

Police Use of Excessive Force in Minority Communities: A Test of the Minority Threat, Place, and Community Accountability Hypotheses

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We extend existing research on police use of coercive mechanisms of social control against racial/ethnic minority populations by testing three structural hypotheses regarding excessive force. The minority threat hypothesis maintains that the greater the proportion of minority residents in a city, the greater the use of coercive crime control mechanisms. The place hypothesis argues that spatially segregated minority populations are the primary targets of coercive control. The community accountability hypothesis maintains that organizational characteristics of police departments promote the use of excessive force against minorities. Combining data from several sources for cities with populations of 100,000 or more, we include the key variables of these theoretical models in analyses of sustained excessive force complaints. Findings provide support for the minority threat hypothesis but indicate that place effects are contingent on the existence of a very high degree of racial/ethnic segregation. They offer little support for the community accountability hypothesis. Keywords: excessive force; police brutality; policing; race/ethnicity; segregation.

Diverse theoretical perspectives maintain that preservation of social order demands the use of coercive mechanisms of control against internal law violators and dissidents who challenge existing social arrangements. While generally acknowledging this imperative, social scientists have disagreed on whether such mechanisms are employed differentially against certain segments of the population perceived as special threats to the social order. Insofar as social inequalities characterize a society, maintenance of social order implies protecting arrangements that advantage some segments of society but disadvantage others. The conflict theory of law maintains that various coercive strategies of crime control expressly aim to regulate threats to the interests of the powerful (e.g., Chambliss 2001; Turk 1969). Efforts to examine this issue empirically have often focused on policing, the institution that holds a virtual monopoly on the domestic use of coercive control (Bittner 1970).

Tests of the conflict theory of law are commonly grounded in the threat hypothesis, which maintains that “the greater the number of acts or people threatening to the interests of the powerful, the greater the level of deviance and crime control” (Liska 1992:18). In this view, police-citizen relations reflect the social divisions, deeply rooted in the social structure, that separate dominant and subordinate racial/ethnic groups. The structural characteristics of society are embedded in both the formal and informal organization of police agencies and foster the proclivity of police to target minorities for aggressive strategies of control (e.g., Chambliss 2001). The police

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also may see large minority populations as threatening, and they may employ severe forms of force in response to situations in which they perceive minority citizens as personal threats (Holmes 2000; Liska and Yu 1992). Empirical research using data aggregated to the city level provides considerable support for the argument that the use of violence by the police is closely linked to the racial and ethnic makeup of communities (Holmes 2000; Jacobs and O'Brien 1998; Liska and Yu 1992; Smith 2003; Smith and Holmes 2003).

The spatial organization of cities is another factor that may influence perceptions of threat among police. Minority citizens residing in cities with spatially segregated racial/ethnic populations may be seen as special threats to the police who patrol their neighborhoods and, therefore, are more likely to experience police violence (Holmes and Smith 2008). From this perspective, the police constitute a distinct social group whose street-level responses to minority citizens reflect their unique interests. Moreover, disadvantaged minority neighborhoods may trigger myriad social psychological responses among police officers that make the gratuitous use of force more likely. The police use of violence may, therefore, be tied to both race and "place." Aggregate-level research on the threat hypothesis has not examined this possibility.

Whereas the minority threat and place hypotheses posit the existence of intractable structural disadvantages as principal causal factors in cases of police violence against minority citizens, an alternative explanation hypothesizes that organizational arrangements are the primary influence on the street-level behavior of police (e.g., Skolnick and Fyfe 1993). This approach maintains that imperfect but malleable police bureaucracies produce the problem. The inadequate implementation or the lack of organizational mechanisms designed to ameliorate police-minority tensions within communities are said to be the primary cause of unnecessary violence against minority populations.

Here we ask: Which of the three models best explains the link between race/ethnicity and *excessive force*? The police use of excessive force possesses particular theoretical significance in regard to coercive social control. Use of force may be classified as proper or excessive, depending on whether it is necessary and justified to accomplish a legitimate police duty (Kania and Mackey 1977). Actions such as shooting an armed suspect who poses an imminent threat are generally proper police procedure under the law. It is possible that minorities are differentially targeted for legal forms of violence by the police because they pose *objective* threats (e.g., armed suspects), not because they represent *subjective* threats (e.g., stereotypical criminals) as is often assumed. Focusing on the use of excessive force eliminates this problem. Excessive force cannot be justified as appropriate procedure, irrespective of the objective threats citizens pose, as it entails actions that violate departmental regulations and criminal statutes.

We test the alternative explanations in an aggregate-level study of the incidence of sustained excessive force complaints in municipal police departments in cities with populations of 100,000 or more. The analysis includes the important variables identified by the three models and constitutes the first comprehensive test of the theories.

Theoretical Background

We designate the three theoretical models as the *minority threat hypothesis*, the *place hypothesis*, and the *community accountability hypothesis*. Each model identifies structural characteristics of cities or police departments that predict the connection of race/ethnicity and excessive force, but each postulates a different mechanism to account for that relationship.

The Minority Threat Hypothesis

The mobilization of coercive controls by the police helps preserve existing social arrangements that benefit the dominant group, as well as serves the interests of police officers who must personally confront citizens perceived as threats (Holmes 2000; Jacobs and O'Brien 1998).

Popular stereotypes associate race/ethnicity with serious criminality (Bender 2003; Quillian and Pager 2001) and urban violence (Chiricos, Welch, and Gertz 2004), and the presence of large minority populations, whether real or perceived, heightens fear of crime among white citizens (Chiricos, Hogan, and Gertz 1997; Liska, Lawrence, and Sanchirico 1982). Police authorities may likewise believe that culturally dissimilar minority groups threaten social order (Turk 1969), and relatively large minority populations may be seen as presenting a substantial problem for social control (Liska and Yu 1992). Given their shared concern about the alleged threat of minority crime, the dominant white citizenry and local police authorities may marshal their political power to promote the use of various coercive crime control strategies against subordinate minority citizens in cities with relatively large minority populations. Police officers on the street may deploy various mechanisms of coercive control to protect their interests as well as those of the dominant group. Excessive force may be an especially expedient means of achieving that end (Holmes 2000).

In the subculture of policing, the use of physical force may be encouraged even in situations where its use is legally questionable (Bayley and Bittner 1984; Hunt 1985; Crank 1998). The police generally view the use of excessive force as normal and essential for handling citizens who are perceived as threats or are otherwise discredited (Hunt 1985; Skolnick and Fyfe 1993; Westley 1970). They may employ it in situations in which legal alternatives are seen as infeasible or insufficient—it can be called upon when the police lack probable cause to arrest a threatening suspect or “justice” demands informal sanctions in addition to any formal ones (Holmes 2000). At the same time, such police behavior challenges American society’s cherished belief in equal justice and exposes officers to potentially serious sanctions should it be detected. But insofar as the use of excessive force against minority citizens helps maintain existing social arrangements, the dominant group may tacitly approve of its use unless the justification for the behavior becomes transparently untenable.

One important theoretical question posed by the threat perspective is: Whose interests are primarily served by the use of excessive force? The threat hypothesis is commonly framed in terms of dominant group interests, with the police seen as performing the clandestine “dirty work” necessary to protect them (e.g., Jacobs and O’Brien 1998). Yet some large American cities have predominantly African American (e.g., Detroit, MI and Washington, DC) or Hispanic (e.g., El Paso, TX and Miami, FL) populations, and in such communities it is not clear that the majority of citizens would perceive minorities as threats. The power-threat hypothesis (Blalock 1967) suggests that the dominant group increasingly mobilizes its resources of social control as a minority group becomes relatively large and is seen as an increasing threat. However, when the minority group represents a numerical majority, it becomes capable of effectively mobilizing resources on its own behalf (Horowitz 1985), and white elites may become more inclined to political accommodation (Turk 1969). Therefore, ascendant minority political power in predominantly minority communities may reduce the use excessive force, which minority citizens see as supporting dominant interests (NAACP and Criminal Justice Institute at Harvard Law School 1995). This model hypothesizes an initially positive parabolic (quadratic) relationship between percent minority and the incidence of excessive force, which will turn negative at approximately 50 percent minority population.

Conversely, a linear relationship between percent minority and the use of excessive force would be expected if street-level police behavior reflects primarily their own concerns. The police constitute a distinct social group whose unique interests do not always correspond to those of the dominant group of the larger society (Holmes and Smith 2008). The demeanor and behavior of minority citizens may symbolize threat to the police officer on the street (Skolnick and Fyfe 1993; Westley 1970). Moreover, cities with relatively large black populations have a higher incidence of homicides of police (Kent 2010), suggesting that some minority citizens pose objective as well as symbolic threats to officers. Insofar as they perceive minority citizens as proximate threats to their well-being, relatively large minority populations may amplify the risk perceived by the police and increase their willingness to employ excessive force irrespective of political opposition from minority citizens.

Most existing systematic studies of the relationship between race and the use of excessive force have relied on observations of police-citizen encounters (Black and Reiss 1967; Smith 1986; Worden 1996) or public opinion surveys (see, for example, Weitzer and Tuch 2006). This research generally shows that minorities are more likely than whites to be victimized by the police. However, neither of these data sources allows for tests of structural-level hypotheses, which require aggregated data on community characteristics from a number of jurisdictions. Excessive force complaints filed with police agencies potentially offer a more useful source of aggregate data for testing hypotheses about the relationship between race/ethnicity and excessive force, but virtually no research uses complaints data to address that issue.

One exception is a study that tested the minority threat hypothesis using civil rights criminal complaints of police brutality, which were investigated by the Federal Bureau of Investigation (FBI) and reported to the Civil Rights Division of the U.S. Department of Justice (USDOJ) during the period of 1985 through 1990 (Holmes 2000). The findings showed that, in cities with populations of 150,000 or more, percent black, percent Hispanic (in the Southwest), and majority/minority income inequality were related to civil rights criminal complaints, consistent with the predictions of the threat hypothesis. Tests for nonlinearity indicated that the quadratic relationships postulated by the power-threat hypothesis were not present in the data.

The Place Hypothesis

The mere presence of a relatively large minority population in cities may not be sufficient to explain the differential employment of excessive force. Ecological characteristics of cities also may influence police responses to citizens. For example, the police may be less likely to arrest non-whites in segregated cities because of benign neglect of minority crime victims (Liska and Chamlin 1984). In addition, whites may not perceive the crimes that take place in minority neighborhoods as a threat to themselves. However, they may still stereotype disadvantaged minority citizens in segregated neighborhoods as special threats to social order (see Wooldredge 2007), and the social control and containment of racial minorities in such locales may serve the interests of the powerful (e.g., Bass 2001; Spitzer 1975). More importantly, the exercise of extra-legal coercion to control minority populations protects the interests of police officers on the street. The police may more openly employ excessive force in minority neighborhoods, where they have more salient personal interests at stake and less exposure to punishment.

Social psychological dynamics of intergroup relations may interact with structural disadvantage to produce a higher incidence of excessive force in minority locales (Holmes and Smith 2008). America's underprivileged black and Hispanic populations are heavily concentrated in segregated urban neighborhoods (e.g., Alba and Nee 2003; Massey and Denton 1993). Many of these neighborhoods pose a host of challenging circumstances—social isolation, poverty, crime, drugs, weapon availability, violence, and social disorder/incivilities—that may pose objective threats to police (see, for example, Anderson 1999; Massey and Denton 1993; Peterson and Krivo 2010; Skogan 1990). In large cities, much street-level police work takes place in such settings (Bass 2001). Conflicts of interest between police and citizens in these areas create normative rifts that often place them at odds with one another. For example, the police demand respect for their authority, expecting citizens to obey their commands; yet citizens of such neighborhoods are particularly likely to evade or resist the police (Weitzer and Brunson 2009).

Moreover, simply entering disadvantaged minority neighborhoods may activate various emotional and cognitive processes that can trigger the use of excessive force by the police. Their day-to-day work in such areas exposes them to the most difficult conditions of urban life, where frustrated, potentially hostile citizens may challenge not only their authority but sometimes their personal safety. For example, cities with a high degree of black segregation have a higher incidence of homicides of police (Kent 2010). Officers may become conditioned to associate such locales, as well as particular types of people, with criminality and danger (e.g., Bayley and Mendelsohn 1968; Crank 1998; Herbert 1997; Meehan and Ponder 2002). They learn the places where danger is most

likely to occur from other officers' war stories, and personal experience reinforces this subcultural knowledge of which locales are more dangerous than others. Through this process of "ecological contamination" (Crank 1998), everyone encountered in such places is perceived as a potential threat (Smith 1986). Whether symbolic or real, threats perceived by police may elicit emotions such as fear and anger (Holmes and Smith 2008, 2012). Emotional responses to aversive stimuli such as "dangerous" neighborhoods and citizens play a major role in triggering aggression (see Berkowitz 1993).

Stereotyping of outgroup members may exacerbate emotional responses. Stereotypic attributions about outgroup members' behavior conserve mental resources and facilitate routine day-to-day interactions in cognitively taxing environments (Holmes and Smith 2008, 2012). While simplifying a complex social world, stereotypes also foster gross misperceptions. Police stereotypes of minority citizens, which conflate race and violent criminality, parallel those of the larger society and may be continually reinforced by selective personal experience and departmental folklore (e.g., Bolton and Feagin 2004; NAACP and Criminal Justice Institute at Harvard Law School 1995; Smith and Alpert 2007). Officers who work in districts with large populations, high rates of violent crime, and greater concentrations of minorities may be especially prone to stereotypic responses to minority citizens (Correll et al. 2007), including acts of gratuitous force against citizens encountered there (Holmes and Smith 2008, 2012).

Empirical research on excessive force has given little consideration to the effects of place. One study of three metropolitan areas (Smith 1986) found that the police were most likely to employ coercive authority (nondangerous encounters involving use of physical force or threat of force, arrest, or surveillance) against black suspects encountered in predominantly black neighborhoods, which supports the place hypothesis. Field research provides additional evidence that residents of minority neighborhoods are targeted for aggressive policing strategies (e.g., Brunson and Miller 2006; Chambliss 1994; Curtis 1998; Herbert 1997; Rios 2011; Venkatesh 2000). Studies employing data aggregated for multiple cities, however, have not considered whether segregation influences the incidence of excessive force complaints.

The Community Accountability Hypothesis

Both the minority threat and place hypotheses see police use of excessive force as a byproduct of social inequalities deeply embedded in the social structure of society. In contrast, various organizational perspectives maintain that characteristics of police agencies account for variable patterns of excessive force across jurisdictions (e.g., Skolnick and Fyfe 1993). Formal, and particularly informal, aspects of police organizations are thought to influence the street-level behavior of police officers, including the use of excessive force. The quasi-military structure of police agencies and a subculture that promotes the use of violence are said to contribute to the unlawful use of force. Police-minority tensions may reflect, in large part, the occupational insularity and solidarity that characterize police work (Skolnick and Fyfe 1993; Westley 1970). Subcultural norms encourage the use of excessive force and demand that officers remain loyal and maintain secrecy when fellow officers violate official regulations. The insularity of the police subculture thus diminishes police accountability to the citizens they are supposed to serve.

Policymakers and scholars have recommended various policies to make the police answerable to the community and thereby ameliorate the problem of excessive force against minority citizens (e.g., NAACP and Criminal Justice Institute at Harvard Law School 1995; Skolnick and Fyfe 1993). One particularly prominent proposal involves establishing racially and ethnically representative police departments (National Advisory Commission on Civil Disorders 1968; NAACP and Criminal Justice Institute at Harvard Law School 1995). Advocates of representativeness argue that greater diversity within police agencies will reduce tensions with minority citizens because minority officers will relate better to citizens and enhance the legitimacy of the police in their eyes. Reducing tensions will presumably cause a decrease in the incidence of excessive force (Skolnick and Fyfe 1993).

Another important community accountability recommendation, one not widely implemented until relatively recently, is said to involve an entirely new approach—community policing. Although involving an array of tactics, the central ideas of the proposal call for community engagement and input (Cordner 1999; Skolnick and Bayley 1986). By developing a consultative partnership with citizens and drawing upon community resources, better quality of service and decreased tensions with citizens may be realized (Goldstein 1987). Greater citizen involvement in policing will enhance familiarity and rapport between police and citizens, which should change the behavior of officers. If the relationship between police and citizens is at the heart of the problem of excessive force, community policing should offer a workable strategy for reducing its incidence (NAACP and Criminal Justice Institute at Harvard Law School 1995; Skolnick and Fyfe 1993).

Other proposals focus on better identification and adjudication of offending officers. One such approach seeks to establish bureaucratic procedures to monitor police officers and punish rule breakers (National Research Council 2004). A recent innovation involves early intervention (EI) systems, which are essentially centralized data-based management systems to track various risk indicators of officers, including citizen complaints and use of force incidents (Walker 2005). High-risk officers can be monitored and, if necessary, appropriate action taken (e.g., discipline, training). Another popular proposal calls for citizen review of complaints against the police. Proponents of citizen review maintain that historically closed internal review processes used to adjudicate citizen complaints about officer misconduct are incapable of fairly investigating complaints and sanctioning offending officers (Walker 2001). Citizens may be more willing to come forward when complaints are resolved by an external review board (Smith and Holmes 2003). As with EI systems, such procedures may produce more excessive force complaints initially but reduce their incidence over the long run.

While the various approaches to organizational change may produce other laudable outcomes, the minority threat and place hypotheses suggest that a significant reduction in the use of excessive force against minority citizens will not be one of them (Holmes and Smith 2008; Smith and Holmes 2003). Organizational change cannot alter the structural conditions of minority disadvantage and segregation that those perspectives see as the ultimate causes of excessive force. Structural-level studies provide some evidence regarding the competing viewpoints, but most do not include community characteristics such as percent minority citizens and thus do not test the competing hypotheses (e.g., Cao and Huang 2000).

An exception involved an extension of the study of minority threat variables on civil rights criminal complaints of police brutality described above, which added community accountability variables to the analysis (Smith and Holmes 2003). The findings that the percent black and percent Hispanic variables were related positively to complaints remained virtually unchanged from the earlier study. Among the five community accountability variables, just the ratio of percent Hispanic citizens to percent Hispanic officers and the presence of citizen review had statistically significant relationships to civil rights criminal complaints. These effects were consistent with the community accountability hypothesis. On balance, however, the study appeared to provide greater support for the minority threat hypothesis, given that the effects of the threat variables were largely unchanged after inclusion of the community accountability variables. Although providing the most systematic test of the competing structural-level hypotheses to date, the investigation considered only the small number of severe excessive force cases that came to the attention of federal authorities, not the bulk of complaints that were adjudicated within local police agencies. Moreover, it did not consider the effects of racial/ethnic segregation, nor did it examine the effects of important community accountability policies (notably community policing) that had not been widely implemented during the timeframe encompassed by the study.

Research Strategy

In the study presented here, we analyzed cities of 100,000 or more residents with independent police agencies. We chose larger cities for both substantive and methodological reasons.

Research on coercive crime control has typically examined the nation's largest cities, partly because fear of crime and racial/ethnic tensions may be exacerbated by the social conditions characteristic of them (Holmes 2000). In addition, the inclusion of smaller cities could create systematic measurement error. A fair number of small communities contract with county agencies for police services (Walker and Katz 2005). Moreover, police agencies within them typically have few officers, very few citizen complaints, and comparatively minimal bureaucratic structures. In addition, many of these communities have relatively few racial/ethnic minority residents. Inclusion of smaller communities would substantially skew measures of community and organizational factors.

We examined sustained excessive force complaints for several reasons. As noted earlier, survey and observational data include very few cities and/or cannot be matched to structural characteristics of cities, which precludes using them in tests of structural-level hypotheses. Moreover, survey data possess questionable validity because most citizens are incapable of distinguishing between reasonable force and excessive force, and observational studies include very small numbers of excessive force cases and reactivity effects may affect their validity (Holmes 2000). In contrast, the incidence of sustained excessive force complaints filed against police are available for nearly all large cities and can be matched to community and organizational characteristics. Sustained complaints comprise a small percentage (less than 8 percent) of the overall pool of complaints, because many excessive force complaints filed by citizens involve force used in accordance with policy (e.g., use of tasers or take-down techniques when a citizen resists police), do not rise to the official standard of excessive force (e.g., bullying or shoving a citizen), or lack sufficient evidence (e.g., credible citizen witnesses). Although including appreciably fewer cases than the overall pool of complaints, sustained complaints involve more serious infractions of regulations supported by credible evidence. Therefore, sustained complaints constitute the more reliable measure of excessive force and are the primary focus of our analysis. Still, we cannot empirically verify that sustained complaints accurately represent the incidence of excessive force in cities. We return to this issue of measurement validity in the conclusion, where we discuss specifics of the problem and explicate the reasons we are confident in the findings presented below.

Substantively, we focused on blacks and Hispanics. These racial/ethnic groups comprise by far the largest minority populations in the United States and are perceived as the primary source of minority threat by the dominant group and police (Holmes 2000; Kent and Jacobs 2005). Popular stereotypes portray them as prone to serious criminality (Bender 2003; Martinez 2002; Quillian and Pager 2001). Of special significance, blacks and Hispanics appear to represent the primary targets of excessive force (Holmes 2000; NAACP and Criminal Justice Institute at Harvard Law School 1995; Smith and Holmes 2003).

Method

We collected data for the study from five sources: the 2000 and 2003 Law Enforcement Management and Administrative Statistics survey (LEMAS) by the Bureau of Justice Statistics (2006, 2008); the Uniform Crime Reporting (UCR) for 2003 (U.S. FBI 2005); the CensusScope website created by the Social Science Data Analysis Network (SSDAN) at the University of Michigan (n.d.); and the 2000 U.S. Census (U.S. Census Bureau 2004). There were a total of 245 Census designated places with 100,000 or more residents in 2000. Eleven of them did not have independent police departments, and two had some form of consolidated police agency. These cases were excluded from the study because of their lack of comparability to cities with independent police departments. After merging the various data sources and deleting missing data cases, the data set used in the multivariate analyses reported below included 218 (94 percent) of the 232 cities of 100,000 or more population with independent police departments.

Measurement

As discussed above, the focus of the study was the incidence of sustained formal citizen complaints against police officers regarding the use of excessive force. The LEMAS data define sustained complaints as those involving "sufficient evidence to justify disciplinary action against the officer(s)" (U.S. Bureau of Justice Statistics 2006). Table 1 presents descriptive statistics for the dependent variable.

We included four categories of independent variables in the statistical models. These captured minority threat, place, and community accountability, as well as certain other city characteristics that were used as controls. Table 1 presents the predicted direction of relationships of the independent variables to sustained complaints, as well as their means and standard deviations. The threat hypothesis predicts positive linear relationships between percent minority variables and the incidence of sustained complaints. The alternative power-threat hypothesis predicts an initially positive parabolic (quadratic) relationship between percent minority variables and sustained complaints, which should turn negative at approximately 50 percent minority population. The place hypothesis predicts positive relationships between the segregation measures (dissimilarity indices) and the dependent variable. The community accountability hypothesis predicts mostly negative associations between the explanatory variables and the dependent variable, although some of the predictions are mixed because their effects may depend on average length of implementation.

Following previous research, the primary measures of the minority threat hypothesis included percent black residents and percent Hispanic residents. In addition, we added majority/minority income inequality. Where larger differences between majority and minority incomes exist, minorities may be perceived as more threatening (Jackson and Carroll 1981; Holmes 2000). We measured majority/minority income inequality as the ratio of Anglo (non-Hispanic white) median household income to the weighted mean of the black and Hispanic median household incomes

Table 1 • Predicted Signs and Descriptive Statistics

<i>Variable</i>	<i>Predicted Sign</i>	<i>M</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>
Dependent variable					
Sustained complaints		6.6	24.3	0	177
Control variables					
Total population	+	320,241	631,819	100,274	8,008,278
Violent crime rate	+	2188.2	1146.2	65.5	6039.2
North		.29	.46	0	1
South		.24	.43	0	1
Southwest		.34	.48	0	1
Northwest (ref. cat.)		.11	.31	0	1
Minority threat variables					
Percent black	+ / + to - (linear/quad.)	17.9	18.1	.20	83.6
Percent Hispanic	+ / + to - (linear/quad.)	19.2	19.1	.70	94.2
Maj./min. income inequality	+	2.8	.49	1.81	5.1
Place variables					
Black dissimilarity	+	.50	.16	.17	.87
Hispanic dissimilarity	+	.42	.12	.17	.71
Community accountability variables					
Ratio prop. black officers/citizens	-	.90	.89	0	8.9
Ratio prop. Hispanic officers/citizens	-	.55	.32	0	1.6
Community policing	-	5.4	1.9	0	8
EI system	+/-	.42	.49	0	1
Citizen complaint board	+/-	.32	.47	0	1

(see Holmes 2000), with higher values on this measure representing greater gaps between Anglo and minority household incomes.

Our measures of the place hypothesis comprised two indicators of residential segregation: the black dissimilarity index and the Hispanic dissimilarity index. These measures of segregation were obtained from the CensusScope website. They indicate the degree of separation of blacks and Hispanics relative to whites across all neighborhoods of a city (Frey and Myers 2005). Higher values on the dissimilarity indices represent greater segregation from whites. The indices range from 0 to 100, with 0 representing complete integration and 100 representing complete segregation.

One set of community accountability measures indicated the degree of minority representation in each department relative to the population of the city. We included measures of the ratio of the proportion of black sworn police officers in the agency to the proportion of black residents and the ratio of the proportion of Hispanic sworn police officers to the proportion of Hispanic residents. The higher the value of these measures the greater the representativeness of the agency. A value of zero would indicate no representation, whereas a value of one would indicate representation equal to the group's proportion of the population. Values in excess of one indicate overrepresentation.

To measure community policing, we constructed an index using eight questions from the 2000 LEMAS survey. We measured community policing three years prior to the dependent measure because it may represent a significant change from traditional police practices, and it may take some time after implementation before any meaningful changes occur. The yes/no questions comprising the index asked about police problem-solving strategies, whether the agency conducted a citizens' police academy, whether the agency had a formal community policing plan, whether officers had responsibility for specific geographic areas, whether evaluation criteria of officers included collaborative problem-solving projects, whether citizens were trained in community policing, whether the agency used technology to support analysis of community problems, and whether they partnered with citizen groups in the development of community policing strategies. The index ranges from zero to eight, with higher values representing greater levels of community policing ($\alpha = .69$).¹

Two other measures of community accountability included whether agencies had early intervention systems or citizen complaint review boards. We used a dummy variable to indicate whether the agency had an early warning or early intervention system (0 = no; 1 = yes). We coded this variable from the 2003 LEMAS question, "Does your agency have an operational computer-based personnel performance monitoring/assessment system (e.g., early warning or early intervention system) for monitoring or responding to officer behavior patterns before they become problematic?" We also measured citizen complaint review board as a dummy variable, with the reference category representing the lack of citizen review and one representing the existence of a citizen review board.²

1. Many police departments report adoption of community policing or related practices to maintain legitimacy but lack a genuine commitment to the policy (Crank 1994). The composite measure used here included indicators of specific policies and practices to differentiate among agencies actually implementing community policing rather than merely claiming commitment to it, and the measure has a good deal of variation. However, it may not fully capture variation in the degree of commitment by street-level police officers to engage constructively with citizens.

2. There are a variety of different types of citizen review that involve varying degrees of citizen involvement and independence from police agencies. To capture this variation, we also measured citizen oversight following Walker's (2001) more detailed classification scheme. We used data from a national survey of citizen review (Walker and Wright 1995), because the necessary variables were not included in the LEMAS surveys. We constructed an ordinal variable that included five categories ranging from no citizen oversight to independent auditor systems. Higher scores represented oversight systems with greater citizen involvement and independence from the police agency. The distribution of the variable revealed that approximately 76 percent of the cities in the study had no citizen review (68 percent in our 2003 data did not). Thus, the other categories contained few cases. A one-way ANOVA revealed that the mean incidence of both sustained and total citizen complaints for excessive force increased linearly across categories of citizen review; however, in the multivariate models reported here, the dummy variable produced a slightly better model fit and other results were substantively unchanged.

We included control variables commonly used in aggregate-level studies of coercive crime control strategies, including measures of city population in 2000, violent crime rate in 2003, and region. Population was important because cities with larger populations and police departments would typically generate more excessive force complaints than smaller cities would. We used violent crime rate ([number of part IUCR violent crimes/city population] \times 100,000) as a general indicator of objectively threatening acts that is not specific to the racial or ethnic composition of cities. We included region because historical variations in racial tensions and stratification may influence levels of coercive crime control (Jackson 1992). We did not offer specific predictions about region effects because alternate hypotheses exist (see, for example, Hawkins 1987). Region was measured with dummy variables (North, South, Southwest, and Northwest [omitted category]).³

Analytical Strategy

Because the dependent variable in the analyses was a count representing a relatively rare event, it was skewed toward the lower end of the distribution with large values occurring relatively rarely. Count-dependent variables are most appropriately modeled using maximum-likelihood Poisson regression techniques. Before conducting the multivariate analyses with those techniques, we performed diagnostic tests for the existence of multicollinearity or influential cases.

An initial perusal of the intercorrelations among the independent variables revealed no clear problems of multicollinearity, as none of the bivariate correlation coefficients exceeded .67. To check further for multicollinearity caused by the combination of two or more variables, we used ordinary least squares (OLS) regression to obtain variance inflation factors (VIFs).⁴ None of the VIFs obtained from Model 1 (presented below in Table 2) was greater than 3.7, indicating that the parameter estimates were not distorted by multicollinearity among the predictor variables. The largest VIF in Model 2, which included interaction and nonlinear variables, was 8.0 (predictably the high VIF involved a multiplicative interaction term). That value is still below the generally accepted limit of ten (Neter et al. 1996:387).

Another problem common to aggregate-level data involves influential cases, which may distort parameter estimates. A preliminary inspection of the standardized residuals obtained with OLS indicated the existence of a handful of outliers ($SD > 3$) in Model 1 (6 outliers) and Model 2 (4 outliers) in Table 2. To address this issue, we calculated Cook's D for all cases in the analyses, which is a test of undue influence on regression estimates by any case. The largest value of Cook's D was .34, which is well below the level (1.0) at which changes in estimates may occur (Weisberg 1985), indicating that the parameter estimates were unaffected by outliers.

Turning to the Poisson procedures employed in the multivariate analyses reported below, we first tested for equidispersion. Valid statistical inferences from Poisson regression require equidispersion, or equality of the conditional mean and variance of the dependent variable (Cameron and Trivedi 1998). The initial analysis using Poisson regression revealed problems of overdispersion ($\chi^2(218) = 3452.87; p < .0001$). Therefore, we employed a common alternative to Poisson, negative binomial regression (NBR), which corrects for this problem (Osgood 2000).

In addition to reporting NBR coefficients, we calculated standardized percent change values to facilitate interpretation of the equations (see Long 1997:224–37). These values indicate the percent change in the dependent variable, y , with a one standard deviation increase from the mean of an independent variable, holding all other variables constant.

3. The North region included the U.S. Census categories of Northeast and Midwest. The South category corresponded with the U.S. Census category of South with the exception of Texas, which was included in the Southwest category. The Northwest (excluded category) included the Census category of West, with the exception of Arizona, California and New Mexico, which were included in the Southwest region along with Texas (see Holmes 2000).

4. The diagnostic tests we used were not available for the maximum-likelihood Poisson procedures in STATA, which we employed to estimate the models presented below. Therefore, we used square-root-transformed responses to approximate the Poisson distribution with OLS (see Weisberg 1985) to obtain diagnostic tests.

Table 2 • Negative Binomial Regression of Sustained Citizen Complaints of Excessive Force on Minority Threat, Place, and Community Accountability Variables

Independent Variables	Model 1			Model 2		
	<i>b</i>	<i>SE</i>	Percent Change	<i>b</i>	<i>SE</i>	Percent Change
Total population	2.00e-07	2.96e-07	13.90	3.65e-07	2.95e-07	26.80
Violent crime	-.00003	.0002	-3.00	-.00009	.0002	-10.10
North	-1.01 [†]	.59	-37.20	-1.14*	.58	-40.80
South	-2.15***	.62	-59.80	-2.35***	.62	-63.10
Southwest	-1.50**	.54	-51.10	-2.73***	.84	-72.90
Percent black	.028 [†]	.012	65.90	.040***	.012	107.20
Percent Hispanic	.020 [†]	.011	44.20	.019 [†]	.011	43.80
Maj./min. income inequality	.10	.39	4.90	.01	.35	.30
Black dissimilarity	4.65**	1.74	106.50	—	—	—
Hispanic dissimilarity	1.18	1.78	15.40	-.67	1.78	-7.80
Ratio prop. black officers/citizens	-.94**	.34	-55.60	-.81*	.32	-50.30
Ratio prop. Hispanic officers/citizens	1.49**	.54	60.90	.66	.64	23.40
Community policing	.17*	.08	40.50	.17*	.08	39.00
Early intervention system	.58	.36	32.90	.63 [†]	.34	36.50
Citizen complaint board	-.18	.33	-8.30	-.22	.33	-9.80
Black dissimilarity 2	—	—	—	-.03	.54	-1.20
Black dissimilarity 3	—	—	—	1.10 [†]	.57	57.70
Black dissimilarity 4	—	—	—	1.23 [†]	.68	63.50
Black dissimilarity 5	—	—	—	2.56***	.72	177.70
Ratio percent Hispanic officers/citizens × Southwest	—	—	—	2.57*	1.11	117.30
Constant	-2.93*	1.15		-.35	1.26	
Log likelihood	-440.01			-433.02		

[†]*p* < .10 **p* < .05 ***p* < .01 ****p* < .001 (two-tailed tests)

Findings

Table 2 presents the findings from the multivariate NBR analyses of sustained excessive force complaints. Beginning with the control variables presented under Model 1, we see that the city population and violent crime variables did not have statistically significant relationships to sustained excessive force complaints. The coefficients for the North, South, and Southwest dummy variables indicated lower incidences of sustained complaints than in the deleted comparison region (Northwest) after controlling all the other variables in the equation.

Turning to the minority threat variables, we find that percent black and percent Hispanic residents in a city were both related positively to the number of sustained excessive force complaints, as predicted by the threat hypothesis. A one standard deviation increase in percent black resulted in about 66 percent more sustained complaints, whereas a standard deviation increase in percent Hispanic produced about 44 percent more complaints. Majority/minority income inequality was not significantly related to sustained excessive force complaints.

The minority threat hypothesis stipulates that the positive relationship between a percent minority variable and a coercive crime control variable will be linear, as suggested by the findings for percent black and percent Hispanic. The power-threat model hypothesizes a parabolic relationship. The initially positive relationship between the percent minority variable and sustained excessive force complaints is predicted to turn negative at a tipping point of roughly 50 percent minority population. To test this alternative prediction, we estimated mean-centered quadratic functions for both percent black and percent Hispanic (not reported in tabular form). Neither the linear nor

quadratic term approached statistical significance for either percent minority population variable, indicating that the linear model best fits the data.

Returning to Model 1 in Table 2, we next consider the two measures of place (black and Hispanic dissimilarity indices). Only the substantial positive coefficient for black dissimilarity was statistically significant. With a one standard deviation increase in black dissimilarity, the expected number of sustained complaints increased by over 106 percent. The coefficient for Hispanic dissimilarity was negligible.

A central concern of the study is whether the inclusion of community accountability variables reduced or eliminated the effects of the race and place variables on sustained excessive force complaints. Clearly the effects were not eliminated, as evidenced by the findings for percent black, percent Hispanic, and black dissimilarity. The effects of those variables may have been reduced by the inclusion of the community accountability variables in the equation, however. To test that possibility we reestimated the equation without the community accountability variables and compared the race and place effects to the full equation (not reported in tabular form). The effects of percent black and black dissimilarity were actually somewhat *smaller* without the community accountability variables in the equation, whereas the effect of percent Hispanic was somewhat larger than predicted by the equation containing community accountability variables.⁵

Returning to the findings presented in Table 2, we see limited support for the community accountability argument concerning the effects of organizational characteristics. Consistent with its predictions, the ratio of proportion of black officers to proportion of black citizens was related negatively to the number of excessive force complaints. Contrary to its predictions, however, the ratio of proportion of Hispanic officers to proportion of Hispanic citizens was *positively* related to sustained complaints. The positive effect of community policing on sustained complaints also ran counter to predictions. The presence of a community review board or an early intervention system did not affect the incidence of sustained complaints.

In concluding the analysis of sustained complaints, we tested for the possibility of theoretically plausible statistical interaction and nonlinearity. With respect to interaction, we focused on whether the effects of the race and place variables varied by region. For example, previous research has shown percent Hispanic influenced federal civil rights criminal complaints of police brutality only in the Southwest (Holmes 2000; Smith and Holmes 2003), so we tested for that interaction. It also seemed plausible that the effect of the ratio of Hispanic officers to citizens variable may only exist in the Southwest, insofar as large concentrations of poor Hispanics are primarily located in southwestern cities and may be seen as threats by both Anglo and Hispanic officers (Holmes and Smith 2008). We also checked for interactions between the percent black and region variables. For example, both more severe and more lenient treatment of blacks in the southern United States have been hypothesized (see Hawkins 1987).⁶

In addition to testing for interactions, we divided the black and Hispanic dissimilarity indices, as well as percent black and percent Hispanic, into quintiles and reestimated the model including the quintiles as dummy variables to check for possible nonlinearity apart from the previously examined quadratic form predicted by the power-threat hypothesis.⁷ Other forms of nonlinearity are plausible. For example, would the extreme disadvantages of hypersegregated cities (see, for example, Massey and Denton 1993) have an especially strong influence on police behavior? By

5. The estimates for these variables from the reduced model ($n = 224$) are as follows: percent black: $b = .021$; $SE = .011$; black dissimilarity: $b = 4.12$; $SE = 1.90$; percent Hispanic: $b = .024$; $SE = .012$.

6. The examination of interaction effects included: percent black and black dissimilarity by North and by South; percent Hispanic and Hispanic dissimilarity by Southwest; and ratio proportion of Hispanic citizens to proportion of Hispanic officers by Southwest.

7. Dividing continuous predictor variables into sets of dummy variables is a useful means of exploring possible nonlinearity in the absence of hypotheses about the specific form of relationships, as the procedure can identify common nonlinear relationships. We divided the predictor variables into quintiles because that is a sufficient number of categories to identify common forms of nonlinearity while retaining enough cases in each category to provide robust parameter estimates.

dividing the independent variables into quintiles, various forms of nonlinearity could be detected and further modeled as appropriate.

The results of these additional analyses are reported under Model 2 in Table 2, which reveals two important findings. All the variables from Model 1 were included, except that in place of the linear black dissimilarity index we substituted a series of dummy variables representing the quintiles of the index. In addition, we added an interaction term for ratio of proportion of Hispanic officers to proportion of Hispanic citizens \times Southwest to the model. Apart from the black dissimilarity and ratio of Hispanic officers to citizens findings, the coefficients in Model 2 were very similar to those in Model 1, except that the positive effect of percent black was appreciably larger, and the positive effect of early intervention systems became statistically significant.

In regard to the black dissimilarity findings, it may be seen that three of the four dummy variables representing the dissimilarity quintiles were significantly and positively related to the number of sustained complaints, with the magnitude of the effects growing with each successive quintile. Although the second quintile is not significantly different from the first (omitted category), agencies in the third quintile and fourth quintiles had appreciably more sustained complaints than those in the first quintile. Agencies in the most segregated cities, the fifth quintile, had far more sustained complaints than agencies in the first quintile.

This pattern clearly indicates the existence of a nonlinear relationship between black dissimilarity and sustained complaints. Therefore, we tested two feasible types of nonlinear functions to determine whether they produce a better model fit than the equation with the quintile measure (not reported in tabular form). First we estimated a mean-centered quadratic function for black dissimilarity. As to be expected, positive coefficients were obtained for both the linear and squared terms, but neither was statistically significant. We then substituted the natural log of black dissimilarity for the quadratic terms. As expected, the positive log coefficient was statistically significant, but the maximum-likelihood chi-square value was larger than obtained for the equation that included the quintile variables. We discuss the findings for the quintile model because of its somewhat better fit and more straightforward interpretation.

Figure 1 illustrates the relationship between sustained excessive force complaints and the black dissimilarity quintiles graphically. It presents the predicted values of the dependent variable

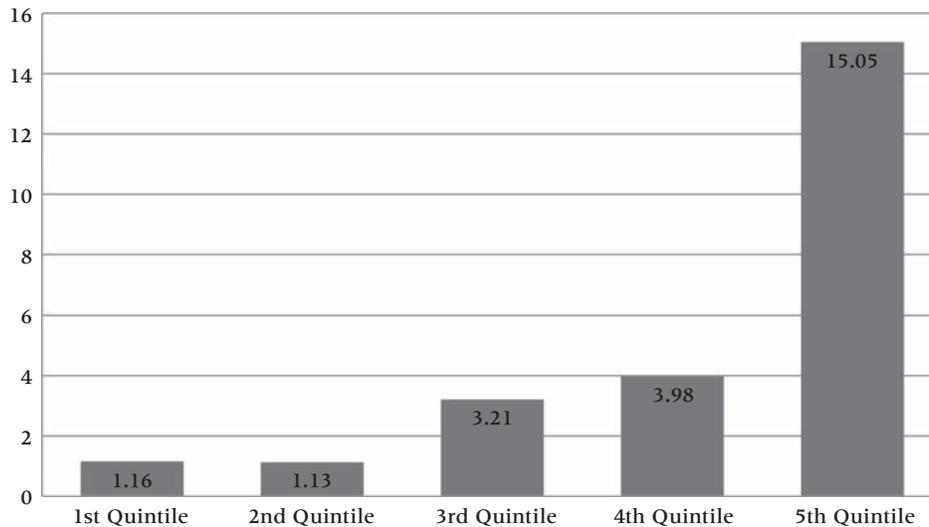


Figure 1 • Predicted Number of Sustained Citizen Complaints by Black Dissimilarity Quintile

for each quintile after setting the other independent variables at their means. The graph shows the significant increases among cities in the third and fourth quintiles compared to the lower ones, but, more importantly, it clearly demonstrates the dramatic difference between the most segregated cities in comparison to all other quintiles. The predicted value of sustained complaints in the fifth quintile was roughly 13 times larger than in the first quintile, and it was almost four times larger than in the fourth quintile, the next highest dissimilarity category.

The ratio of proportion of Hispanic officers to proportion of Hispanic citizens \times Southwest interaction term had a statistically significant positive relationship to sustained complaints. The non-significant effect for the proportion of Hispanic officers to proportion of Hispanic citizens variable indicates that the relationship was restricted to the Southwest.

To finish the analysis, we reestimated Model 2 using total excessive force complaints filed as the dependent variable.⁸ The LEMAS data did not contain certain variables related to the processing of citizens' excessive force complaints (e.g., evidential and procedural standards and policies). It is possible that the pattern of sustained complaints reported here diverges markedly from the one seen in the larger pool of cases because of the omission of those variables. Most importantly, were the effects of percent minority and minority segregation variables to deviate markedly between the models, the assumption that sustained excessive force cases represent underlying patterns of police behavior would be called into question. Alternatively, consistent effects across both dependent variables would indicate that unmeasured organizational factors were not systematically biasing the sustained complaints results.

The findings for the minority threat variables in the total complaints equations were similar to those for sustained complaints (not reported in tabular form). The large positive coefficients for both percent black ($b = .024$) and percent Hispanic ($b = .015$) were statistically significant ($p < .001$), although the effect of percent black was slightly smaller in this equation. The coefficient for majority/minority income inequality again did not approach statistical significance. The findings for the place variables were also similar to those reported for sustained complaints, with one exception. In this analysis the pattern of coefficients for the black dissimilarity variables indicated that a positive linear relationship existed, rather than the curvilinear one observed in the analysis of sustained complaints. When we substituted the continuous black dissimilarity variable for the set of dummy variables in the equation, a large and statistically significant coefficient ($b = 2.94$; $p < .001$) was obtained. This finding indicates black segregation was associated with relatively more sustained complaints compared to the total pool of complaints in the most segregated cities (i.e., the fifth quintile). The coefficient for the Hispanic dissimilarity index was negligible and non-significant. While some minor differences between the two models existed, nothing we observed indicated unmeasured variations in internal processes across agencies produced significant biases in regard to the effects of the race and place variables in the sustained complaints model.⁹

Discussion

In this study, we used aggregate-level data for U.S. cities with populations of 100,000 or more to test the predictions of three theoretical models—minority threat, place, and community

8. Total complaints were far more common ($M = 90.47$; $SD = 369.79$) than the subset of sustained complaints, but the variable still constitutes a count representing a relatively rare event that was skewed toward the lower end of the distribution with large values occurring relatively infrequently. Accordingly, we modeled total complaints using the identical NBR technique employed in the sustained complaints analysis. A preliminary inspection of the standardized residuals obtained using the Poisson transformation in OLS indicated the existence of four outliers. Therefore, we calculated Cook's D for all cases in the analysis. The largest value of Cook's D was .26, indicating that the parameter estimates were unaffected by the outliers.

9. Other findings indicated that the effects of the control variables were quite similar to those reported for sustained complaints. Some differences were observed in the findings for community accountability variables, which was expected as these policies and procedures may exert different influences at the filing and adjudication stages. Substantively these differences between the two models are of little concern as the race and place effects remained largely unaltered in the two analyses, and the community accountability hypotheses still received scant support.

accountability—concerning the use of excessive force against minority citizens. In general terms, the minority threat and place approaches posit the existence of intractable divisions in American society and hypothesize that the use of excessive force represents the interests of the dominant group and the police. The community accountability argument counters that it is characteristics of police departments that shape relations between police and minority communities.

The minority threat hypothesis states that the greater the percent minority in a city, the greater the employment of coercive control strategies by the police. That hypothesis is clearly supported in this study, with both percent black and percent Hispanic related positively to the incidence of sustained excessive force complaints. Inclusion of the quadratic terms to test the predictions of the power-threat hypothesis showed no evidence of the parabolic relationship specified by that model, consistent with the possibility that threat perceived directly by police is more salient than the minority threat perceived by the dominant group. The effect of percent Hispanic, while substantial, is appreciably smaller than the effect of percent black. The smaller effect for percent Hispanic may reflect the diversity of the Hispanic population. Some subgroups, notably those of Mexican origin, are stereotyped much the same as blacks (see, for example, Bender 2003) and may experience discrimination at the hands of police. Past research suggests the use of excessive force against Hispanics is concentrated in the Southwest (Holmes 2000; Smith and Holmes 2003), where most Hispanic residents are of Mexican origin. The findings here suggest that its use may have diffused across the nation, perhaps because of substantial increases in the Mexican-origin populations of cities outside the Southwest in recent years (Suro and Singer 2002).

The place hypothesis predicts that the challenging circumstances of policing in America's ghettos and barrios may trigger the use of excessive force. Our findings provide partial support for this prediction, showing that cities with extremely high levels of black segregation, which is closely tied to black disadvantage, have a far higher incidence of sustained excessive force complaints compared to less segregated cities. Hispanic segregation is unrelated to sustained complaints. One possible explanation for these findings is that a tipping point exists; the conditions promoting the use of excessive force may occur primarily in extremely segregated cities. The extreme of Hispanic segregation is much less pronounced (fifth quintile dissimilarity range = .54 to .71) than for blacks (fifth quintile dissimilarity range = .65 to .87) and may fall below the level necessary to generate greater use of excessive force by the police.

The community accountability model predicts that excessive force occurs in minority communities because of organizational characteristics of police departments. It hypothesizes that departments with policies and practices that make police accountable to the community will have a lower incidence of excessive force. For the most part, that general hypothesis is not supported here. However, a negative relationship between the ratio of black officers to black citizens and sustained complaints exists, indicating that departments more representative of the black community have fewer sustained complaints. Still, the effects of percent black and black dissimilarity remain quite large. Simply increasing the representation of blacks in police departments may not overcome the profound structural inequalities of race and class that characterize many American cities and produce excessive force problems.

The unexpected finding that the ratio of Hispanic officers to Hispanic citizens is related positively to sustained excessive force complaints in the Southwest clearly establishes the importance of within-group status distinctions. Tensions between the police and the Mexican-origin population of the Southwest are deeply rooted in the history of that region (e.g., Bender 2003). Stereotypes of crime highlight the special threat allegedly posed by poor Mexican immigrants (e.g., Bender 1993; Martinez 2002). In recent years, tensions over immigration have escalated in the region, and the presence of large populations of poor immigrants may amplify the threat perceived by relatively affluent whites and Hispanics (e.g., Holmes et al. 2008). Hispanics residing in areas with large immigrant populations and those who are more acculturated are more strongly opposed than other Hispanics to even legal immigration into the United States (Hood, Morris, and Shirkey 1997). These factors are clearly relevant to the attitudes of Hispanic police officers in the Southwest, who often work in communities with large immigrant populations and who could not effectively

function in their jobs without being reasonably well acculturated. The difficult conditions of impoverished barrios and hostility toward recent immigrants from Mexico who reside there may produce harsher responses to Hispanic citizens by both Hispanic and white police officers.

Community policing is currently in vogue, and its proponents often see it as a workable remedy to the problems of policing minority communities. The finding that a greater implementation of community policing is positively related to sustained complaints contradicts this expectation. However, the measure of community policing used in this study may not completely capture the degree of departmental commitment to engaging constructively with citizens. In practice, community policing encompasses myriad strategies, ranging from simplistic public relations campaigns to sincere efforts to work closely with citizens. No matter how sincere departmental efforts, many street-level officers do not see community policing initiatives as entailing real police work and seek to remain involved in more traditional policing strategies (Herbert 2006). Moreover, some aggressive order-maintenance strategies employed under the pretext of community policing, such as “weed and seed” programs, appear to merely extend more confrontational strategies of policing, increasing the degree of coercive control in locales seen as problematic. Police misconduct and selective enforcement of law in minority neighborhoods may alienate citizens, particularly young males, and amplify tensions between them and police (Holmes and Smith 2008; Weitzer and Brunson 2009). The presence of additional officers under the guise of community policing may, therefore, do little more than increase the kinds of police-citizen contacts that make the use of excessive force against citizens more likely.

Conclusion

Taken together, the findings of this and previous studies provide considerable support for the position of the conflict theory of law that provides the general framework for the minority threat and place hypotheses—police violence aims to control minority populations perceived as menacing. That conclusion remains unaltered by the inclusion of community accountability variables, indicating the existence of policies designed to reduce tensions among police and minority communities. Indeed, two of the community accountability findings suggest further support for the conflict perspective. However, an important theoretical question requires further consideration: Whose interests are represented by the patterns of excessive force complaints observed here?

The conflict approach is commonly framed in terms of the interests of the dominant group (Liska 1992) or the police (e.g., Holmes 2000). In this view, the deployment of coercive mechanisms of social control against minority populations represents the interests of these relatively powerful groups. The theory generally gives primacy to dominant group interests. Even though emphasizing dominant interests in his specification of the threat hypothesis, Liska acknowledges that the interests of the police may take precedence in regard to their use of violence (Liska and Yu 1992), and other researchers also emphasize to varying degrees that relatively large minority populations threaten the police and predispose them to use violence (e.g., Holmes 2000; Jacobs and O'Brien 1998; Liska and Yu 1992; Smith and Holmes 2003). As noted above, the linear effects of the percent black and percent Hispanic variables observed here, as well as the effect of black segregation variable, are most consistent with the argument that the use of excessive force reflects the concerns of the police. Their responses to minority citizens are likely a manifestation of their unique interests and of normal social psychological processes triggered in interactions with minorities in the milieu of street-level policing, particularly in disadvantaged areas (Holmes and Smith 2008, 2012). Police officers form conceptions of the ecological territories they patrol, and disadvantaged minority neighborhoods are generally seen as problematic. Officers learn to associate such locales with criminality, danger, and challenges to their authority (e.g., Bayley and Mendelsohn 1968; Crank 1998; Herbert 1997; Meehan and Ponder 2002). The presence of people perceived as threatening may trigger cognitive and emotional responses that predispose the police to use force gratuitously in such areas (Holmes and Smith 2008, 2012).

At the same time, aggressive strategies of policing may coincide with concerns of white citizens about the threat of minority crime. The organization of police departments reflects the structural arrangements of the larger society (Chambliss 2001), and the existence of threatening populations within a community may factor into allocations of resources to police departments (Jackson 1989; Kent and Jacobs 2005). Police administrators may curry political favor by deploying resources to control populations perceived as threats to social order, and aggressive tactics of policing represent a common interest in containing threatening minorities within segregated locales (Bass 2001; Spitzer 1975). While not overtly supporting clandestine police practices such as the use of excessive force, relatively affluent citizens may avoid interfering with police methods that serve their interests (Chambliss 2001; Jacobs and O'Brien 1998). Divisions within the larger society are not based solely on race/ethnicity, however. Race/ethnicity provides a powerful unifying identity, but social class and other status distinctions within racial/ethnic groups are also important. For example, middle-class minority citizens returning to gentrifying areas may call on the police to control their less advantaged neighbors through aggressive strategies such as "quality of life" policing (Pattillo 2007; also see Curtis 1998; Venkatesh 2000). These considerations suggest that the interests of various groups of citizens and of the police may not be easily separable.

Yet another possibility exists—excessive force complaints may serve the interests of relatively large and segregated minority populations that comprise voting blocs with sufficient political power to exert social control over the police through departmental adjudicatory processes.¹⁰ In this view, the effects of percent minority and black segregation on sustained complaints may not reflect underlying patterns of police misconduct so much as the ability of minority citizens to successfully prosecute complaints against the police. The results presented here, however, do not support this conclusion. The comparison of findings between sustained complaints and the much larger pool of total complaints reveals relatively minor differences for the effects of the percent minority and minority segregation variables on the two complaints variables, suggesting that minority citizens do not exert undue influence on departmental adjudicatory processes. The primary difference between the two sets of findings is that sustained complaints appeared to come more commonly from cities with the highest degree of black segregation. Considerable research indicates that police disproportionately employ very aggressive strategies of questionable legality, often against young males, in such locales, rather than that citizens in those areas wield influence on adjudicatory processes (e.g., Brunson and Miller 2006; Chambliss 1994; Curtis 1998; Herbert 1997; Rios 2011; Smith 1986; Venkatesh 2000). Moreover, to the degree that influential minority citizens attempt to influence police treatment of minorities, they advocate doing so through the community accountability policies considered in our analysis (NAACP and Criminal Justice Institute at Harvard Law School 1995).

While it appears that minority citizens are unable to influence internal adjudicatory processes to their benefit, they may still disproportionately initiate excessive force complaints. The question of whether minority citizens are more inclined than whites to file complaints cannot be as clearly addressed with the LEMAS data. For example, certain departmental complaint filing processes that may facilitate the initiation of complaints by minority citizens (e.g., online filing, availability of non-English forms) are not included in the data. Yet, previous research suggests that various factors systematically discourage the filing of complaints from citizens of many disadvantaged minority communities, which would have the effect of suppressing percent minority and segregation effects. Young minority males in disadvantaged areas, often the targets of aggressive policing, may lack confidence in police department complaints processes (Brunson 2007), and attorneys may be reluctant to take cases that involve the word of such complainants against the word of police (Rios 2011). Moreover, police departments in cities with substantial minority populations have often actively discouraged minority citizens from filing complaints (e.g., by threat of arrest for filing a false report), which further limits citizens' ability to seek redress in cases of excessive force (NAACP and Criminal Justice Institute at Harvard Law School 1995).

10. An anonymous reviewer brought this alternative interpretation to our attention.

These considerations increase confidence that sustained complaints reliably capture actual patterns of relatively serious excessive force use by police. However, measurement of excessive force is inherently problematic because of the clandestine nature of the behavior, and the key question about any data source is the degree to which it accurately measures excessive force. A particular concern here is whether the validity of the sustained complaints data (that is the extent to which observations represent true population-level measures of excessive force within cities) may differ across observations in ways that could undermine confidence in our interpretation of the results. Invalid observations may occur anywhere in the distribution of the outcome variable, but the existence of outliers in the data highlights this concern because they are most likely to exert disproportionate influence on the findings.¹¹ Whereas most cities included in this study had relatively few sustained complaints of excessive force (91.3 percent of the cities had no more than 10 complaints), a few had a very high incidence of complaints. These observations may reflect variations in data reporting or organizational characteristics that produce appreciably higher numbers of sustained excessive force cases, and they may indicate actual use of excessive force in those cities with varying degrees of accuracy.

Our perusal of the data revealed no clear pattern among the outliers, with cities of various sizes and sociodemographic composition reporting unusually high numbers of sustained complaints (as is true of cities on the lower end of the distribution). The inclusion of the outliers in our statistical analyses does not unduly influence the estimates in the equations reported, as shown by the diagnostics presented above, but that does not fully preclude the possibility that the omission of certain variables related to these observations could have biased our parameter estimates. The outliers may involve idiosyncratic factors (e.g., clerical errors, misreporting other misconduct as excessive force) that will not create a problem so long as they are random. Alternatively, the outliers may involve unmeasured factors that are correlated with predictor variables. These observations have the potential to introduce systematic error and distort the parameter estimates. For example, some departments may rely more heavily on formal (rather than informal) processes or lower evidentiary standards to handle excessive force adjudications, which might produce substantially disproportionate numbers of sustained complaints. However, it seems unlikely that such factors would be highly correlated with the racial/ethnic composition or segregation level of the population of large cities. Given the diverse characteristics of the cities with very large number of complaints and the results of the outlier diagnostics, it appears improbable that the very high sustained complaints observations introduce systematic error into our analysis.

Although we cannot address the validity issue empirically, several considerations suggest that overall the findings for sustained excessive force complaints accurately represent the underlying pattern of more serious cases of excessive force. First, the findings for the percent minority variables are similar to those reported in previous studies of federal civil rights criminal complaints of police brutality in large cities, which involve severe allegations of excessive force and are appreciably more difficult to initiate (Holmes 2000; Smith and Holmes 2003). Second, they are consistent with studies showing that percent black (or nonwhite) is related positively to homicides by police in large cities (e.g., Jacobs and O'Brien 1998; Liska and Yu 1992; Smith 2003). Third, the results mirror observations of aggressive policing in several studies of minority neighborhoods in various cities (e.g., Brunson and Miller 2006; Chambliss 1994; Curtis 1998; Herbert 1997; Rios 2011; Smith 1986; Venkatesh 2000), as the most racially segregated communities in our data have a very high incidence of sustained complaints. The consistency of results for the two outcome variables in this study, and of results between this investigation and prior research using different

11. Complaints data undercount the actual incidence of serious excessive force in cities, but that poses no problem when the errors in measured values are random, uncorrelated, and unbiased (see Neter et al. 1996:164–66). Validity may be compromised and bias may be introduced into statistical estimates should the proportion of representation vary substantially and systematically across observations. Given that count variables such as used here tend to be skewed with large outcomes being rare events, invalid observations will generally involve smaller errors (and have less influence on results) when the measured value is at the lower end of the distribution where true population values tend to cluster.

data, increases confidence that our findings for sustained complaints constitute valid estimates of percent minority and segregation effects (as well as of the other predictor variables) on the underlying pattern of serious excessive force in large American cities. Clearly, however, the limitations of the LEMAS data used in this study caution against overgeneralization. More definitive conclusions must await further research. Future studies should include indicators of police department processes for filing and adjudicating citizens' complaints, as well as more nuanced measures of complaint review and community policing than are available here.

Apart from the challenges of obtaining better city-level data on the use of excessive force, a significant issue for future research will be devising strategies to more precisely identify the complex interplay of racial/ethnic, class, and police interests implicated in its use. Another important issue left unaddressed by aggregate data is that a between-city analysis cannot reveal within-city patterns of excessive force use. We need quantitative studies that examine multiple data sources (e.g., complaints and citizen surveys) to confirm that the use of excessive force within cities occurs disproportionately in economically marginalized and segregated minority neighborhoods. The findings from studies of a single city, or even a few cities, cannot be generalized to the population of cities, however, and studies of multiple research sites will be needed to make broader generalizations. Research on such issues is an essential step toward a more complete understanding of the use of extra-legal coercive controls by the police in minority communities. While work to specify the various dimensions and contexts of minority threat remains to be done, we emphasize that to date this study provides the most systematic and comprehensive test of the three major structural hypotheses regarding police use of excessive force against racial/ethnic minority populations. Our findings clearly suggest that patterns of police excessive force mirror the social divisions of the larger society.

References

- Alba, Richard and Victor Nee. 2003. *Remaking the American Mainstream: Assimilation and Contemporary Immigration*. Cambridge, MA: Harvard University Press.
- Anderson, Elijah. 1999. *Code of the Street: Decency, Violence, and the Moral Life of the Inner City*. New York: W. W. Norton.
- Bass, Sandra. 2001. "Policing Race, Policing Place: Social Control Imperatives and Police Discretionary Decisions." *Social Justice* 28:156–76.
- Bayley, David H. and Egon Bittner. 1984. "Learning the Skills of Policing." *Law & Contemporary Problems* 47:35–59.
- Bayley, David H. and Harold Mendelsohn. 1968. *Minorities and the Police: Confrontation in America*. New York: Free Press.
- Bender, Steven W. 2003. *Greasers and Gringos: Latinos, Law, and the American Imagination*. New York: New York University Press.
- Berkowitz, Leonard. 1993. *Aggression: Its Causes, Consequence, and Control*. Philadelphia: Temple University Press.
- Bittner, Egon. 1970. *The Functions of Police in Modern Society*. Washington, DC: U.S. Government Printing Office.
- Black, Donald and Albert J. Reiss. 1967. *Patterns of Behaviors in Police and Citizen Transactions, Vol. 2, Studies of Crime and Law Enforcement in Major Metropolitan Areas*. Washington, DC: U.S. Government Printing Office.
- Blalock, Hubert M., Jr. 1967. *Toward a Theory of Minority Group Relations*. New York: Wiley.
- Bolton Jr., K. and J. R. Feagin. 2004. *Black in Blue: African-American Police Officers and Racism*. New York: Routledge.
- Brunson, Rod K. 2007. "'Police Don't Like Black People': African-American Young Men's Accumulated Police Experience." *Criminology and Public Policy* 6:71–102.
- Brunson, Rod K. and Jody Miller. 2006. "Young Black Men and Urban Policing in the United States." *British Journal of Criminology* 46:613–40.
- Cameron, A. Colin and Pravin K. Trivedi 1998. *Regression Analysis of Count Data*. London, UK: Cambridge University Press.
- Cao, Liqun and Bu Huang. 2000. "Determinants of Citizen Complaints against Police Abuse of Power." *Journal of Criminal Justice* 28:203–13.

- Chambliss, William J. 1994. "Policing the Ghetto Underclass: The Politics of Law and Law Enforcement." *Social Problems* 41:177–94.
- . 2001. *Power, Politics and Crime*. Boulder, CO: Westview Press.
- Chiricos, Ted, Kelly Welch, and Marc Gertz. 2004. "Racial Typification of Crime and Support for Punitive Measures." *Criminology* 42:359–89.
- Chiricos, Ted, Michael Hogan, and Marc Gertz. 1997. "Racial Composition of Neighborhood and Fear of Crime." *Criminology* 35:107–31.
- Cordner, Gary W. 1999. "Elements of Community Policing." Pp. 137–49 in *Policing Perspectives: An Anthology*, edited by L. K. Gaines and G. W. Cordner. Los Angeles: Roxbury.
- Correl, Joshua, Bernadette Park, Charles M. Judd, Bernd Wittenbreck, Melody S. Sadler, and Tracie Keese. 2007. "Across the Thin Blue Line: Police Officers and Racial Bias in the Decision to Shoot." *Journal of Personality and Social Psychology* 92:1006–23.
- Crank, John P. 1994. "Watchman and Community: Myth and Institutionalization in Policing." *Law & Society Review* 28:325–52.
- . 1998. *Understanding Police Culture*. Cincinnati, OH: Anderson.
- Curtis, Richard. 1998. "The Improbable Transformation of Inner-City Neighborhoods: Crime, Violence, Drugs, and Youth in the 1990s." *Journal of Criminal Law and Criminology* 88:1233–76.
- Frey, William H. and Dowell Myers. 2005. "Racial Segregation in U.S. Metropolitan Areas and Cities, 1990–2000: Patterns, Trends, and Explanations." Report 05-573, Population Studies Center, University of Michigan Institute for Social Research, Ann Arbor, MI.
- Goldstein, Herman. 1987. "Toward Community-Oriented Policing: Potential, Basic Requirements, and Threshold Questions." *Crime and Delinquency* 33:6–30.
- Hawkins, Darnell F. 1987. "Beyond Anomalies: Rethinking the Conflict Perspective on Race and Criminal Punishment." *Social Forces* 65:719–45.
- Herbert, Steve. 1997. *Policing Space: Territoriality and the Los Angeles Police Department*. Minneapolis: University of Minnesota Press.
- . 2006. *Citizens, Cops, and Power: Recognizing the Limits of Community*. Chicago: University of Chicago Press.
- Holmes, Malcolm D. 2000. "Minority Threat and Police Brutality: Determinants of Civil Rights Criminal Complaints in U.S. Municipalities." *Criminology* 38:343–67.
- Holmes, Malcolm D. and Brad W. Smith 2008. *Race and Police Brutality: Roots of an Urban Dilemma*. Albany: State University of New York Press.
- . 2012. "Intergroup Dynamics of Extra-Legal Police Aggression: An Integrated Theory of Race and Place." *Aggression and Violent Behavior* 17:344–53.
- Holmes, Malcolm D., Brad W. Smith, Adrienne B. Freng, and Ed A. Muñoz. 2008. "Minority Threat, Crime Control, and Police Resource Allocation in the Southwestern United States." *Crime and Delinquency* 54:128–52.
- Hood, M. V., III, Irwin L. Morris, and Kurt A. Shirkey. 1997. "¡Quedate or Vente!": Uncovering the Determinants of Hispanic Public Opinion toward Immigration." *Political Research Quarterly* 50:627–47.
- Horowitz, Donald L. 1985. *Ethnic Groups in Conflict*. Berkeley: University of California.
- Hunt, Jennifer. 1985. "Police Accounts of Normal Force." *Journal of Contemporary Ethnography* 13:315–41.
- Jackson, Pamela I. and Leo Carroll. 1981. "Race and the War on Crime: The Sociopolitical Determinants of Municipal Police Expenditures in 90 Non-Southern U.S. Cities." *American Sociological Review* 46:290–305.
- Jackson, Pamela Irving. 1989. *Minority Group Threat, Crime, and Policing: Social Context and Social Control*. New York: Praeger.
- . 1992. "Minority Group Threat, Social Context, and Policing." Pp. 89–101 in *Social Threat and Social Control*, edited by A. E. Liska. Albany: State University of New York.
- Jacobs, David and Robert M. O'Brien. 1998. "The Determinants of Deadly Force: A Structural Analysis of Police Violence." *American Journal of Sociology* 103:837–62.
- Kania, Richard R. E. and Wade C. Mackey. 1977. "Police Violence as a Function of Community Characteristics." *Criminology* 15:27–48.
- Kent, Stephanie L. 2010. "Killings of Police in U.S. Cities since 1980: An Examination of Environmental and Political Explanations." *Homicide Studies* 14:3–23.
- Kent, Stephanie L. and David Jacobs. 2005. "Minority Threat and Police Strength from 1980 to 2000: A Fixed-Effects Analysis of Nonlinear and Interactive Effects in Large U.S. Cities." *Criminology* 43:731–60.
- Liska, Allen E. 1992. "Introduction to the Study of Social Control." Pp. 1–29 in *Social Threat and Social Control*, edited by A. E. Liska. Albany: State University of New York Press.

- Liska, Allen E. and Jiang Yu. 1992. "Specifying and Testing the Threat Hypothesis: Police Use of Deadly Force." Pp. 53–68 in *Social Threat and Social Control*, edited by A. E. Liska. Albany: State University of New York Press.
- Liska, Allen E., Joseph J. Lawrence, and Andrew Sanchirico. 1982. "Fear of Crime as a Social Fact." *Social Forces* 60:760–70.
- Liska, Allen E. and Mitchell B. Chamlin. 1984. "Social Structure and Crime Control among Macrosocial Units." *American Journal of Sociology* 90:383–95.
- Long, J. Scott. 1997. *Regression Models for Categorical and Limited Dependent Variables*. Thousand Oaks, CA: Sage.
- Martinez Jr., Ramiro 2002. *Latino Homicide: Immigration, Violence, and Community*. New York: Routledge.
- Massey, Douglas S. and Nancy A. Denton. 1993. *American Apartheid: Segregation and the Making of the Underclass*. Cambridge, MA: Harvard University Press.
- Meehan, Albert J. and Michael C. Ponder. 2002. "Race and Place: The Ecology of Racial Profiling African American Motorists." *Justice Quarterly* 19:399–430.
- National Advisory Commission on Civil Disorders. 1968. *Report of the National Advisory Commission Civil Disorders*. New York: Bantam Books.
- National Association for the Advancement of Colored People (NAACP) and the Criminal Justice Institute at Harvard Law School. 1995. *Beyond the Rodney King Story: An Investigation of Police Conduct in Minority Communities*. Boston: Northeastern University Press.
- National Research Council. 2004. *Fairness and Effectiveness in Policing: The Evidence*. Washington, DC: The National Academies Press.
- Neter, John, Michael H. Kutner, Christopher J. Nachtsheim, and William Wasserman. 1996. *Applied Linear Statistical Models*. 4th ed. Boston: WCB/McGraw-Hill.
- Osgood, D. Wayne 2000. "Poisson-Based Regression Analysis of Aggregate Crime Rates." *Journal of Quantitative Criminology* 16:21–43.
- Patillo, Mary. 2007. *Black on the Block: The Politics of Race and Class in the City*. Chicago: University of Chicago Press.
- Peterson, Ruth D. and Lauren Krivo. 2010. *Divergent Social Worlds: Neighborhood Crime and the Racial-Spatial Divide*. New York: Russell Sage Foundation.
- Quillian, Lincoln and Devah Pager. 2001. "Black Neighbors, Higher Crime? The Role of Racial Stereotypes in Evaluations of Neighborhood Crime." *American Journal of Sociology* 107:717–67.
- Rios, Victor M. 2011. *Punished: Policing the Lives of Black and Latino Boys*. New York: New York University Press.
- Skogan, Wesley G. 1990. *Disorder and Decline: Crime and the Spiral of Decay in American Neighborhoods*. New York: Free Press.
- Skolnick, Jerome H. and David H. Bayley. 1986. *The New Blue Line: Police Innovation in Six American Cities*. New York: Free Press.
- Skolnick, Jerome H. and James J. Fyfe. 1993. *Above the Law: Police and the Excessive Use of Force*. New York: Free Press.
- Smith, Brad W. 2003. "The Impact of Police Officer Diversity on Police-Caused Homicides." *The Policy Studies Journal* 31:147–62.
- Smith, Brad W. and Malcolm D. Holmes. 2003. "Community Accountability, Minority Threat, and Police Brutality: An Examination of Civil Rights Criminal Complaints." *Criminology* 41:1035–63.
- Smith, Douglas A. 1986. "The Neighborhood Context of Police Behavior." Pp. 313–41 in *Crime and Justice: A Review of Research*, vol. 8, edited by A. J. Reiss Jr. and M. Tonry. Chicago: University of Chicago Press.
- Smith, Michael R. and Geoffrey P. Alpert. 2007. "Explaining Police Bias: A Theory of Social Conditioning and Illusory Correlation." *Criminal Justice and Behavior* 34:1262–83.
- Social Science Data Analysis Network, University of Michigan. n.d. CensusScope. Retrieved June 18, 2009 (www.CensusScope.org).
- Spitzer, Steven. 1975. "Toward a Marxian theory of Deviance." *Social Problems* 22:638–51.
- Suro, Roberto and Audrey Singer. 2002. *Latino Growth in Metropolitan America: Changing Patterns, New Locations*. Washington, DC: Center on Urban and Metropolitan Policy, the Brookings Institution, and the Pew Hispanic Center.
- Turk, Austin 1969. *Criminality and the Legal Order*. Chicago: Rand McNally.
- U.S. Bureau of Justice Statistics. 2006. *Law Enforcement Management and Administrative Statistics (LEMAS): 2003 Sample Survey of Law Enforcement Agencies*. ICPSR04411-v1. Ann Arbor, MI: Inter-University Consortium for Political and Social Research [distributor].

- . 2008. *Law Enforcement Management and Administrative Statistics (LEMAS): 2000 Sample Survey of Law Enforcement Agencies*. ICPSR03565-v2. Ann Arbor, MI: Inter-University Consortium for Political and Social Research [distributor].
- U.S. Census Bureau. 2004. *Census of Population and Housing, 2000: Summary File 3* [machine readable database]. Washington, DC: Department of Commerce, Bureau of the Census [producer]. Ann Arbor, MI: Inter-University Consortium for Political and Social Research [distributor].
- U.S. Federal Bureau of Investigation (FBI). 2005. *Uniform Crime Reporting Program Data [United States]: Offenses Known and Clearances By Arrest, 2003* [computer file]. ICPSR04124-v1. Ann Arbor, MI: Inter-University Consortium for Political and Social Research [producer and distributor].
- Venkatesh, Sudhir Alladi. 2000. *American Project: The Rise and Fall of a Modern Ghetto*. Cambridge: Harvard University Press.
- Walker, Samuel 2001. *Police Accountability: The Role of Civilian Oversight*. Belmont, CA: Wadsworth.
- . 2005. *The New World of Police Accountability*. Thousand Oaks, CA: Sage.
- Walker, Samuel and Betsy Wright 1995. *Citizen Review of the Police, 1994: A National Survey*. Washington, DC: Police Executive Research Forum.
- Walker, Samuel and Charles M. Katz 2005. *The Police in America: An Introduction*. 5th ed. Boston: McGraw-Hill.
- Weisberg, Sanford. 1985. *Applied Linear Regression*. 2d ed. St. Paul: University of Minnesota Press.
- Weitzer, Ronald and Rod K. Brunson. 2009. "Strategic Responses to the Police among Inner-City Youth." *Sociological Quarterly* 50:235–56.
- Weitzer, Ronald and Steven A. Tuch. 2006. *Race and Policing in America: Conflict And Reform*. New York: Cambridge University Press.
- Westley, William A. 1970. *Violence and the Police: A Sociological Study of Law, Custom, and Morality*. Cambridge, MA: Massachusetts Institute of Technology.
- Wooldredge, John. 2007. "Neighborhood Effects on Felony Sentencing." *Journal of Research in Crime and Delinquency* 44:238–63.
- Worden, Robert E. 1996. "The Causes of Police Brutality: Theory and Evidence on Police Use of Force." Pp. 23–51 in *Police Violence: Understanding and Controlling Police Abuse of Force*, edited by W. A. Geller and H. Toch. New Haven, CT: Yale University Press.