clients can benefit from what bureaucrats with certain demographic characteristics bring. This relates directly to the creation of new technical knowledge within an organization. While some technical knowledge may affect all demographic groups equally, other technical knowledge may improve the bureaucracy's ability to pursue interests associated with particular demographic groups. Thus, diversity may sometimes improve a bureaucracy's ability to promote the interests of certain groups.

Diversity may also improve the legitimacy of an organization in the eyes of minority clientele. Just as hiring of individuals who are not part of the dominant racial group may indicate to the public that a bureaucracy is making efforts to be inclusive, hiring a particularly heterogeneous workforce may be a particularly strong signal of bureaucratic legitimacy. Bureaucracies with more diverse workforces may be able to better induce coproduction from minority clientele.

Particularly because of the ambiguity of the possible effects of diversity on technical knowledge, it is difficult to hypothesize which groups diversity is most likely

to benefit. Thus, I provide a fairly general hypothesis which simply acknowledges that diversity may promote the interests of certain demographic groups.

**Hypothesis VI-3**: More racial diversity among bureaucratic personnel will yield better outcomes for some racial groups.

I have identified multiple ways that the demographic composition of a bureaucracy can affect outcomes for clients. However, there is no guarantee that the demographic composition of a bureaucracy will affect outcomes at all in any particular case, as Mosher ([1968] 1982) originally noted with regards to values influencing bureaucratic decisions. Bureaucrats may be subject to rules, supervision, or socialization that constrains their behavior, or a given demographic characteristic may not be salient to the bureaucrats' work (Meier and Bohte 2001; Keiser et al. 2002; Roch and Pitts 2012; Wilkins and Williams 2008; 2009).

## Empirically Distinguishing Among the Three Hypotheses

While the three approaches I outline above (and corresponding hypotheses) are conceptually distinct, they can sometimes be used to explain the same phenomena. The overlap results because representation of a particular minority group often tends to be correlated with representation of minorities as a whole and with organizational diversity. Suppose for example that there is empirical evidence that African American clients receive better services from bureaucracies with more African American staff. This result might be explained by the representation of African Americans in the democracy (representative bureaucracy). It might also be possible that the African American

bureaucrats were only able to effectively improve service provision to African American clients because they had the support of their Latino colleagues (rainbow coalition). Alternatively, one might argue that bureaucracies with African American employees are more diverse which causes them to be more innovative, leading to better service provision to African American clients and, perhaps, others (diversity). This example illustrates how the three approaches can overlap and indicates the ambiguity that can result from certain types of empirical observations.

Much of the existing empirical research on representative bureaucracy produces empirical findings like the example I provided and thus can be subject to multiple interpretations. Without controlling for the possible effects of diversity or a rainbow coalition, it is difficult to know whether or not a unique representation effect is present. This suggests the need for a careful empirical test which can simultaneously consider the effects associated with all three hypotheses I developed.

## Data

Empirically testing my hypotheses requires a dataset that provides reliable outcome measures for multiple demographic subgroups of clientele as well as information about bureaucratic personnel and indicators that can control for other aspects of service provision quality. Furthermore, the data should describe organizations where bureaucrats exercise discretion over decisions that relate to issues which are salient along racial dimensions because active representation is more likely to be present in such cases (see Keiser et al. 2002). Finally, a large dataset is needed to overcome the

multicollinearity that will be present when simultaneously testing for the effects associated with the three hypotheses I outlined above. Schools provide an ideal setting for testing my hypotheses because of both the availability of detailed data, including outcome measures, on a large number of observations and the existence of several studies that have already shown that racial representation in schools affects student outcomes. My analysis will attempt to shed greater light on the underpinnings of these well-known effects of the racial composition of the teaching workforce in schools.

I utilize two panel datasets, both of which contain annual school-level records on public schools. The first dataset contains information on 7817 California public schools over a 13 year time period (2000-2012).[18] The second dataset consists of records on 6765 Texas public schools over a six year time period (2005-2010). Data were obtained from the California Department of Education and the Texas Education Agency on all public schools in each state, but I did not include charter schools or alternative schools in my datasets.[19] In California, schools are annually evaluated under the Academic Performance Index (API), which combines performance data from multiple standardized exams into a single index ranging from 200 to 1000. During the time period covered by

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[18] In most years, fewer than 4500 schools were able to be included in the sample because prior to 2010 student performance results were only reported for student subgroups with at least 50 students. If schools with fewer than 50 students in a subgroup (that is needed to calculate variables included in a regression) are excluded in years 2010-2012, the number of cases becomes approximately stable over time, and the substantive regression results do not change dramatically.

[19] For the California dataset, schools were only retained in the dataset if the Educational Option Code indicated a traditional school. In Texas, schools were identified as alternative schools if they were evaluated under the Alternative Education Accountability standards. I also dropped Texas schools that reported spending more than $28,000 or less than $1000 per pupil on instructional expenditures or that reported a student-teacher ratio larger than 35 or smaller than 2.86 because such schools appeared to typically be career centers or some other type of alternative school. It is difficult to imagine a regular school that could produce such extreme values for these variables.

the Texas dataset, students in grades 3-11 were required to take an annual standardized exam called the Texas Assessment of Knowledge and Skills (TAKS).

Both states educate a racially diverse set of students. A plurality of public school students in both states are Latino (48.2% in CA, 46.3% in TX), with the next largest racial group being white (29.4% in CA, 35.7% in TX).[20] In California, there are also sizeable Asian (8.1%) and African American (7.6%) populations. 14.4% of Texas public school students are African American, but only 3.3% identify as Asian/Pacific Islander. There are also a small number of Native American (or Alaskan Native) students in each state (0.8% in CA, 0.3% in TX). While Latino students make up the largest share of the student population, the vast majority of teachers in both states are white (over 60%), with the next largest group being Latino.

*Dependent Variable*

I wish to analyze the effect of bureaucratic demographics on outcomes for distinct client groups. Thus, I will run separate regressions for each racial/ethnic group for which there is data available: Latino, Native American, African American, Asian, and white. My dependent variable measures for each school the academic performance of students within a given racial category. In California, this is the API for each racial subgroup, rescaled from 20 to 100. In Texas, the dependent variable is simply the percentage of students within the subgroup who pass all portions of the TAKS exam in a

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[20] All student demographic figures listed in this paragraph are for 2007 (Texas: http://ritter.tea.state.tx.us/perfreport/aeis/2007/state.html; California: http://dq.cde.ca.gov/dataquest/EnrollEthState.asp?Level=State&TheYear=2006-07&cChoice=EnrollEth1&p=2). Texas reports Asian/Pacific Islander as a single category while California reports them separately; all California data presented uses only the Asian category.

given year. Because test results are not publicly reported when an insufficient number of students take the standardized exams at a particular school (in CA, fewer than 50 or 11, depending on the year; in TX, fewer than five), the number of observations varies as I examine different racial groups. The large Latino student population enables me to examine over 61,000 cases in California and more than 34,000 cases in Texas when predicting Latino performance. On the other hand, most schools do not have enough Native American students to report performance data for this group, so fewer than 2500 observations are available for all regressions of Native American student performance.

*Representation and Diversity*

Representation for a group is typically measured by calculating the percentage of employees at some level of the organization who belong to the group. I measure representation as the percentage of teachers who belong to the demographic group I am considering in my dependent variable. I include both a linear and a squared term since some studies of representative bureaucracy suggest that a squared representation term should be included to account for the existence of a critical mass effect (Thompson 1976; Meier 1993a; Meier, Wrinkle, and Polinard 1999).

To test my rainbow coalition hypothesis, I also measure the percentage of non-white teachers. If minority groups coalesce, an increase in the representation of non-white teachers should benefit the various groups of minority students.

Like Pitts (2005), I measure diversity using a Blau index, which I multiply by 100 in order to make the scale of the measure more comparable with my representation measure. The index is calculated as follows:

$$Diversity = \left(1 - \sum_{i=1}^{5} \left(\frac{\#\ of\ teachers\ in\ group\ i}{total\ \#\ of\ teachers}\right)^2\right) \times 100$$

Since there are five racial/ethnic categories, the diversity measure is bounded by 0 and 80, with higher numbers indicating greater diversity. A value of 80 would indicate that 20% of the teachers belong to each of the five racial/ethnic categories. When the index is equal to 0, 100% of the teachers belong to a single racial/ethnic category.

Table VI-1 shows the correlations among the main independent variables. The correlation between the percentage of Latino teachers and the percentage of non-white teachers is quite high at either 0.82 (in CA) or 0.84 (in TX). The correlation between the percentages of African American teachers and of non-white teachers is moderate (CA: 0.49; TX: 0.42). Diversity is moderately correlated with Latino (CA: 0.59; TX: 0.32) and African American (CA: 0.44; TX: 0.43) representation. These correlations are high enough to suggest that previous studies examining only the representation of a single group may have also been partially measuring the effect of minority groups as a whole or of overall diversity.

**Table VI-1**
Correlations of Teacher Measures

| | Latino | African American | Asian | Native American | White |
|---|---|---|---|---|---|
| **California Data** | | | | | |
| % Non-White | 0.82 | 0.49 | 0.39 | 0.06 | -1.00 |
| Diversity | 0.59 | 0.44 | 0.45 | 0.08 | -0.82 |
| **Texas Data** | | | | | |
| % Non-White | 0.84 | 0.42 | 0.23 | -0.04 | -1.00 |
| Diversity | 0.32 | 0.43 | 0.36 | 0.06 | -0.55 |

*Control Variables*

A number of factors can affect student performance on standardized exams. I control for both indicators of the quality of educational services and characteristics of the students which are known to correlate with academic performance. Teacher quality is known to be a major factor influencing educational outcomes (Hanushek and Rivkin 2006). Since teacher race/ethnicity is used to measure my main independent variables of interest, it is particularly important to control for other teacher characteristics which may correlate with race/ethnicity. In Texas, I rely on three measures that are well-known to correlate with student performance: the average teacher salary, the average number of years of teaching experience, and the percent annual turnover among teachers in the school. In California, only average teacher experience data is available at the school-level, but I also add a measure of the percentage of teachers who have obtained an advanced degree. Because it is difficult to fully measure the overall quality of a school, I control for the combined exam pass rate of students belonging to the other four racial groups.[21] I also include in my models instructional expenditures per pupil (measured in $1000s) when available (not in CA) and the student-to-teacher ratio.

Beyond teachers and school resources, research suggests that students are influenced in their learning by their peers (see Hanushek, Kain, and Rivkin 2009). Thus,

[21] I computed the pass rate for other racial groups as a weighted average of the pass rates for all racial groups for which data was available (except for the excluded racial group). In California, data was available for two small racial subgroups (Filipino, Pacific Islanders) beyond the five racial groups I consider here, but this data was not used to compute the measure of other students' performance. Weights were determined according to the number of students enrolled in the school who belonged to each racial group.

I control for the demographic characteristics of the student body. I measure the percentage of students who are white, African American, Asian, and Native American. Latino is the omitted category. I also control for the percentage of students who are eligible for free or reduced price lunch and for the size of the school using a logarithmic transformation of enrollment. In order to account for heteroskedasticity and correlated errors from my panel dataset, I cluster standard errors by school and include year fixed effects. In my final set of models, I also include a lagged dependent variable to allow for dynamic effects.

## Findings

Table VI-2 shows the results of my linear models of student performance for California. According to the R-squared, I am able to explain between 59% and 81% of the variation in standardized test performance for all groups except Native American students. The lower explanatory power of the Native American student model (R-squared = 0.376) is probably due to the fact that most schools have very few Native American students, leading to greater variability in aggregated test results. Because I control for the test performance of all other students, the coefficients for the other variables indicate their effect independent of the school's success in educating other groups of students (to the extent this success is measured by standardized test results). This is appropriate for my main independent variables since I am interested in studying their distributional effect, but it makes the effects of control variables somewhat difficult

to interpret. Since the control variables were included to create a more fully specified model rather than for their substantive interest, I will not interpret them here.

In four of the five equations, at least one of the representation terms is significant, and the effects are positive for at least part of the range of representation values. These results are consistent with the literature's general finding that representation of one's own racial group has a positive effect on student performance, although most studies only consider this effect for Latinos and/or African Americans. The results here indicate similar effects for Asian and white students. For Latinos and African Americans, the linear term is negative and the squared term is positive, which is consistent with a critical mass hypothesis. Representation is estimated to have a positive (marginal) effect on Latino student performance once there are at least 4% Latino teachers. African American teachers are estimated to reach a critical mass and have a positive marginal effect once they constitute 26% of the teaching force.

**Table VI-2**
Effects of Teacher Race on Student Performance – California

| | Latino | African American | Asian | Native American | White |
|---|---|---|---|---|---|
| | *b/se* | *b/se* | *b/se* | *b/se* | *b/se* |
| Teachers | | | | | |
| Group Representation | -0.008 | -0.104* | 0.212* | -0.271 | 0.212* |
| | (0.012) | (0.015) | (0.027) | (0.167) | (0.043) |
| Group Representation^2 | 0.001* | 0.002* | -0.003* | 0.012 | -0.002* |
| | (0.000) | (0.000) | (0.001) | (0.009) | (0.000) |
| % Non-White | -0.029* | -0.035* | 0.046* | 0.019 | |
| | (0.008) | (0.006) | (0.010) | (0.036) | |
| Diversity | 0.027* | 0.042* | -0.072* | -0.025 | -0.109* |
| | (0.008) | (0.007) | (0.010) | (0.033) | (0.023) |
| Avg. Teaching Experience | -0.005 | 0.007 | -0.007 | 0.172* | 0.173* |
| | (0.013) | (0.016) | (0.026) | (0.082) | (0.014) |
| % w Adv. Degree | 0.008* | 0.025* | 0.062* | 0.022 | 0.019* |
| | (0.002) | (0.003) | (0.004) | (0.014) | (0.002) |
| Other Students' Performance | 0.616* | 0.086* | 0.009* | 0.036* | 0.031* |
| | (0.008) | (0.001) | (0.001) | (0.007) | (0.001) |
| Student-Teacher Ratio | -0.002 | -0.005 | 0.051 | 0.054 | -0.020* |
| | (0.004) | (0.005) | (0.045) | (0.053) | (0.007) |
| Students | | | | | |
| % White | 0.019* | -0.073* | 0.118* | 0.284* | 0.031* |
| | (0.003) | (0.005) | (0.010) | (0.047) | (0.004) |
| % African American | 0.192* | -0.070* | -0.103* | 0.183* | 0.293* |
| | (0.007) | (0.008) | (0.019) | (0.078) | (0.012) |
| % Asian | -0.033* | -0.166* | 0.074* | 0.406* | -0.022* |
| | (0.005) | (0.009) | (0.009) | (0.053) | (0.006) |
| % Native American | -0.004 | 0.020 | -1.491* | 0.079 | -0.234* |
| | (0.027) | (0.053) | (0.140) | (0.050) | (0.039) |
| % Low Income | -0.016* | -0.022* | -0.131* | -0.064* | -0.093* |
| | (0.002) | (0.003) | (0.005) | (0.016) | (0.003) |
| Log(Enrollment) | -0.002* | -0.001* | -0.003* | 0.001 | -0.002* |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Adj R-sqr | 0.762 | 0.810 | 0.594 | 0.376 | 0.617 |
| N | 61,276 | 23,770 | 25,575 | 1668 | 55,461 |

* $p<0.05$
Observations are measured at the school-year level; panel spans from 2000 to 2012.
Dependent variable is the Academic Performance Indicator (by student subgroup), which (theoretically) ranges from 20 to 100 (rescaled from 200-1000).
Clustered standard errors in parentheses. Constant and year dummies not shown.

For Asian and white students the linear term is positive and the squared term is negative. This pattern of coefficients indicates diminishing returns rather than the critical mass effect found in prior studies (Thompson 1976; Meier 1993a; Meier, Wrinkle, and Polinard 1999). Positive (marginal) effects of representation are estimated to taper off to zero for Asians and whites at 35% and 53%, respectively. There is no evidence that group representation (among teachers) has an effect for Native American students (the linear and squared terms are not jointly significant; $F=1.31$, $p=0.27$), although the small sample size means that statistical power is limited. On the whole, substantial representation effects are observed, although the exact manner in which effects accrue differs for Asian and white students.

There is little evidence to support the rainbow coalition hypothesis in Table VI-2. The estimated effect of non-white teachers is negative (and significant) for Latinos and African Americans. This suggests that Latino and African American students may actually be harmed by the presence of minority bureaucrats who are not their co-ethnics. Only for Asian students do I find a positive and significant association for non-white teachers.

Teacher diversity appears to be a significant predictor of student achievement, although the effect differs across racial groups. Diversity is positively associated with performance for Latino and African American students while the relationship goes in the opposite direction for Asian and white students. Taken as a whole, the California data provides support for the representation and diversity hypotheses but not for the rainbow coalition hypothesis.

**Table VI-3**

Effects of Teacher Race on Student Performance - Texas

| | Latino | African American | Asian | Native American | White |
|---|---|---|---|---|---|
| | *b/se* | *b/se* | *b/se* | *b/se* | *b/se* |
| Teachers | | | | | |
| Group Representation | 0.059* | -0.186* | 0.386* | 1.004* | 0.629* |
| | (0.026) | (0.026) | (0.114) | (0.406) | (0.065) |
| Group Representation^2 | 0.000 | 0.003* | -0.032* | -0.050* | -0.005* |
| | (0.000) | (0.000) | (0.010) | (0.019) | (0.001) |
| % Non-White | -0.057* | 0.011 | -0.021 | -0.157* | |
| | (0.011) | (0.013) | (0.016) | (0.048) | |
| Diversity | 0.074* | 0.032* | 0.005 | 0.123* | -0.225* |
| | (0.013) | (0.014) | (0.017) | (0.050) | (0.032) |
| Avg. Salary ($1000s) | 0.593* | 0.317* | 0.036 | -0.199 | -0.210* |
| | (0.033) | (0.039) | (0.058) | (0.135) | (0.027) |
| Avg. Teaching Experience | -0.477* | -0.422* | -0.177* | 0.025 | 0.306* |
| | (0.036) | (0.043) | (0.056) | (0.171) | (0.030) |
| % Turnover | -0.142* | -0.087* | -0.016 | -0.104 | -0.122* |
| | (0.017) | (0.024) | (0.042) | (0.110) | (0.013) |
| Other Students' Performance | 0.751* | 0.961* | 0.547* | 0.641* | 0.511* |
| | (0.009) | (0.010) | (0.017) | (0.045) | (0.006) |
| Instructional Expenditures | -0.658* | 0.125 | -0.389 | 0.065 | -0.194 |
| | (0.148) | (0.159) | (0.287) | (0.456) | (0.118) |
| Student-Teacher Ratio | 0.819* | 0.477* | -0.118 | -0.191 | 0.183* |
| | (0.055) | (0.062) | (0.090) | (0.239) | (0.046) |
| Students | | | | | |
| % White | 0.105* | -0.159* | -0.126* | -0.108* | -0.103* |
| | (0.009) | (0.012) | (0.017) | (0.042) | (0.007) |
| % African American | 0.218* | -0.101* | 0.037* | -0.099* | 0.010 |
| | (0.010) | (0.011) | (0.014) | (0.042) | (0.008) |
| % Asian | 0.212* | -0.043* | 0.108* | -0.110 | -0.071* |
| | (0.020) | (0.020) | (0.024) | (0.103) | (0.013) |
| % Native American | 0.303 | 0.490* | -0.380 | -0.383 | -0.232* |
| | (0.159) | (0.231) | (0.389) | (0.354) | (0.111) |
| % Low Income | 0.084* | -0.038* | -0.083* | -0.038 | -0.121* |
| | (0.007) | (0.009) | (0.013) | (0.034) | (0.006) |
| Log(Enrollment) | -3.968* | -1.555* | 2.531* | 0.024 | -0.514* |
| | (0.207) | (0.252) | (0.318) | (0.868) | (0.167) |
| Adj R-sqr | 0.591 | 0.587 | 0.422 | 0.234 | 0.573 |
| N | 34,920 | 26,924 | 10,380 | 2314 | 33,001 |

* $p<0.05$

Observations are measured at the school-year level; panel spans from 2005 to 2010. Dependent variable is the percentage of students (theoretical range: 0-100) who pass all subjects of the Texas Assessment of Knowledge and Skills (by student subgroup). Clustered standard errors in parentheses. Constant and year dummies not shown.

Table VI-3 displays the results of similar models that analyze data from Texas schools. R-squared values are somewhat lower for the Texas schools, with most models explaining between 42% and 59% of the variation in student performance. Again, the equation for Native American students lags somewhat behind the other models in terms of explanatory power (R-squared = 0.234).

The results for the representation variables once again strongly support the importance of group representation in predicting student performance. This time, all models indicate that at least one of the representation terms is significant and positive, indicating that in this sample the positive effects of representation appear to extend to Native American students as well. The effect of Latino representation is estimated to be basically linear positive (since the squared term is 0 to three decimal places). For African Americans, we again find the traditional nonlinear pattern consistent with a critical mass hypothesis, and the marginal effect is estimated to become positive at 31%. Consistent with the California results for Asians and whites, the final three racial groups (Asian, Native American, and white) show a pattern of diminishing returns for representation in Texas schools. Marginal returns taper off and are estimated to be equal to zero at 6% for Asians, 10% for Native Americans, and 63% for whites.

The Texas data does not lend any additional support to the rainbow coalition hypothesis. The non-white teacher measure produces a negative relationship for both Latinos and Native Americans and produces no significant relationship for the other two minority groups. The diversity hypothesis, however, is supported. Diversity is a significant predictor of student performance for all racial groups except for Asians. As in

California, these results indicate that diversity positively affects Latino and African American students but negatively affects white students. Diversity also appears to benefit Native American students in Texas.

Because I am using panel data, errors may be correlated from one year to the next within a given school. One approach to accounting for correlated errors as well as for the inertial nature of many public organizations (O'Toole and Meier 1999) is to create an autoregressive model by included a lagged dependent variable on the right side of the equation. This modeling approach provides a more rigorous test of my findings.

Table VI-4 and Table VI-5 show the results of running autoregressive models which account for the dynamic nature of organizations. While some cases are lost due to missing data, adding a lagged dependent variable to the equations improves R-squared values considerably. The autoregressive terms are all positive and highly significant, as one would expect. Interpreting coefficients from autoregressive models is somewhat more difficult than with OLS since the coefficients represent only the short term impact of an independent variable on performance. However, I focus here only on the direction of the coefficients, which is still straightforward to interpret.

**Table VI-4**

Autoregressive Models of Student Performance - California

| | Latino | African American | Asian | Native American | White |
|---|---|---|---|---|---|
| | *b/se* | *b/se* | *b/se* | *b/se* | *b/se* |
| Lagged Dependent Variable | 0.767* | 0.616* | 0.863* | 0.634* | 0.838* |
| | (0.003) | (0.011) | (0.003) | (0.029) | (0.004) |
| Teachers | | | | | |
| Group Representation | 0.013* | -0.035* | 0.010 | -0.170 | 0.039* |
| | (0.004) | (0.009) | (0.006) | (0.103) | (0.016) |
| Group Representation^2 | -1e-4* | 0.001* | -0.000 | 0.005 | -5e-4* |
| | (0.000) | (0.000) | (0.000) | (0.005) | (0.000) |
| % Non-White | 0.003 | -0.017* | 0.001 | 0.004 | |
| | (0.002) | (0.004) | (0.003) | (0.022) | |
| Diversity | 0.001 | 0.020* | -0.002 | -0.005 | -0.024* |
| | (0.002) | (0.004) | (0.003) | (0.022) | (0.008) |
| Avg. Teaching Experience | -0.035* | -0.039* | -0.025* | 0.057 | -0.000 |
| | (0.004) | (0.009) | (0.005) | (0.064) | (0.004) |
| % w Adv. Degree | 0.001 | 0.010* | 0.004* | -0.021* | 0.001* |
| | (0.001) | (0.002) | (0.001) | (0.011) | (0.001) |
| Other Students' Performance | 0.163* | 0.036* | 0.001* | 0.013* | 0.006* |
| | (0.003) | (0.001) | (0.000) | (0.003) | (0.000) |
| Student-Teacher Ratio | -0.002 | -0.003 | 0.008 | 0.006 | -0.002 |
| | (0.001) | (0.002) | (0.006) | (0.047) | (0.002) |
| Students | | | | | |
| % White | -0.000 | -0.031* | 0.009* | 0.098* | -0.002 |
| | (0.001) | (0.003) | (0.002) | (0.028) | (0.001) |
| % African American | 0.043* | -0.031* | -0.020* | 0.066 | 0.049* |
| | (0.002) | (0.004) | (0.004) | (0.053) | (0.003) |
| % Asian | -0.018* | -0.072* | 0.006* | 0.140* | -0.015* |
| | (0.002) | (0.005) | (0.002) | (0.034) | (0.001) |
| % Native American | 0.014 | -0.015 | -0.148* | 0.045 | -0.037* |
| | (0.007) | (0.033) | (0.021) | (0.029) | (0.007) |
| % Low Income | -0.000 | -0.005* | -0.017* | -0.026* | -0.015* |
| | (0.001) | (0.002) | (0.001) | (0.011) | (0.001) |
| Log(Enrollment) | -0.000* | -0.000* | -0.000* | 0.001* | -0.000* |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Adj R-sqr | 0.919 | 0.892 | 0.936 | 0.639 | 0.907 |
| N | 53,813 | 17,941 | 20,048 | 888 | 48,457 |

* $p<0.05$

Clustered standard errors in parentheses. Constant and year dummies not shown.

**Table VI-5**

Autoregressive Models of Student Performance - Texas

| | Latino | African American | Asian | Native American | White |
|---|---|---|---|---|---|
| | *b/se* | *b/se* | *b/se* | *b/se* | *b/se* |
| Lagged Dependent Variable | 0.522* | 0.373* | 0.356* | 0.219* | 0.486* |
| | (0.006) | (0.008) | (0.017) | (0.033) | (0.008) |
| Teachers | | | | | |
| Group Representation | -0.020 | -0.088* | 0.243* | 0.363 | 0.308* |
| | (0.014) | (0.020) | (0.096) | (0.513) | (0.051) |
| Group Representation^2 | 0.001* | 0.002* | -0.024* | -0.021 | -0.003* |
| | (0.000) | (0.000) | (0.009) | (0.023) | (0.001) |
| % Non-White | -0.004 | 0.009 | -0.004 | -0.091 | |
| | (0.006) | (0.010) | (0.013) | (0.054) | |
| Diversity | 0.042* | 0.007 | 0.011 | 0.051 | -0.125* |
| | (0.007) | (0.011) | (0.014) | (0.058) | (0.025) |
| Avg. Salary ($1000s) | 0.299* | 0.191* | 0.024 | -0.103 | -0.092* |
| | (0.019) | (0.029) | (0.049) | (0.162) | (0.016) |
| Avg. Teaching Experience | -0.253* | -0.286* | -0.119* | 0.347 | 0.141* |
| | (0.021) | (0.032) | (0.048) | (0.212) | (0.019) |
| % Turnover | -0.048* | -0.037 | 0.024 | -0.107 | -0.062* |
| | (0.013) | (0.021) | (0.037) | (0.153) | (0.010) |
| Other Students' Performance | 0.388* | 0.645* | 0.365* | 0.519* | 0.259* |
| | (0.008) | (0.012) | (0.016) | (0.062) | (0.006) |
| Instructional Expenditures | -0.499* | -0.050 | -0.319 | -0.362 | -0.341* |
| | (0.097) | (0.137) | (0.220) | (0.863) | (0.081) |
| Student-Teacher Ratio | 0.107* | 0.101 | -0.139 | -0.244 | -0.130* |
| | (0.035) | (0.052) | (0.077) | (0.346) | (0.033) |
| Students | | | | | |
| % White | 0.047* | -0.117* | -0.072* | -0.144* | -0.047* |
| | (0.005) | (0.009) | (0.015) | (0.054) | (0.004) |
| % African American | 0.095* | -0.072* | 0.024* | -0.043 | 0.007 |
| | (0.006) | (0.009) | (0.011) | (0.053) | (0.005) |
| % Asian | 0.055* | -0.069* | 0.048* | -0.219 | -0.049* |
| | (0.011) | (0.015) | (0.017) | (0.140) | (0.007) |
| % Native American | 0.041 | 0.099 | 0.044 | -0.372 | -0.141* |
| | (0.084) | (0.152) | (0.172) | (0.278) | (0.057) |
| % Low Income | 0.044* | -0.028* | -0.044* | -0.112* | -0.062* |
| | (0.004) | (0.007) | (0.011) | (0.041) | (0.003) |
| Log(Enrollment) | -1.234* | -0.497* | 1.747* | -0.550 | 0.057 |
| | (0.116) | (0.184) | (0.255) | (0.944) | (0.099) |
| Adj R-sqr | 0.714 | 0.652 | 0.516 | 0.292 | 0.687 |
| N | 27,975 | 20,769 | 6783 | 1092 | 26,142 |

* $p<0.05$

Clustered standard errors in parentheses. Constant and year dummies not shown.

Starting with the California data, many of the results from the original models remain, although fewer coefficients for the key independent variables are significant in Table VI-4 than Table VI-2. I find the same general pattern as before regarding diminishing returns for white representation and support for the critical mass hypothesis for African Americans. Both representation terms lose significance for Asians, and evidence of diminishing returns is now found for Latinos (a positive, significant linear term and a negative, significant squared term). The effect of non-white teachers in Table VI-4 continues to be significant and negative for African Americans but becomes insignificant for Latinos and Asians. The diversity coefficient retains its direction in each model but only retains significance for African Americans and whites.

Turning to the Texas data, the autoregressive models again show fewer significant results. The coefficients for the main variables which retain significance in Table VI-5 still point in the same direction as in Table VI-3. Representation for white and Asian students remains positive with diminishing returns. The linear term for Latinos is no longer significant, but the squared term is now significant and positive. African American teacher representation continues to exhibit a pattern consistent with a critical mass hypothesis. There are no longer any significant coefficients associated with overall minority (non-white) representation. Diversity retains a positive effect on Latino performance, but the effect of diversity is insignificant for the other three minority groups, although the signs of the coefficients are still positive. Diversity continues to produce a negative effect on white performance.

The autoregressive models lend fewer results but are meant to be provided as a robustness check. The representation hypothesis is still strongly supported in these models, and the diversity hypothesis appears to still be somewhat supported. The rainbow coalition hypothesis receives no support at all when a lagged dependent variable is included in the models.

## Conclusion

This study simultaneously considers three different explanations of racial dynamics within bureaucracies. My theoretical analysis helps clarify existing literature by explicitly identifying three theoretical approaches and discussing them within the context of three factors that link bureaucracy to outputs and outcomes. Representative bureaucracy theory is already fairly well developed, but I draw attention to one overlooked mechanism—unique technical knowledge—which may partially explain how bureaucrats produce benefits for citizens who share their demographic characteristics. I also make observations about new ways in which the rainbow coalition hypothesis can be applied within the context of the bureaucracy. Finally, I suggest new directions for the diversity approach to take, including considering the distributional effects of diversity.

This article also empirically tests hypotheses derived from each of the three theoretical approaches using two large datasets. A summary of the findings is presented in Table VI-6. The empirical results are generally the strongest for representative bureaucracy theory; in nine out of ten of the initial (non-autoregressive) models, an

effect of representation was found. The strength of these results indicates that bureaucrats appear to disproportionately produce benefits for clients who belong to their own racial group. I contribute to this body of work by showing that the positive relationship between representation and outcomes does not appear to be driven by the increased diversity that often accompanies increased representation for minority groups. Instead, students appear to benefit not exclusively from increased overall organizational diversity but from increased representation of their own racial/ethnic group. While outcomes for Latinos and blacks are regularly studied by scholars of representative bureaucracy, this study demonstrates that the same link between representation and performance appears to exist for Asians, whites, and Native Americans.

For racial groups other than African Americans and Latinos, I generally found evidence of a nonlinear relationship with a positive linear term and a negative squared term. Previous studies have found a nonlinear relationship between representation and performance, but they also found that representation did not have any positive effect until a critical mass was reached (Meier 1993a; Meier, Wrinkle, and Polinard 1999). In contrast, I find that representation generally does have an initially positive effect but that it is subject to diminishing returns. Perhaps this suggests that for Asians, Native Americans, and whites, a small number of representatives is sufficient to make the organization sensitive to the interests of the given racial group. Once representation is large enough that the group's interests are brought to the attention of the organization, additional representation may become less important.

**Table VI-6**
**Summary of Support for Hypotheses**

| | Latino | African American | Asian | Native American | White |
|---|---|---|---|---|---|
| **H1: Representative Bureaucracy**: Significant, positive effect (in either squared or unit term) | | | | | |
| *Base Model* | | | | | |
| California | Positive | Positive | Positive | – | Positive |
| Texas | Positive | Positive | Positive | Positive | Positive |
| **Total Positive and Significant: 9/10** | | | | | |
| *Autoregressive* | | | | | |
| California | Positive | Positive | – | – | Positive |
| Texas | Positive | Positive | Positive | – | Positive |
| **Total Positive and Significant: 7/10** | | | | | |
| **H2: Rainbow Coalitions**: Significant, positive effect | | | | | |
| *Base Model* | | | | | |
| California | Negative | Negative | Positive | – | |
| Texas | Negative | – | – | Negative | |
| **Total Positive and Significant: 1/8** | | | | | |
| *Autoregressive* | | | | | |
| California | – | Negative | – | – | |
| Texas | – | – | – | – | |
| **Total Positive and Significant: 0/8** | | | | | |
| **H3: Organizational Diversity**: Significant effect in either direction | | | | | |
| *Base Model* | | | | | |
| California | Positive | Positive | Negative | – | Negative |
| Texas | Positive | Positive | – | Positive | Negative |
| **Total Significant: 8/10** | | | | | |
| *Autoregressive* | | | | | |
| California | – | Positive | – | – | Negative |
| Texas | Positive | – | – | – | Negative |
| **Total Significant: 4/10** | | | | | |

A dash (–) indicates an insignificant effect.

Rainbow coalitions do not appear to form in the schools I examine. Only one out of eight initial models (and none of the autoregressive models) finds evidence of a positive association between the percentage of non-white bureaucrats and minority student outcomes. Diversity appears to benefit Latino and African American (and perhaps Native American) students but to harm white (and perhaps Asian) students. This disproportionate accrual of benefits to minorities may reflect a tendency of diverse workforces to enhance cultural sensitivity among workers or may stem from increased perceptions of legitimacy by clientele, leading to better participation of minorities in coproduction.

My results suggest that representative bureaucracy and diversity both provide important explanations of the racial dynamics in bureaucracy. Both theoretical approaches merit further study. The diversity argument has received very little attention in the existing public sector literature. This study is the first one I am aware of to demonstrate a distributive effect of diversity, and this suggests a fruitful avenue for future theoretical and empirical study. Scholars should also attempt to more precisely disentangle the mechanisms at play that produce the results I find here. While recent representative bureaucracy literature has begun to pay more attention to mechanism of representation, more precise theories and empirical tests still need to be developed in the representative bureaucracy literature.

# CHAPTER VII

# CONCLUSION

Despite widespread efforts in the U.S. to address racial disparities in education and other policy areas, gaps in outcomes frequently persist along racial lines. This suggests that in practice, government serves to benefit some members of society more than others. Where government programs disproportionately benefit those who tend to already have access to greater resources in society, inequality is reinforced, even if the provision of services makes everyone better off in an absolute sense. Making government services more useful to racial minorities and other traditionally disadvantaged groups should help to erode social inequality, with the full force of these effects accumulating gradually over generations.

Representative bureaucracy theory advances the empirical claim that that one potential determinant of the efficacy of government services for various groups in society is the selection of individuals tasked with administering government services. This dissertation has built on previous work, which generally finds that clients of government bureaucracies benefit from being served by bureaucrats who share their own demographic characteristics, at least under certain circumstances. Three main themes emerge from the chapters of this dissertation: the importance of context, the role of values, and the inevitability of policy tradeoffs.

## Bureaucratic Context

First, context plays an important role in determining how bureaucratic representation functions. Bureaucrats are embedded in complex organizations, and the extent to which they serve as active representatives of interests associated with their demographic characteristics can change depending on the job descriptions they fill, the clients they serve, the coworkers they have, and the norms of their organizations. Furthermore, although bureaucrats who share a given demographic characteristic may have some common social experiences, they still exhibit a broad range of values, habits, and expertise. Some organizations are likely to attract bureaucrats who are very active in representing interests associated with their demographic characteristics while other organizations may have very few employees who will actively seek to represent such interests. The manner in which bureaucratic representation functions can look very different depending on where it is studied.

Public schools are a context where public administration scholars have consistently found evidence of a positive effect of same-race teachers on black and Latino students. Yet in Chapter IV, I find that same-race teachers have—on average—very little or no effect for blacks and Latinos in the full population of New York City schools. Further analysis indicates that only in those schools where there are a substantial number of students who are not yet proficient at English do same-race teachers substantially benefit black and Latino students. These results highlight that even when the policy area is held constant, the local organizational context can alter the meaning that racial categories take on in a bureaucracy. When different groups of clients

have distinct needs that a bureaucracy is expected to meet, policy conflicts within a bureaucracy are likely to emerge, with fissures often aligning roughly with demographic lines.

Bureaucracies that function largely at the local level face different sets of demands depending on the composition of the local population they serve. At the city or neighborhood level, residential segregation can play an important role in determining the heterogeneity of the clients a service-oriented bureaucracy must serve. But as the results in Chapter IV illustrate, focusing on a single demographic characteristic (race) and assuming that client needs will vary with that characteristic can be problematic. The meaning of racial integration may be different depending on income level if, for example, black poverty tends to be systematically different from white poverty (Hagan and Peterson 1995; Krivo and Peterson 1996). A racially integrated neighborhood with residents who are uniformly middle or upper class may experience relatively few conflicts over local delivery of government services since service needs might be more uniform than in a mixed income neighborhood or a racially integrated poor neighborhood. As such, the substantive effects of passive racial representation might be greatest in organizations serving populations where race is a strong indicator of income level or immigrant status as well as in organizations serving low income populations with a substantial number of both white and non-white residents. In other words, individuals' economic class may partially determine the social distances among various racial groups, and accounting for variation in the social distances among groups may be

important for developing a more complete understanding of why representation effects are not always consistent.

At the national level, countries differ substantially in terms of both how heterogeneous their populations are and what demographic characteristics are associated with substantial differences in service demands. Countries with recent inflows of immigrants may find policy conflicts emerging within bureaucracies that previously served a population with relatively homogeneous service demands. Even among highly developed countries, the meaning of gender differs considerably, with large gender pay gaps persisting in some places like South Korea while the Nordic countries come much closer to achieving gender parity. Where service demands conflict, bureaucratic representation should have bigger effects.

Looking closer at context may also help to explain discrepant findings in the existing empirical literature on representative bureaucracy. Considerable attention has already been devoted to explaining why results might differ across policy contexts (Meier 1993b; Meier and Stewart 1992; Wilkins and Keiser 2006) or depending on internal organizational structures or characteristics (Keiser et al. 2002; Meier and Bohte 2001; Thompson 1976). Less attention has been paid to how the local environment of a bureaucracy might shape the manner in which representation functions. Looking to the local environment may be important when considering why representation effects are varied within the same policy area. For example, work on policing has provided conflicting results. Wilkins and Williams (2008; 2009) argue that one of the reasons passive representation of minorities has a null or even positive effect on racial profiling

in San Diego is the existence of strong socialization processes within police organizations. Given evidence of favorable treatment of minorities by same-race police in other locations (Bradbury and Kellough 2011), the question then becomes why socialization effects eliminate the sort of active representation predicted by representative bureaucracy theory in some police departments but not others. The answer could have to do with the external context of the departments. In particular, the political context of the organization may play a key role in shaping the culture and structure of the organization. Recent work by Meier and Rutherford (forthcoming) suggests that local partisanship strongly affects school districts' personnel decisions as well as the extent to which passive minority bureaucratic representation translates into substantive benefits for minority students. Beyond political influences, bureaucratic representation may function differently depending on the coproduction behaviors exhibited by local residents and the extent to which the public generally trusts the bureaucracy. Both factors can vary along demographic lines. Legacies of discrimination have bred mistrust in the police among minority groups in certain localities. This mistrust can lead to tension between minority police officers and co-ethnic civilians, which may make these officers less likely to actively represent minority interests. In some areas, many minority residents are probably unwilling to even consider working for the police department, meaning that those minorities who do end up serving as officers tend to hold values that are not reflective of broader sentiments generally held by their co-ethnic civilians.

The influence of the political environment on bureaucratic functioning may account for some of the results found in Chapter III. I find that a principal's political

ideology is associated with the demographic characteristics of the schools in which she serves. Specifically, principals in schools with more minority students and fewer low income students tend to be more politically liberal. In part, this association may reflect the political forces of the school or (more likely) the district. Schools with more minority students probably tend to be located in more liberal districts, and the share of low-income students may be negatively associated with participation by minority groups. Thus, schools with large minority populations but few low-income students may tend to be in districts with large, active minority populations that tend to elect liberal school board members. School boards might intentionally hire superintendents who share many of their political values (especially if political values are associated with educational values; see Meier and Rutherford forthcoming). Superintendents, in turn, may tend to hire and retain principals who share similar political values. Though school board elections take place at the district level, it is possible that the political leanings of parents informally affect principal selection at the school level. School-level political forces might take the form of parent groups voicing opinions regarding principal selection or retention decisions, for example. Or district administrators might be concerned about parent satisfaction (even if parents are not organized) and intentionally place principals in schools such that parents' ideological leanings tend to align with their school principal.

In this way, the political ideology of the principal could be serving as a proxy in my models for the political environment of the school. The principal's ideology may be a mediating variable in the relationship between the broader political environment and

the school's discipline and placement practices. In other words, more politically liberal school boards or parent groups might hire and retain more liberal principals, who in turn place more minorities in gifted and talented programs and enact stricter discipline. Another possibility is that the ideology of the principal does not affect placement and discipline practices at all and is merely correlated with political factors that affect such practices via other channels (e.g., through district-wide policies).

The political environment may also affect the manner in which principals express their values when making decisions. Meier and Rutherford (forthcoming) find evidence that the racial composition of a district's personnel has the greatest substantive effects in majority-Democrat districts. Likewise, liberal principals may be more empowered to enact policies consistent with their values when operating in a school or district that has a liberal political environment. Similar processes may be at work in other types of organizations; bureaucrats' political values may generally have stronger substantive effects when their values are reinforced by their political environment.

The theme of context is also apparent in Chapters V and VI. These chapters consider how a bureaucrat's organizational surroundings may influence the manner in which the bureaucrat's social identity relates to substantive outcomes. In Chapter V, I find some evidence that students benefit when greater passive representation exists throughout their entire school, not just among those teachers who directly instruct them. Chapter VI provides some evidence of critical mass effects for certain racial groups. Bureaucrats and clients are not disconnected from their broader surroundings within an organization. A client's coproduction behaviors and outcomes can be affected by his

peers (as in the case of student peer effects; see Hanushek, Kain, and Rivkin 2009), and a bureaucrat's behavior is likely affected by her coworkers. Working alongside co-ethnic coworkers can empower minority bureaucrats to work together to bring visibility to overlooked issues affecting certain clients. Heightened awareness of such issues among other coworkers can then change broader organizational behavior. To better understand these processes, future work should attempt to directly measure specific behaviors (at the level of the individual bureaucrat) that might be influenced by coworkers. Certain types of organizational structures or cultures may facilitate the transfer of knowledge and awareness among bureaucrats. For example, coworker effects might be weaker in organizations where bureaucrats spend a larger portion of the day working alone. Organizations with managers who regularly solicit input from lower-level employees into decisions about organizational procedures might also produce larger coworker effects (since coworkers might influence adoption of rules that prescribe or proscribe certain bureaucratic behaviors).

Chapter VI also produced evidence that the overall level of diversity among teachers appears to benefit the racial groups most socially distant from whites (Latinos, African Americans, and Native Americans) relative to whites and Asians (who are less socially distant from whites in the U.S.). Being surrounded by peers of many different ethnic backgrounds can be a powerful socialization experience, and having diverse coworkers may alter bureaucrats' cultural awareness or possibly even their values. Diversity may also beget more diversity since prospective employees from

underrepresented groups may be more willing to step into an organization that has a demonstrated willingness to recruit and retain people from many different backgrounds.

To better understand the role of context in shaping bureaucratic representation, scholars should look to a broad range of institutional settings. Attempts should be made to replicate the findings here in other types of organizations, such as police departments or welfare agencies. The external environment of an organization likely interacts with the internal organizational context to shape individual bureaucrats' behaviors. For example, high levels of community trust in a local institution may allow for organizational arrangements that afford substantial discretion to street-level bureaucrats, causing individual bureaucrats' knowledge and values to greatly influence their behavior. Organizational transparency or the use of direct citizen engagement tools like citizen surveys might increase the influence of the environment on bureaucrats' representation behaviors. Many studies will be necessary to disentangle how the many facets of broad environmental context might interact with organizational structures to influence how bureaucratic representation functions.

## Bureaucratic Values

A second major theme that emerges from this dissertation is the importance of understanding bureaucratic values. One of the reasons the demographic makeup of a bureaucracy is theorized to have substantive effects is because demographic characteristics can be associated with differences in values. Chapter III considers whether the reason minority bureaucrats benefit minority clients is because minority

bureaucrats hold somewhat unique values, which in turn affects the manner in which they perform their jobs. Though I find some empirical support for this causal story, the strength of relationships is rather weak. Values are only weakly associated with demographic characteristics in my sample of principals. If the sets of values that I measure (representative role acceptance and political ideology) are in fact the values most relevant to bureaucratic decision making, the weak association between values and demographic characteristics suggests that many non-minority bureaucrats hold values that resemble those of minority bureaucrats. Thus, to the extent that bureaucrats represent members of the public through their values, many non-minority bureaucrats provide representation of the same values as minority bureaucrats. Even if demographic characteristics are a weak indicator of values, public organizations that want to try to employ a workforce with a diversity of values that reflects the public's diversity may be forced to continue relying on demographic measures for pragmatic reasons. In the hiring process, determining an applicant's values could be difficult, particularly because some prospective employees may misrepresent their values on an application process if there are incentives for them to do so. Asking about controversial values during the hiring process might also create opportunities for abuse if some managers would like to exclude people with certain values from their organization, although carefully crafted antidiscrimination policies might justify collecting data on values, just as has become common practice with collecting race data in the U.S.

It is also possible that the association between demographic characteristics and values is weaker in public education than in other settings. Educators belong to a

profession with relatively strong norms emphasizing the importance of closing achievement gaps and providing opportunities to underprivileged groups. This may cause white educators to adopt norms that largely resemble those of minority educators, particularly on the dimension of representative role acceptance. If there is little true variation in principals' level of representative role acceptance, the variation I do find is probably mostly the result of measurement error, which would explain why I find such weak associations. Many other public administration settings—including law enforcement, social work, and environmental regulation—also have strong professions or socialization processes that may dampen variation in bureaucratic values. Perhaps the representative bureaucracy theory literature's emphasis on values is misplaced. Or perhaps values vary among bureaucrats in nuanced ways that existing measures do not adequately reflect.

Of the two measures of values I do employ, general political ideology explains more variation in bureaucratic functioning and outcomes than representative role acceptance does. Perhaps general political ideology is the more important dimension of values when it comes to motivating bureaucratic behavior. But even the political ideology measure is only significantly associated with two out of four dependent variables, and in one of the two cases where an effect is found, the relationship is in the opposite of the hypothesized direction.

Taken as a whole, the results of Chapter III could be interpreted to mean that bureaucratic values are underspecified in the current literature. The representative bureaucracy literature's emphasis on bureaucrats' beliefs regarding whose interests they

should represent (Bradbury and Kellough 2008; Selden 1997) to the exclusion of more traditional measures of political ideology may be misplaced given stronger results for my political ideology measure. Since even the political ideology measure yields weak results, entirely new conceptualizations of bureaucratic values might be necessary to gain a better understanding of what drive bureaucratic use of discretionary authority. One basic distinction that could provide a starting point for a deeper exploration of values would be to separate beliefs about the empirical state of the world or the empirical consequences of using certain policy tools from beliefs about what government or society should be striving to achieve. In the context of racial dynamics in the U.S., there is no real consensus among the public regarding the extent to which racial discrimination is ongoing or the causes of persistent racial disparities. Variance in such beliefs might account for a greater share of the divergence in support for specific policy tools than variance in normative beliefs about whether racial equality is desirable.

The manner in which bureaucratic values function may depend on the context in which a bureaucrat finds herself. The effects of values may be particularly pronounced in complex policy environments where different members of society have competing needs. The results in Chapter IV suggest that minority teachers in New York City produce substantial benefits for co-ethnic students only when a substantial portion of students in the school have limited English language proficiency. Immigrant students with limited English ability have educational needs that are somewhat different from students who are English proficient. Bureaucrats working in environments that require them to balance the needs of clients with competing demands may take different

approaches to prioritizing various needs depending on their own (or their organization's) values. Sometimes, values may dictate that the appropriate bureaucratic behavior varies depending on characteristics of the local environment in which one works, such as existing disparities. Work by Nicholson-Crotty, Grissom, and Nicholson-Crotty (2011) suggests that minority bureaucrats act to distribute more resources to minority citizens only when the existing distribution of benefits leaves minority citizens at a disadvantage.

Even though my measures of values are only weakly linked to race and to bureaucratic functioning and outcomes, I find that the race of managers (and other employees) is consistently associated with bureaucratic functioning and outcomes. In addition to possible underspecification of bureaucratic values, other factors associated with racial identities may be driving the relationship between race and outcomes. Visible habits or phenotypical characteristics signaling racial identities among minority bureaucrats may elicit different behaviors in others in at least three ways. First, an organization that already has minority employees may have an easier time recruiting minorities to work for them because prospective employees are more comfortable stepping into an environment where others share their own racial identity. Second, non-minority bureaucrats may behave more favorably towards minority clients when being observed by minority coworkers (Lim 2006). Third, clients themselves may respond more positively to co-ethnic bureaucrats. While the third possibility is beginning to receive scholarly attention, scant empirical work has focused on the first two ways that social responses to racial identities might alter outcomes for a bureaucracy. Experimental work might be able to uncover recruitment effects, and the collection of

detailed individual-level data on specific bureaucratic behaviors might help to reveal whether non-minority bureaucrats behave differently in front of minority coworkers.

These three mechanisms may help to explain the effects of minority principals, but they are less likely to explain the indirect teacher effects found in Chapter V or the teacher effects that are contingent upon the presence of English Language Learners in Chapter IV. Minority teachers may help with recruitment of other minority teachers, but this would not explain why students benefit from minority teachers even when they are not instructed by them or why minority teachers provide greater benefits when there are more English Language Learners. Since teachers do not generally observe one another while teaching students, there is little opportunity for minority teachers to act as bystanders to other teachers. It is possible that minority students might see a teacher of a higher grade level who shares the students' racial identity, but such role model effects are probably much stronger when the student regularly interacts with a co-ethnic authority figure. Given persistent racial inequality in the U.S., it is likely that co-ethnic role models are as important for native minority students as for immigrant students, so it seems unlikely that role model effects would be noticeably stronger in schools with more English Language Learners.

Specialized bureaucratic knowledge is another potential mechanism that could link minority bureaucrats to favorable outcome for minority clients. This mechanism could easily explain (at least partially) the effects of both minority principals and minority teachers. Even if values do not differ, minority bureaucrats may act differently than non-minority bureaucrats because their actions are informed by a unique knowledge

of the culture or needs of clients who share their own racial identities. Like values, knowledge could easily account for indirect effects of minority bureaucrats. With their unique insights, minority bureaucrats can become an informational resource to their broader organization. Organizational norms promoting frequent exchange of information among coworkers would be expected to foster indirect informational effects, allowing other bureaucrats to easily go to minority bureaucrats for advice and expertise about minority clients. With regards to the findings in Chapter IV, immigrant students who are still learning to navigate U.S. culture and to speak English may experience greater benefits (than other minority students) from having a teacher who commands some familiarity with their native culture. To the extent that teachers also tend to command a greater familiarity with same-race immigrants' native cultures, the effect of having same-race teachers should be larger in schools with more English Language Learners. Creating measures of bureaucratic knowledge of topics that might be associated with demographic characteristics would provide a useful step in the direction of uncovering the potential role of technical knowledge in creating substantive representation effects.

### Bureaucratic Tradeoffs

A final theme—less central to this dissertation than the prior two themes—is that of the inevitability of making tradeoffs within the bureaucracy. Perhaps the most obvious tradeoff is between hiring someone of one race versus the others. The distribution of personnel among various demographic categories is zero-sum, at least in a proportional sense. And the results in Chapter VI appear to indicate that minority bureaucrats

primarily serve to benefit students of their own racial identity (as opposed to minority bureaucrats benefiting all students belonging to any minority group). This finding, unfortunately, suggests that a bureaucracy that demographically mirrors the public may be of limited benefit to especially small minority groups. This limitation is particularly pronounced if a critical mass must be reached before bureaucrats belonging to that group begin to produce substantive benefits for that group. While overrepresentation (in numerical terms) of small minority groups among bureaucrats might theoretically be able to improve service delivery to such groups, the limited supply of potential employees belonging to very small minority groups would place serious practical constraints on hiring in some instances. Maintaining a representative bureaucracy certainly is not a panacea for minority groups experiencing unequal benefits from government programs. Nonetheless, maintaining a bureaucracy that broadly looks like the public may serve as one useful tool for helping to improve the likelihood that some minority groups will receive better government services. Representative bureaucracy need not be the only tool used to this end. For example, professional norms among public employees who are also professionals might promote fair treatment of minority clients.

The finding that more liberal principals (and Hispanic principals) are associated with a greater number of out-of-school suspensions for Hispanic students suggests another set of tradeoffs that administrators often face. The decisions that bureaucrats adopt can affect not only the public but also their own reputation and career opportunities. Meier and Rutherford (forthcoming) find that black students receive

harsher disciplinary actions in school districts with more black administrators, which they suggest may be due (at least in part) to incentive to enact strict discipline in order to advance in their careers. School discipline can also serve as an example of a case where the interests of one student are directly pitted against the interests of her peers. Some discipline is necessary for a school to function, and failing to adequately maintain order in a classroom (and more broadly in a school) creates an environment where it is more difficult for a disruptive student's peers to learn. Opting for in-school rather than out-of-school suspensions may soak up resources that could otherwise be devoted to helping other students. Hispanic principals may suspend Hispanic students with behavioral issues in order to try to improve the learning environment for other Hispanic students in the school. Similar tradeoffs frequently occur in law enforcement, where police officers may believe that enacting harsh enforcement policies will serve to reduce crime and improve the lives of minority residents in a neighborhood.

## Conclusion

Ultimately, representative bureaucracy theory offers a normative argument for the institutional legitimacy of a bureaucracy that demographically mirrors the public. Public servants hold positions of power allowing them to act on behalf of a polity. No institutional structure can ensure that public servants will perfectly serve the public interest, just as no form of government can ensure the universal adoption of optimal policies. But just as democracy can offer institutional legitimacy in the form of an imperfect guard against tyranny, maintaining bureaucracies that demographically mirror

the public in broad terms can offer an imperfect check against a bureaucracy that serves the interests of only a few. A bureaucracy that looks like the population it serves is also more likely to understand (and be understood by) the recipients of its policy implementation.

The analyses contained in this dissertation help paint a fuller picture of how minority bureaucrats affect the work of our bureaucracies. If nothing else, the findings in this dissertation should serve as a reminder that bureaucrats are far more than just technocrats who neutrally apply expertise to implement government policy. We entrust government employees with serving the public interest. The results obtained from public organizations often depend on the types of people who are employed in the organization. Simple unidimensional conceptions of employees that speak only in terms of overall technical aptitude at performing a set of job tasks do not account for the complexity of bureaucrats' attributes and the distributional consequences of such attributes. Unless public organizations hire employees with values and expertise conducive to effective service provision for traditionally underserved groups, many public programs will continue to disproportionately benefit already-privileged groups in society.

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APPENDIX

**Table A-1**
OLS Models of Logged Percent Black or Hispanic Teachers (Archival Data Only)

| | Black Teachers | | Hispanic Teachers | |
|---|---|---|---|---|
| | *b/se* | *se* | *b/se* | *se* |
| Principal: | | | | |
| - Black (Archival Data) | 0.131* | (0.021) | | |
| - Hispanic (Archival Data) | | | 0.072* | (0.011) |
| Change in % Hispanic Students | | | 0.009* | (0.003) |
| Change in % Black Students | 0.005 | (0.004) | | |
| Remaining Vars from Prior Year: | | | | |
| Lagged D.V. | 0.834* | (0.009) | 0.807* | (0.011) |
| % Black Students | 0.004* | (0.001) | | |
| % Hispanic Students | | | 0.006* | (0.001) |
| % Low Income Students | 0.001* | (0.000) | -0.002* | (0.000) |
| % Teacher Turnover | 0.002* | (0.001) | -0.000 | (0.001) |
| Avg. Teacher Experience | -0.007* | (0.003) | -0.005* | (0.003) |
| Avg. Teacher Salary | 0.006* | (0.002) | 0.006* | (0.002) |
| Standardized Exam Pass Rate | 0.000 | (0.001) | 0.000 | (0.001) |
| Log(Enrollment) | 0.034* | (0.012) | 0.023+ | (0.013) |
| District: | | | | |
| - % Black Students | 0.006* | (0.001) | | |
| - % Hispanic Students | | | 0.001* | (0.000) |
| - Log(Enrollment) | 0.001 | (0.006) | 0.005 | (0.005) |
| (Constant) | -0.418* | (0.118) | -0.195 | (0.127) |
| Adj R-sqr | 0.889 | | 0.904 | |
| N | 6953 | | 6953 | |

+ $p<0.10$, * $p<0.05$ (two-tailed); robust standard errors in parentheses

**Table A-2**
OLS Models of Gifted/Talented Placement or Out-of-School Suspensions (Logged % Placed/Suspended; Archival Data Only)

| | G/T Placement | | Out-of-Sch. Susp. | |
|---|---|---|---|---|
| | Black Students | Hispanic Students | Black Students | Hispanic Students |
| | *b/se* | *b/se* | *b/se* | *b/se* |
| Principal: | | | | |
| - Black (Archival Data) | 0.111* | | -0.011 | |
| | (0.041) | | (0.043) | |
| - Hispanic (Archival Data) | | 0.207* | | 0.084* |
| | | (0.025) | | (0.025) |
| White G/T Placement | 0.311* | 0.282* | | |
| | (0.016) | (0.010) | | |
| White Out-of-Sch. Susp. | | | 0.578* | 0.500* |
| | | | (0.017) | (0.011) |
| % Male among Black Stu. | | | 0.000 | |
| | | | (0.001) | |
| % Male among Hispanic Stu. | | | | 0.005* |
| | | | | (0.002) |
| % Black Students | 0.016* | 0.009* | 0.021* | 0.010* |
| | (0.001) | (0.001) | (0.001) | (0.001) |
| % Hispanic Students | 0.005* | 0.008* | 0.000 | 0.007* |
| | (0.001) | (0.001) | (0.001) | (0.001) |
| % Low Income Students | -0.004* | -0.006* | 0.003* | -0.002* |
| | (0.001) | (0.001) | (0.001) | (0.001) |
| Avg. Teacher Salary | 0.028* | 0.030* | 0.014* | 0.001 |
| | (0.004) | (0.004) | (0.004) | (0.003) |
| % 1st-year Teachers | 0.004 | 0.006* | 0.008* | 0.004* |
| | (0.003) | (0.002) | (0.003) | (0.002) |
| Student-Teacher Ratio | 0.023* | 0.002 | -0.028* | -0.043* |
| | (0.007) | (0.005) | (0.005) | (0.004) |
| Log(Enrollment) | 0.137* | 0.026 | 0.351* | 0.253* |
| | (0.030) | (0.021) | (0.029) | (0.020) |
| Charter School | 0.555* | -0.114 | 0.037 | 0.072 |
| | (0.203) | (0.131) | (0.099) | (0.071) |
| Alternative School | -0.416 | -0.637* | 0.309* | 0.403* |
| | (0.257) | (0.166) | (0.127) | (0.088) |
| (Constant) | -2.297* | -0.828* | -2.275* | -1.064* |
| | (0.234) | (0.164) | (0.219) | (0.168) |
| Adj R-sqr | 0.168 | 0.255 | 0.387 | 0.431 |
| N | 5902 | 6376 | 6449 | 6986 |

+ p<0.10, * p<0.05 (two-tailed); robust standard errors in parentheses

**Table A-3**
OLS Models of Standardized Exam Pass Rates (Archival Data Only)

| | Black Students | Hispanic Students |
|---|---|---|
| | *b/se* | *b/se* |
| Principal: | | |
| - Black | -0.140 | |
| | (0.517) | |
| - Hispanic | | 1.161* |
| | | (0.311) |
| White Pass Rate | 0.560* | 0.493* |
| | (0.023) | (0.014) |
| % Black Students | -0.090* | -0.050* |
| | (0.019) | (0.012) |
| % Hispanic Students | 0.071* | -0.060* |
| | (0.015) | (0.008) |
| % Low Income Students | -0.169* | -0.082* |
| | (0.016) | (0.009) |
| Avg. Teacher Salary | 0.313* | 0.360* |
| | (0.053) | (0.032) |
| % 1st-year Teachers | -0.095* | -0.110* |
| | (0.028) | (0.018) |
| Student-Teacher Ratio | 0.164* | 0.287* |
| | (0.079) | (0.058) |
| Log(Enrollment) | -1.697* | -1.088* |
| | (0.346) | (0.228) |
| Charter School | 4.966* | 4.556* |
| | (1.238) | (0.762) |
| Alternative School | -9.862* | -13.471* |
| | (1.999) | (1.373) |
| (Constant) | 26.473* | 27.656* |
| | (3.666) | (2.096) |
| Adj R-sqr | 0.403 | 0.530 |
| N | 5098 | 6315 |

+ $p<0.10$, * $p<0.05$ (two-tailed); robust standard errors in parentheses