
The creation of specialized police gang units

A macro-level analysis of contingency, social threat and resource dependency explanations

Charles M. Katz

*Administration of Justice Department, Arizona State University West,
Glendale, Arizona, USA*

Edward R. Maguire

*Administration of Justice, George Mason University, Manassas,
Virginia, USA, and*

Dennis W. Roncek

*Department of Criminal Justice, University of Nebraska at Omaha,
Omaha, Nebraska, USA*

Keywords *Police, Control, Strategy, Effectiveness*

Abstract *Specialized police gang units are a rapidly emerging form of concentrated social control. Prior research, however, into the creation of specialized gang units suffers from a number of theoretical and methodological shortcomings. These shortcomings make it difficult to understand which of several potential explanations can best account for the establishment of specialized police gang units. Three perspectives are examined that have been hypothesized by policymakers and academics to explain the creation of gang units: contingency theory, social threat theory, and resource dependency theory. Using data obtained from police departments and communities around the country, the explanatory power of measures derived from these three theories is explored, while controlling for several environmental and organizational influences.*

Introduction

Police organizations are generalized institutions of social control. Within these organizations are specialized niches that concentrate social control upon smaller, more targeted populations. Specialized gang units, for instance, represent a concentrated form of social control directed at a population that consists largely of young, often minority males. While a handful of police agencies had specialized gang units in the 1970s and 1980s, these units rapidly proliferated in the 1990s (Curry *et al.*, 1992; Klein, 1995). Recent figures indicate that 56 per cent of police departments with 100 or more sworn officers and 50

Presented at the annual meeting of the American Society of Criminology, Washington, DC, November 1998. The authors would like to thank David Curry, Scott Decker, Cheryl Maxson, Samuel Walker and Vincent Webb for their helpful comments and suggestions, Kimberly Hassell for her research assistance, and John Moore and the National Youth Gang Center for providing data for this project. This paper was supported in part by Grant No. 98-IJ-CX-0003 from the National Institute of Justice.



per cent of sheriff's departments with 100 or more sworn officers have specialized gang units (Bureau of Justice Statistics, 1999). To date, however, there is little consensus about the influences that lead to creating specialized police gang units. While policymakers and researchers have frequently expressed their beliefs about why these units have been established, little systematic research has attempted to test these hypotheses.

Implicit in much of the initial research on the establishment of specialized police gang units are three alternative theoretical explanations for their creation: contingency theory, social threat theory, and resource dependency theory. Adherents of contingency theory argue that successful organizations are rational entities, adjusting their structures and activities to achieve specific goals more effectively and efficiently. Specialized police gang units are viewed as a rational response to the proliferation of gangs and gang-related problems. They hold that police organizations faced with serious gang-related problems are more likely to establish police gang units to enhance the success of departmental crime control efforts (Jackson and McBride, 1985; Burns and Deakin, 1989; Huff and McBride, 1990; Rush, 1996; Weisel and Painter, 1997). Conversely, social threat theorists hold that police gang units are created in response to perceived threatening elements within the community, such as minorities and other marginalized groups. Advocates of this perspective argue that the creation of gang units is related to the degree to which marginalized populations threaten dominant groups (McCorkle and Miethe, 1998; Zatz, 1987). Resource dependency theorists, on the other hand, argue that emphasis should be placed on resource exchange patterns. They maintain that, where resource exchanges exist, or have the potential to exist, organizations alter their structure and/or behavior in an effort to sustain the flow of resources (Pfeffer and Salancik, 1978). Proponents of this perspective maintain that specialized gang units might be created as a result of police organizations searching for opportunities to obtain and secure financial resources from external entities such as local, state, and federal governments (Hagedorn, 1990; see also Bursik and Grasmick, 1995).

The purpose of this paper is to examine some of the factors responsible for the expansion of specialized police gang units, using data obtained from police departments and communities across the USA. We use variables representing the contingency, social threat, and resource dependency perspectives to examine the usefulness of these theories for understanding the establishment of police gang units. The analysis also controls for other organizational and ecological factors that could have an influence on the development of gang units.

While there has been a relatively large amount of research examining gangs, gang members, and gang-related activity (Decker and Van Winkle, 1996; Esbensen and Winfree, 1998; Klein, 1995; Sanchez-Jankowski, 1991; Sanders, 1994; Venkatesh, 1997), there has been little research examining the nature of the organized response to the gang problem. Most of what we currently know about the police response to the gang problem comes from the media and police

officials (see Klein *et al.*, 1995; Spergel, 1995). Only a few researchers have actually examined the police response to gangs (Curry *et al.*, 1992, 1994, 1996; Huff and McBride, 1990; Katz *et al.*, 2000; Needle and Stapleton, 1983; Weisel and Painter, 1997) and even fewer have examined the origins of such efforts (Katz, 2001; Zatz, 1987). In the next section we discuss what is currently known about the creation of specialized police gang units and our theoretical basis for attempting to understand these processes.

Applying organizational and social threat theory to understanding police department structure

Contingency theory

Contingency theorists argue that organizations are created and structured to achieve specific goals (Lawrence and Lorsch, 1967; Mastroski, 1998). Successful organizations are viewed as purposive and active organisms, continually seeking out those structures and activities that increase their performance (Mastroski and Ritti, 2000). When an organization no longer meets its objectives effectively or efficiently, it simply adapts its structure “by moving out of fit, with its consequent low performance, and into fit, in order to restore effectiveness and performance” (Donaldson, 1995, p. 33). According to contingency theory, organizations are rational entities, adopting organizational structures and operational activities that are most effective and efficient in achieving specific goals (see Crank and Langworthy, 1992; Maguire, 2001). Those organizations failing to make the appropriate adjustments to their technological and environmental contingencies do not prosper and, in some cases, do not survive.

Contingency theory has emerged as one of the most dominant frameworks used by researchers to examine the behaviors, practices and structures of police organizations (Langworthy, 1986; Maguire, 2001; Mastroski *et al.*, 1987; Zhao, 1995). Contingency theory has also been applied in contemporary research examining police innovation, most notably the implementation of community-oriented policing. For example, some researchers have argued that police organizations adopt community policing, because past reforms have been ineffective in controlling crime (Kelling and Moore, 1988; Mastroski, 1998; Zhao, 1996). While contingency theory has fallen out of favor among many modern organization theorists, it remains useful for testing (and often rejecting) the conventional wisdom shared by those who view public organizations as rational entities seeking to maximize their performance (Donaldson, 1995).

Although research on the police response to gangs has generally not been grounded in theory, the language used by most observers to explain the police response to gangs is implicitly associated with contingency theory. Many police officials and gang scholars have attributed the rise of specialized police gang units to an increasing gang problem across the nation (Brantley and DiRosa, 1994; Burns and Deakin, 1989; Jackson and McBride, 1985; Weisel and Painter, 1997). The assertion that over 90 percent of large cities in the USA now claim to have a gang problem is cited frequently (Knox *et al.*, 1996; Office of Juvenile Justice and Delinquency Prevention, 1997; Rush, 1996; Spergel, 1995;

see also Curry *et al.*, 1992, 1994, 1996; Klein, 1995). Klein (1995) and Curry *et al.* (1996), among others, also maintain that gang problems are no longer restricted to large communities, and that gang problems are becoming commonplace in many small and medium-sized cities. Early researchers who examined the police response to gangs found that cities claiming to have a gang problem are significantly more likely to have established specialized police gang units (Curry *et al.*, 1992; Needle and Stapleton, 1983). Such findings could be interpreted, albeit implicitly, as evidence in favor of contingency theory.

Social threat theory

Social threat interpretations, derived from conflict theory, hold that majority group members feel threatened when racial and cultural differences become pronounced in a community (Blalock, 1967; Liska, 1992). Social control agencies increase the intensity of their crime control efforts as a result of the perceived threat of marginalized populations, rather than as a result of rational considerations such as increased levels of crime. The threat may be based on either political or economic competition (Blalock, 1967; Jacobs and O'Brien, 1998; Liska, 1992; Tolnay and Beck, 1992). The dominant group uses the crime control apparatus to maintain control over the groups it perceives as threatening its political or economic position (Walker *et al.*, 1996). According to this theory, as ethnic and economic minorities become more visible, social control agencies increase the intensity of their crime control efforts to maintain domination over less powerful groups (Brown and Warner, 1995; Nalla *et al.*, 1997).

It should be mentioned that within the social threat literature there is disagreement about the relationship between the relative size of the threatening population and the intensity of crime control efforts. One perspective, led by Liska (1992), argues that the relationship between threatening populations and the intensity of crime control efforts is linear. Researchers advocating this perspective posit that the greater the presence of minority populations, the more threatened élites will feel, who will then feel the need to respond with concentrated forms of aggressive crime control (Cureton, 2001). Another perspective – sometimes referred to as the power threat hypothesis – argues that the relationship between threatening populations and the intensity of crime control efforts is nonlinear (Blalock, 1967). Advocates of this perspective claim that there are certain “racial thresholds” influencing criminal justice decision making (Hawkins, 1987; Jackson and Carroll, 1981). For instance, perceived threat may be lowest in communities in which minorities comprise fewer than 10 per cent or more than 50 per cent of the population. Jackson and Carroll (1981) explain that, in communities with less than 10 per cent minority residents, the dominant group does not perceive the minority population as threatening. Similarly, when minority residents make up more than 50 per cent of a community, they are no longer viewed as “minority-group members” and are not perceived to be as threatening to the status quo.

A sizable body of research has used social threat theory to explain the level of police resources and police behavior. For example, researchers have

examined the impact of threatening populations (i.e. racial minorities and economic strata) on police force size (Chamlin, 1989; Liska *et al.*, 1981; Nalla *et al.*, 1997), police expenditures (Jackson and Carroll, 1981; Jackson, 1989; Nalla *et al.*, 1997), arrest rates (Brown and Warner, 1995; Cureton, 2001; Liska and Chamlin, 1984; Liska *et al.*, 1985), police brutality (Holmes, 2000), and deadly force (Jacobs and O'Brien, 1998; Sorensen *et al.*, 1993). These studies have often found that police resources and behaviors are significantly related to minority group size and to economic inequality.

Similarly, some gang researchers have claimed that the police create specialized gang units to control populations that are perceived as threatening. In particular, these authors have found evidence that gang units are established by police departments in response to "visible minorities" that are perceived as threatening to the majority group (Zatz, 1987). Some of these observers have also found that police departments create gang units to respond to marginalized populations, other than minorities, that are perceived as threatening the morality and stability of middle-class society (McCorkle and Miethe, 1998). These observers claim that gang units are not established as a result of rational considerations but, instead, are most likely to be established in communities with a greater proportion of minority residents or those with greater economic inequality.

Resource dependency theory

Resource dependency theory, which has been most thoroughly developed and refined in the general organizational behavior literature, suggests that organizations must obtain resources to survive, and that to obtain these resources, they must engage in exchanges with other organizations in their environment (Pfeffer and Salancik, 1978; Oliver, 1990). To ensure survival and the flow of resources, organizations must be political in nature and adapt strategically to their environment to accommodate the interests and requirements of those with the capacity to provide resources (i.e. sovereigns) (Donaldson, 1995). As a consequence, resource dependency theorists argue that those in an organization's environment that have the capacity to provide resources necessarily have indirect or direct power through resource exchanges.

At the same time, however, proponents of resource dependency theory view organizations as active organisms with the capacity to determine their own fate. Organizations actively scan their environment for opportunities that may provide access to valuable resources (Scott, 1992). Adherents of the resource dependency perspective maintain that, while environmental factors influence the structure and activities of organizations, organizations also have the ability to influence the environment in which they operate to ensure the flow of resources (Donaldson, 1995; Hall, 1999)[1]. Thus, at the core of resource dependency theory is the belief that organizational structures and practices are adopted to meet resource needs, rather than to increase the technical effectiveness of the organization (Tolbert and Zucker, 1997).

Resource dependency theory has played a limited role in efforts to understand the structures and operational activities of US police organizations. One of the few studies to incorporate resource dependency theory into research on police organizations was Maguire *et al.*'s (1998) study of the diffusion of community policing. They argued that one of the major reasons for US police organizations making claims about practicing community policing is to secure a portion of the \$8.8 billion in community policing grants being distributed by the US Department of Justice. Similarly, some gang researchers have argued that police departments create specialized police gang units to obtain and/or secure financial resources. They suggest that access to federal grant dollars for local law enforcement efforts is more likely, if a police department can demonstrate a gang problem (Bursik and Grasmick, 1995). Researchers have also claimed that police departments reporting gang problems receive significantly higher levels of municipal funding than those not reporting gang problems (Jackson, 1992a,b). Accordingly, some researchers maintain that police departments may have a vested interest in discovering gang problems to ensure the flow of resources. Proponents of this perspective maintain that specialized gang units are created by organizations to signal threats, whether real or not, in an effort to justify the need for additional organizational resources (Zatz, 1987)[2].

Implications for the present study

While prior research has provided insightful suggestions about the influences that could lead police departments to create a specialized gang unit, the majority of this research has been exploratory and has suffered from a number of limitations. Much of the previous research examining the establishment of police gang units has relied on qualitative case study methodologies, which necessarily limits the generalizability of the findings (e.g. Katz, 2001; McCorkle and Miethe, 1998; Weisel and Painter, 1997; Zatz, 1987). These studies have typically focused on a single city and have generally taken place in southwestern and midwestern communities. While this methodological approach has many advantages, it is geographically limited, restricts the number of variables that can be examined and cannot quantitatively assess the relative importance of different community and organizational characteristics.

A few studies have tried to uncover the influences leading to the creation of police gang units at the macro-level; however, this research has been limited to mail surveys of police leaders. These studies usually ask police officials whether their community has a gang problem and, if so, to identify the department's strategies for dealing with gangs. These studies have typically found that departments claiming to have a gang problem are significantly more likely to have established a specialized police gang unit (Curry *et al.*, 1992; Needle and Stapleton, 1983). A number of academics, however, have questioned the veracity of these data, arguing, once again, that police agencies have a vested interest in claiming a worsening gang problem (Bursik and Grasmick, 1995; Hagedorn, 1990; Zatz, 1987).

Past research has failed to take into consideration many other potential influences that can have a significant impact on the creation of police gang units. For example, prior research has not controlled for how both ethnic and economic compositions could affect the creation of police gang units. While a few qualitative studies have examined the effects of ethnicity at the city level (Katz, 2001; Zatz, 1987), these studies did not examine economic or class threat. Although ethnic and economic threats presumably overlap to some extent, each is a unique form of social threat (Nalla *et al.*, 1997). Consequently, previous research has not thoroughly examined the impact of social threat on the creation of police gang units.

Prior research has also not examined a full range of other environmental factors that may have an impact on the creation of police gang units. For instance, researchers have found that city and agency size have a significant impact on the behaviors, practices, and structures of police organizations (Chamlin, 1989; Jackson, 1989; Jacobs and O'Brien, 1998; Maguire, 2001). The theoretical importance of agency and population size has been discussed at length among criminologists, organization theorists, and sociologists (Kimberly, 1976; Langworthy, 1986; Maguire, 2001). Urban sociologists have suggested, for instance, that larger cities rely more on formal means of social control (Liska and Chamlin, 1984). Organizational sociologists have found that agency size affects many aspects of organizations, including formal structure and rates of innovation/adoption (Kimberly, 1976). In the study of municipal police organizations, however, researchers have pointed out that city and agency size are usually so highly correlated that it is difficult to separate their effects (Langworthy, 1986).

Some organizational scholars have demonstrated that the institutional environment in which the police operate also has a significant impact on police organizational structure and operational activities (Crank and Langworthy, 1992; Katz, 2001; Mastrofski, 1998). Crank and Langworthy (1992), in their seminal essay on institutional theory, posited that the structure and activities of police organizations do not necessarily reflect rational adaptations to environmental contingencies[3]. That is, organizations do not create structures or engage in operational strategies simply because they are more efficient or more effective. Instead, Crank and Langworthy argued that organizational structures and activities reflect the values and beliefs that are shared by powerful actors, called sovereigns, who have the capacity to influence the policies, decisions, and financial resources of the organization.

Katz (2001) examined the utility of institutional theory in his ethnographic study of the establishment of one police gang unit. Katz found that the institutional pressures placed on the police department had a significant impact on the creation of the gang unit. In particular, the analysis suggested that the gang unit was created because of external pressures exerted on the chief of police by powerful local political, business, and community stakeholders and that, once created, the unit's strategic response was largely driven by its need to incorporate the ideas and beliefs of sovereigns in its environment. These

findings, while supportive of institutional theory, could also be interpreted as partial support for resource dependency theory, in that the gang unit was not created as a rational response to environmental contingencies (i.e. a gang problem), but rather was created to conform to the environment within which the department was dependent for resources. As such, attempting to measure and account for key elements of the environment in which police organizations operate can be important for understanding why some establish specialized gang units.

Additionally, previous research examining the establishment of specialized police gang units does not account for organizational factors that could influence their creation. Differences in the structure and historical development of police organizations can affect their probability of implementing change. Using prior research and theory in the study of organizations more generally, and police agencies specifically, we examine two such potential influences: existing levels of structural complexity and organizational age. Police organizations with low levels of existing structural complexity could be more reluctant to seek out additional forms of complexity in the form of new specialized units. On the other hand, those that already have complex structures might be more amenable to new forms of complexity. Some organizations may respond to new (or newly recognized) functions by creating new organizational niches (or appendages), therefore “pigeon-holing” the responsibility for dealing with these new tasks (Maguire, 2001). If this is true, then organizations with greater levels of existing structural complexity may be more likely to create specialized gang units. Testing this hypothesis requires accounting for existing levels of structural complexity.

Stinchcombe (1965) and Downs (1967) developed two of the most important theoretical perspectives on the effect of organizational age. Stinchcombe (1965) suggests that new organizations of a similar type tend to be formed in temporal spurts, so that those founded during the same era are temporally imprinted with similar structural forms and tend to be structured differently than organizations founded in different eras. Downs (1967) suggests from organizations exhibit similar structural transformations as they age. Several recent studies have confirmed that age has effects on structure and innovation in large municipal police organizations, though little is known about the relationship between age and innovation in policing (King, 1999; Maguire, 2001). We test two alternative hypotheses about the relationship between age and the creation of specialized gang units. First, according to the innovation in organization research, younger police organizations are more likely to adopt innovations than older organizations (King, 1999). If establishing a gang unit is viewed as innovative among police executives (which the early research on police and gangs suggests), then younger police organizations will be more likely to establish a specialized gang unit. Second, according to the organizational structure literature, older police organizations continue to become more complex over time through a process of “structural elaboration.” Newly emerging problems become occasions for older police organizations to

restructure and add new organizational niches such as specialized gang units (Maguire, 2001). Thus, hypotheses from research on structure and innovation in organizations suggest alternative mechanisms through which age might affect the creation of gang units.

Prior research on the creation of specialized gang units suffers from a number of theoretical and methodological shortcomings. These shortcomings make it difficult to understand which of several potential explanations can best account for the establishment of specialized police gang units. We examine three perspectives that have been hypothesized by policymakers and academics to explain the creation of gang units: contingency theory, social threat theory, and resource dependency theory. Using data obtained from police departments and communities across the country, we explore the explanatory power of measures derived from these three theories, including several environmental and organizational controls. While nearly all the dimensions that we have reviewed here are important in examining the creation of specialized units, not all of them can be measured with the data sources available to us. For instance, while institutional theory offers some compelling hypotheses about organizations, its propositions are not easily measurable and are therefore very difficult to test using macro-level survey research methods. Accordingly, the explanatory variables used in this study might only represent a subset of those that may have an effect on the creation of police gang units.

Data and methods

Five separate data sets were merged to conduct the analysis in this study. First, data from the 1998 Survey of Large Municipal Police Organizations provide measures of vertical and occupational differentiation, organizational age, gang units, and gang unit funding (Maguire *et al.*, 2000). Second, data from the 1990 Decennial Census provide measures of population, race, ethnicity, income, and poverty (United States Census Bureau, 1990). These data tapes were obtained directly from the Census Bureau. Third, Uniform Crime Report data from the Federal Bureau of Investigation's Age, Sex, and Race (ASR) file were used to measure offense-specific arrest rates for gang-aged males. These data tapes were obtained directly from the Federal Bureau of Investigation (FBI). Fourth, data from the 1997 Law Enforcement Management and Administrative Statistics (LEMAS) survey, conducted by the Bureau of Justice Statistics, provide measures of functional differentiation. Fifth, to reduce measurement error, survey data on organization age were compiled from two additional sources (King, 1999; Maguire, 2001). All five data sources were linked together using a unique police agency identifier assigned by the FBI. Collectively, they provide a unique opportunity to test several competing explanations for the creation of specialized police gang units.

The sample

The focus of this study is on large municipal police agencies. For the purposes of this study, a "large" police agency is one that employs 100 or more full-time

actual (not authorized) sworn police officers; a “municipal” police agency is one whose primary jurisdiction is a city or town, and not a state, a county, a territory, or specialized district such as a school or an airport; and a “police agency” is any general-purpose law enforcement agency that responds to calls-for-service from citizens and enforces a wide range of state criminal laws and local ordinances. According to the Bureau of Justice Statistics (1996), there are 484 police agencies in the USA fitting this definition[4]. Owing to survey and item non-response in one or more of the five data sets merged for this analysis, only a subset of these agencies provided sufficient data to be included in the analysis. Furthermore, 18 agencies that established a gang unit prior to 1990 were eliminated from the sample and the sampling frame, because the creation of the gang unit predates our explanatory variables. Although the specific sample size varies according to the variables included in each model, as we will discuss shortly, the final model we present is based on 285 of the 466 eligible agencies (61.2 per cent). We find no reason to believe that excluded agencies are different from included agencies, though our ability to draw such inferences is unfortunately limited by the available data (Putnam and Yonish 1999; Tomaskovic-Devey *et al.*, 1994)[5].

Dependent variable

The dependent variable is the dichotomous variable of whether a police department has a specialized gang unit. There is some ambiguity about what constitutes a specialized unit. For instance, Walker and Katz (1995) found that police agencies substantially overstate the prevalence of bias crime units; they found that only about a quarter of agencies claiming to have such a unit actually had one. Many agencies responded to bias-crimes or assigned officers to handle these functions (together with other functions), but they did not have a specialized unit. This confusion over what constitutes a specialized unit makes it crucial in this study to define carefully what we mean by a specialized gang unit. For purposes of this study, a specialized unit is a functional division within an organization (such as SWAT teams, homicide units, burglary units) with responsibility for a limited set of tasks, having at least one full-time employee whose sole function is to engage in those tasks. After having defined a specialized unit in this manner, we allowed respondents some freedom to define whether their agency had a specialized unit for gang-related functions, though we were careful to screen each response manually and call respondents when their survey responses were ambiguous or questionable[6]. Only those agencies with at least one full-time employee in a unit that was established to perform gang control work were categorized as having a gang unit[7]. Of the 391 agencies providing sufficient responses, 108 reported having a specialized gang unit (27.6 per cent). In the course of calling all the agencies that claimed to have a gang unit (to determine the year the unit was founded), we identified 13 false positives. After dropping these from the list of true positives, 95 agencies remained. In addition, because most of our explanatory variables are measured in or around 1990, we eliminated agencies that established their gang units

prior to 1990 to avoid temporal ordering concerns. This resulted in the elimination of another 18 departments from the analysis. Ultimately, 77 police agencies or 27 per cent of the 285 departments in the analysis sample had gang units.

Independent variables

Crime variables. We use arrest rates for males between the ages of 12 and 24 as a proxy for the amount of gang-related crime in each city, since gang membership is concentrated in these groups. Arrest rates are computed for five crime categories: violent crime (assault, robbery, and rape)[8], property crime (auto theft, larceny, burglary), drug violations (drug sales and possession), weapon-related offenses (possessing or carrying a weapon), and misdemeanor assaults[9].

A recent study by Block (2000), who examined the relationship between gang activity and overall levels of crime in Chicago, found that “the number of gangs that were active in an area has a remarkably high relationship to the overall level of crime incidents in that area” (Block, 2000, p. 378). In particular, he found an extremely strong and significant relationship between the amount of violent crime and drug crime in an area and the number of gangs in an area. For example, areas with no gangs had an average of 2.88 assaults, while those with one gang averaged 13.5 assaults, and those with four gangs averaged 42.7 assaults. Significant but less dramatic results were also found for the relationship between the number of property crimes in an area and the number of gangs in an area. After further analysis, Block also found that the number of gangs in an area related not only to an increase in gang-motivated crimes, but also to an increase in the number of non-gang-motivated crimes – suggesting that the presence of a gang problem escalates the “general” level of crime in a community and not just gang-related crime[10].

Rosenfeld *et al.* (1999) argue that two explanations might account for why gangs increase the overall level of crime in a community. First, gangs might increase members’ likelihood of engaging in criminal activity by increasing their overall exposure to risky situations and environments. The authors argue that the mere presence of gangs, therefore, necessarily facilitates and elevates the level of victimization and offending in a community. Second, gangs “motivate” crime, particularly violent crime, when one gang (or gang member) attacks another gang (or gang member) for the furtherance of the gang, or when one gang retaliates against another gang for an attack. Gangs can also “motivate” crime through the promotion of gang functions, such as “going on a mission,” when prospective gang members commit crimes (e.g. steal a car, shoplift, assault a member of another gang) as part of an initiation ritual to show that they are committed to the gang.

While ideally we would like to have used the number of gangs, gang members, or gang-related crimes in each community, previous research has demonstrated consistently and convincingly that gang data collected by police agencies are neither reliable (Katz, 1997; Kuhns, 1997) nor collected in a

uniform manner that would allow valid city-to-city comparisons (see Maxson and Klein, 1990; Spergel, 1995; Klein, 1995)[11]. Although our measures are not precise indicators of the “true” amount of gang crime in each city, they are the measures that are widely available and used by local policymakers, who are responsible for designing responses to the crime problem (such as creating a specialized police gang unit) (Birch, 1999)[12].

It should be noted that we did attempt to use an alternative measure of the severity of a community’s gang problem in our model. In results not shown, we dropped our proxy for gang-related crime in each city (i.e. arrest rates for males between the ages of 12 and 24) and, instead, included the number of gangs and gang members in each city. The data were obtained from the National Youth Gang Center, which surveyed 4,120 local police and sheriff’s departments in 1995 about their community’s gang problem. The results of our model were found to be the same, whether we include our proxy for gang-related crime (i.e. arrest rates for males between the ages of 12 and 24) or estimates of gangs and gang members (i.e. National Youth Gang Center data)[13]. Interestingly, this finding appeared repeatedly in earlier models with alternative specifications. However, given Block’s (2000) findings, as well as Rosenfeld *et al.*’s (1999) analysis of the issue, this finding should not necessarily be surprising.

As such, we believe that the measures we have used are the best among the available. Accordingly, we argue that, if police agencies are rational entities that adapt purposively to contingencies in their environment, then communities with higher levels of crime among young gang-aged males should be more likely to have an established gang unit.

Social threat variables. These are:

- *Ethnic minority threat.* The percentage of African-Americans in a community is one of our measures for minority threat. Prior research on the impact of minority group threat on the police has focused on the proportion of African-Americans in a community (see Chamlin, 1989; Jacobs and O’Brien, 1998; Holmes, 2000; Jackson, 1992a; Sorensen *et al.*, 1993). Yet, using only the African-American population as an indicator of minority group threat may not fully capture the potential impact of this threat on the creation of specialized gang units. A large body of research suggests that Hispanics are also viewed as threatening by the majority population (Hawkins, 1987; Holmes, 2000; Jackson and McBride, 1985). Therefore, the proportion of Hispanics in a community is an additional proxy for minority group threat. While prior research helped direct the selection of measures of ethnic threat, these measures are also selected for other, similar reasons. In particular, it has been argued that gang membership is often a status bestowed on marginalized populations by the police because of their perceived threat to the dominant group rather than because of any objective threat (McCorkle and Miethe, 1998; Zatz, 1987). As such, African-American and Hispanic communities themselves have become closely associated with gang problems, even when a gang problem may not exist in the

community. Some scholars have argued that this “irrefutable link” between minority groups and gangs has fueled “public perceptions of minority group threat as well as fear of crime” (Jackson, 1992b, p. 99; see also Moore, 1990), which, in turn, has led to concentrated, aggressive crime control efforts (e.g. specialized police gang units).

As noted above, some researchers argue that the relationship between police efforts and the percentage of minority residents in a community is non-linear (Hawkins 1987; Jackson and Carroll, 1981). The functional form these researchers describe is a downward-pointing parabola, and is modeled by including quadratic terms for those explanatory variables thought to have a parabolic relationship with the dependent variable. We test this non-linear minority threat hypothesis by including measures for per cent African-American, per cent Hispanic, and their respective squared terms[14].

- *Economic threat.* Consistent with previous sociological explorations of economic threat, we use the Gini index to measure income inequality (Chamlin, 1989; Jacobs and Britt, 1979; Jacobs and O’Brien, 1998; Sorensen *et al.*, 1993). We calculated Gini coefficients using 1990 Census data and the formula suggested by Blau (1977, pp. 57-8)[15]. This index measures relative inequality, and ranges from 0 to 1, with 0 representing perfect equality and 1 representing perfect inequality. Our model also includes a measure of poverty as an indicator of economic threat, because other researchers have found that the percentage of those living below the poverty level is related to police behavior (Fowles and Merva, 1996; Kovandzic *et al.*, 1998). If the economic threat perspective were correct, we would expect to find a significantly greater number of police gang units in communities with higher levels of poverty.

Resource dependency variable. According to resource dependency theory, organizations depend on other organizations for resources. These external dependencies lead organizations to change in response to the needs and/or desires of external organizations. Structural changes, therefore, can be viewed as signals to external entities that the organization is doing those things necessary to secure the flow of resources. According to this perspective, the creation of a gang unit may be a signal to outside agencies that the police organization is facing a gang problem and taking the “right steps” to deal with that problem. If this hypothesis is valid, then those departments receiving external funding for the gang problem would be the most likely to create specialized gang units. To test this hypothesis, we include a dummy variable coded 1 if the agency has received financial assistance from local, state, or federal agencies to create a new gang unit or assist an existing gang unit, and coded 0 if it has not received such funding.

Organizational variable. Organizational control variables are in the analysis, because past research has found that they exhibit significant effects on police organizational behavior. Measures of vertical, functional and occupational

differentiation control for levels of structural complexity (Langworthy, 1986; Maguire, 2001). Vertical differentiation refers to the nature of an organization's hierarchy. The measure of vertical differentiation is the number of separate levels of command within the agency, from the lowest-ranking to the highest. Organizations with more elaborate chains of command, as indicated by many levels of command, are more vertically differentiated.

Functional differentiation is the degree to which tasks are divided and assigned to functionally distinct units. Reimann (1973, p. 464) operationalized functional "specialization" as "the number of discrete, identifiable functions performed by at least one, full-time specialist." Our measure, which is similar to his, is the number of functions (out of 16 excluding gang control) for which the agency has assigned at least one full-time employee to a special unit. Scores on the functional differentiation index can range from 0 to 16.

Occupational differentiation is the extent to which an organization relies on specially trained workers (Langworthy, 1986). It refers to the use of specialized employees from distinct occupational groups and differs from functional differentiation, which refers to the division of organizational tasks rather than the use of employees with different backgrounds. An ideal measure of occupational differentiation is difficult to construct for a comparative study of organizations using survey research, because of the lack of standardization of occupational titles across police departments in different cities. Faced with this limitation, Langworthy (1986) reasoned that civilian police employees represent a distinct occupational group from the sworn police officers constituting the majority of employees within most police organizations. Following Langworthy, since civilians come from a number of different occupational specialties, the proportion of employees who are civilians (or civilianization) is a reasonable proxy measure for occupational differentiation. Accordingly, we measure occupational differentiation using the percentage of full-time personnel employed by the agency who are not sworn police officers.

We also control for the age of the police department, because organization theorists have suggested that the age of an organization exerts effects on patterns of structure and innovation (Downs, 1967; King, 1999; Stinchcombe, 1965). Measuring the age of a police department, however, is not simple, because previous research suggests that survey respondents in police organizations do not always know the agency's history; thus, estimates of organizational age from a single survey are fallible (Maguire, 2001). To reduce measurement error, we combined the age data from three separate national surveys of police agencies (King, 1999; Maguire *et al.*, 2000; Maguire, 2001). If the agency provided age estimates in two or three of the surveys, we used the mean of these estimates. If the agency provided only one estimate (responded to only one of the three surveys), then we used that response. More sophisticated methods to deal with missing data on organization age have been proposed in the context of structural equation models, but these are not available for probability models such as the logit model that we use.

Environmental variable. We also control for two environmental factors. The first is the size of the population that the police agency serves[16]. Prior research has found that the size of a community has an impact on crime, the perceived threat of crime, and the adoption of reforms by police and other municipal agencies (Jackson, 1989, 1992a,b; Jacobs and O'Brien, 1998; Kessell, 1962; Tolbert and Zucker, 1983). We take the natural logarithm of population size for both theoretical and methodological reasons. First, if the effects of city size are parallel with those of organization size, then its effect is expected to diminish as city size increases (Kimberly, 1976). For example, adding 5,000 residents to a city of 20,000 will presumably have more of an influence on crime, fear of crime, and municipal reform than adding 5,000 residents to a city of 200,000. Second, city size is not normally distributed, and some researchers have used a natural log transformation to produce a more normal distribution (Tolbert and Zucker, 1983).

The second environmental control is for region of the country using the four primary regions defined by the Federal Bureau of Investigation and the Census Bureau: West, Midwest (North Central), South, and North-east. Several organizational researchers claim that the tendencies of organizations to adopt policy and program innovations vary by region (Chi and Grady, 1991; Lutz, 1989). Research on structure and innovation in police organizations consistently finds regional effects (Zhao, 1995, 1996). Furthermore, social threat theorists have argued that, historically, some regions of the country exhibit greater inter-group conflict (Hawkins, 1995). They claim that, in such regions, powerful groups are more likely to use social control agencies to maintain power. We control for region using three dummy variables, with North-east as the reference category.

Multicollinearity issues

Examination of the zero-order correlation matrix among the independent variables revealed that there might be a problem with collinearity. Two other collinearity diagnostics, the variance inflation factor and the condition index, confirmed our suspicions. A number of the condition indices were over 30 and the variance decomposition proportions for Gini Index and per cent below the poverty line were above 0.5 (Belsley *et al.*, 1980). Furthermore, variance inflation factors (VIFs) for these two variables were 8.5 and 9.6 (Fisher and Mason, 1981). Both of the collinearity diagnostics confirmed multicollinearity between our two economic threat variables.

To reduce multicollinearity, we used principal components analysis to form a single income component based on our two measures of inequality[17]. After creating the income component, we examined the collinearity diagnostics for the revised model. Results from the condition index test indicated that multicollinearity was no longer problematic. The VIF score for the income component was only 2.5, well below a level that would suggest collinearity.

Findings

Table I shows the bivariate correlations, means, and standard deviations for all variables in the analysis. Approximately 25 per cent of the agencies surveyed reported having a specialized police gang unit. Six independent variables have statistically significant correlations with the presence of specialized gang units:

- (1) per cent Hispanic ($r = 0.14$);
- (2) receiving external funding ($r = 0.355$);
- (3) population size ($r = 0.252$);
- (4) Western region ($r = 0.151$);
- (5) vertical differentiation ($r = 0.117$); and
- (6) functional differentiation ($r = -0.161$).

The results of the logistic regression are presented in Table II, which includes unstandardized (b) logit coefficients, their standard errors (SE), and the exponentiated coefficients (odds ratios) for each independent variable. We also provide two other measures useful for assessing the relative contributions of each independent variable. First, we include standardized logit coefficients (β) computed using the methods outlined by Menard (1995). Second, we include estimates of the pseudo- R^2 values that would result from eliminating each variable individually from the model. Lower pseudo- R^2 values mean that the variable contributes more predictive capacity to the model (Cox and Snell, 1989; Nagelkerke, 1991)[18].

Contrary to our expectations from contingency theory, the results show that arrest rates for young men are unrelated to the establishment of specialized police gang units. This finding is consistent across all five measures of crime in our analysis, therefore failing to support the hypothesis that police agencies establish gang units as a rational response to the degree of gang crime they face.

Support for social threat theory is mixed. The findings in Table II illustrate that economic inequality and per cent African-American are unrelated to the establishment of specialized gang units[19]. This finding is contrary to theoretical expectations (Hawkins, 1987) and previous research on the relationship between social threat and the size of the African-American population (Jackson and Carroll, 1981). However, per cent Hispanic ($b = 6.81$) and its squared term ($b = -17.87$) both have a statistically significant effect on the establishment of specialized gang units. The statistically significant effect of the squared term for per cent Hispanic indicates that its relationship with having a gang unit is parabolic. Specifically, the probability of having a gang unit first increases with the per cent Hispanic and then decreases with further increases after the per cent Hispanic reaches a concentration that is much lower than would be expected from social threat theory.

If the resource dependency perspective is correct, then those agencies receiving federal, state, or local funding to augment their gang control efforts should be the most likely to have a gang unit. The findings support this

Table I.
Correlations, means and standard deviations (list-wise $n = 285$)

	Violent	Property	Drugs	Weapons	Simple	Inequality	% Black	% Hisp	Resource	Age	Func diff	% Hisp ²	LogPop	Occ diff	Vert diff	Midwest	West	South		
Property	0.324 ^a	1.000																		
Drugs	0.000 ^b	0.179	1.000																	
Weapons	0.431	0.332	0.488	1.000																
Simple	0.00	0.000	0.000	0.463	1.000															
Inequality	0.417	0.266	0.315	0.310	0.270	1.000														
% Black	0.000	0.000	0.000	0.000	0.000	0.000	1.000													
% Hispanic	0.154	0.023	0.164	0.085	-0.074	0.166	-0.225	1.000												
Resource	0.071	0.136	0.057	0.137	0.040	0.160	0.044	0.196	1.000											
Age	0.344	0.157	0.352	0.285	0.404	0.534	0.471	-0.094	0.146	1.000										
Func diff	-0.078	-0.095	0.014	-0.043	0.033	-0.062	0.020	-0.074	-0.285	-0.108	1.000									
% Hisp ²	0.189	0.109	0.808	0.473	0.584	0.295	0.739	0.211	0.000	0.068	0.007	1.000								
LogPop	0.406	0.382	0.297	0.360	0.266	0.000	0.014	0.000	0.119	0.513	0.910	0.096	1.000							
Occ diff	-0.059	0.031	-0.027	-0.102	-0.222	-0.244	-0.191	0.093	0.009	-0.308	0.017	0.009	0.016	1.000						
Vert diff	0.324	0.605	0.648	0.087	0.000	0.000	0.001	0.118	0.884	0.000	0.774	0.880	0.794	0.083	1.000					
Midwest	-0.145	-0.107	-0.211	-0.104	0.073	-0.036	-0.105	-0.256	0.007	0.046	0.082	-0.100	-0.012	-0.095	1.000					
West	0.014	0.070	0.000	0.078	0.216	0.550	0.076	0.000	0.907	0.440	0.166	0.093	0.834	0.110	0.110	1.000				
South	-0.062	0.121	-0.059	0.196	-0.085	0.298	-0.325	-0.039	-0.008	0.033	-0.066	0.110	-0.004	0.020	0.167	-0.376	-0.429	1.000		
DepVar	0.007	0.075	-0.012	0.034	0.063	0.062	-0.068	0.141	0.355	-0.029	-0.161	0.013	0.252	-0.030	0.117	0.060	0.151	-0.068	0.000	
Mean	1.56	4.96	2.23	0.61	1.99	0.02	0.17	0.11	0.33	102.85	9.15	0.02	11.58	0.25	5.89	0.18	0.22	0.18	0.011	0.255
STD	1.19	2.16	2.27	0.44	1.89	1.01	0.17	0.15	0.47	38.45	2.26	0.07	0.80	0.08	0.91	0.38	0.42	0.38	0.011	0.42

Notes: ^a correlation coefficient; ^b p -value

Independent variables	Standardized coefficients ^a (β)	Unstandardized coefficients (b)	Standard error (SE)	Odds	R ² if deleted (Cox and Snell, 1989)	R ² if deleted (Nagelkerke, 1991)
<i>Crime</i>						
Violent crime rate	-0.04	-0.101	0.260	0.903	0.195	0.307
Property crime rate	0.02	0.024	0.104	1.025	0.213	0.337
Drug crime rate	0.03	0.036	0.149	1.037	0.212	0.334
Weapons crime rate	-0.06	-0.456	0.608	0.633	0.211	0.333
Simple assault rate	0.11	0.198	0.136	1.219	0.208	0.326
<i>Social threat</i>						
% Hispanic	0.31	6.817*	2.703	913.921	0.186	0.292
% Hispanic ²	-0.36	-17.878*	6.654	0.000	c	c
% African-American	-0.08	-1.521	2.117	0.218	0.211	0.331
Income component	0.11	0.382	0.276	1.465	0.207	0.326
<i>Resource dependency</i>						
External funding	0.22	1.577*	0.378	4.843	0.152	0.239
<i>Organizational factors</i>						
Functional differentiation	-0.03	-0.045	0.083	0.955	0.209	0.330
Occupational differentiation	-0.11	-4.536	2.578	0.010	0.199	0.309
Vertical differentiation	0.10	0.354	0.234	1.425	0.206	0.325
Organizational age	-0.20	-0.017*	0.007	0.983	0.194	0.307
<i>Environmental factors</i>						
Log of population	0.09	0.384	0.281	1.468	0.206	0.324
Midwest ^b	0.22	1.908*	0.809	6.741	0.194	0.305
South ^b	0.15	1.027	0.829	2.792	0.326	0.326
West ^b	0.17	1.333	0.803	3.792	0.204	0.320
<i>Constant</i>						
-2 Log likelihood	219.649					
Goodness of fit	237.388					
Model X ²	68.331*					
Pseudo R ² (%)					21.2	33.4

Notes: ^aStandardized logit coefficients were computed using methods outlined by Menard (1995, p. 6); ^bNortheast was the reference category; ^cPer cent Hispanic and its squared term were removed together; $p < 0.05$

Table II.
Logistic regression estimates

hypothesis, illustrating that those police organizations receiving external funding for gang control efforts are significantly more likely to have established a specialized police gang unit ($b = 1.57$).

Only one of the organizational variables was related to the establishment of specialized police gang units. Younger departments were significantly more likely than older departments to have established a police gang unit ($b = 0.01$).

Functional, occupational, and vertical differentiation did not have significant impact on the creation of police gang units. The environmental variables were found to have varying levels of influence on the establishment of specialized police gang units. Population size was not significant, but region was significantly related to the creation of gang units. In particular, specialized gang units were more likely to be established in police agencies located in the Midwest than in the North-east ($b = 1.90$). Other regional contrasts are explored more fully in the next section.

Learning more from predicted probabilities

One useful feature of probability models is the ability to generate estimated probabilities for the dependent variable based on substantively important values of the independent variables. This allows extracting more information from the model than is possible using only tests for statistical significance and the signs and relative sizes of the coefficients. In this section, we explore the model in Table II in more detail to provide more substantively meaningful findings. We focus on the four variables with the strongest effects on the probability of having a gang unit: per cent Hispanic, external funding, region, and organizational age[20].

Because the coefficient of the per cent Hispanic squared term is negative, the relationship of per cent Hispanic with the probability of having a gang unit is curvilinear, resembling an upward-pointing parabola. To illustrate this in greater detail, we plotted the relationship between per cent Hispanic and the establishment of a gang unit. As shown in Figure 1, the relationship is positive between 0 and about 19 per cent, after which the relationship turns negative. Interpreted through the lens of social threat theory, this finding suggests that, as the percentage of Hispanics increases, their presence becomes more threatening to the majority. It is not until Hispanics become a substantial segment of the community that the association between per cent Hispanic and the probability of establishing a gang unit begins to decrease. Our finding is somewhat at odds with Jackson and Carroll's (1981) analysis of police expenditures, in which they found that the threat of African-Americans began to dissipate only after African-Americans became the dominant group (i.e. once they comprised more than 50 per cent of the city population). This finding clearly deserves more attention in future research.

According to the standardized coefficients, the resource dependency measure of external funding exerted one of the strongest effects on the probability of having a specialized gang unit. Holding all the other predictors at their means, the probability of having a gang unit increases from 0.08 with no external funding to 0.29 with external funding. This finding suggests that external dependencies play an important role in shaping the structures and activities of police organizations. Further research is needed to determine in which arena these dependencies are strongest: at the federal, state, or local levels. For instance, although there is a long history of federal involvement in

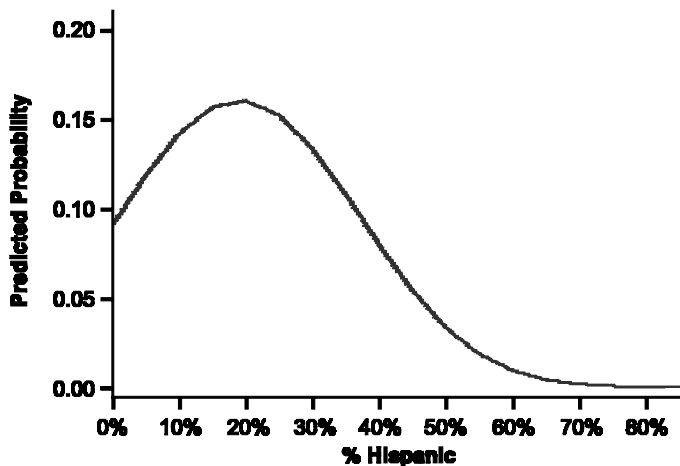


Figure 1.
Predicted probability of
having a gang unit
based on per cent
Hispanic population

local criminal justice, some scholars suggest that the role of such centrist authorities may be expanding (Crank and Langworthy, 1992, p. 223).

Consistent with prior research in police and other types of organizations, region also exerts an effect. Holding other variables at their means, the probability that a police agency in the North-east has a gang unit is 0.05. Other probabilities are 0.12 in the South, 0.16 in the West, and 0.26 in the Midwest. Given the consistency with which regional effects have been found in studies of US police organizations, there is a need for further research and theory about why region is so important. Several alternatives have been suggested, but research has not pitted these alternative explanations against one another (Maguire, 2001).

The importance of organizational age on structure and innovation is now being recognized in research on police organizations. Our findings contribute to that growing body of knowledge. Holding all the other variables at their means, the probability of a police department that is 150 years old having a specialized gang unit is 0.06. For a 100-year-old department, the probability is 0.13 and, for a 50-year-old department, the probability is 0.26. This finding is consistent with the hypothesis that innovation is more difficult to implement in older organizations. These findings fail to support the structural elaboration hypothesis that older police organizations are more likely to adopt added forms of complexity by adding new specialized units (King, 1999; Maguire, 2001).

The power of these explanatory variables becomes more apparent when we consider them together rather than in isolation. According to the results we have presented so far, agencies with the lowest probability of having a gang unit are older, located in the North-east, have received no external funding to deal with the gang problem, and have either a low or high proportion of Hispanics in the population. For instance, a 150-year-old North-eastern agency with no external funding for gang control and 0 per cent Hispanics in the population has only a 1 per cent chance of having a gang unit. Similarly, the

same probability for a 50-year-old midwestern agency with external funding for gang control and 20 per cent Hispanics in the population is approximately 0.76. These combinations are artificial, in that they do not represent actual police departments. On the other hand, they demonstrate the powerful effect that the variables in our model exert jointly on the probability of having a gang unit.

Discussion

Using data obtained from 285 communities and police departments around the country, we examined several explanations, extrapolated from research and theory on organizations, of why local police agencies have begun to create specialized gang units. This is an important question because police gang units represent a new and concentrated form of formal social control exerted predominantly over young gang-aged males, often minorities. A rational theory of organizations or local governance, such as the contingency theory approach described earlier, suggests that this new form of social control is necessary for police agencies to stem the rising tide of gang-related crime in their communities. We found no evidence to support this perspective. None of our five proxies for crime committed by young (gang-aged) males exerted a significant effect on the probability of establishing a gang unit. This finding was robust and appeared repeatedly in earlier models with alternative specifications. Although contingency theory is implicit in the rhetoric of policy-makers and police executives regarding the gang problem, we uncovered no evidence to support this explanation.

Our findings with regard to social threat theory are mixed. The proportion of African-Americans and the level of economic deprivation in a community are unrelated to the establishment of specialized gang units. On the other hand, we found that the proportion of Hispanics in a community does have a significant effect on the decision to create a special gang unit. Indeed, both the coefficients for the linear and squared values for per cent Hispanic were statistically significant. This finding was also robust, appearing consistently in several earlier models and alternative specifications. We found evidence of a non-linear (parabolic) relationship between the proportion of Hispanics in the community and the establishment of a gang unit. This finding supports Blalock's social threat perspective, which argues that "the relative size of a minority population may be related to the power threat it represents to the dominant group" (Jackson and Carroll, 1981, p. 303). This finding suggests that police organizations establish gang units when the community feels threatened by a minority group – particularly Hispanics. While we can only speculate about why Hispanics might be more threatening to the dominant group than African-Americans, one potential explanation is that it might be a consequence of the dynamic change in ethnic composition occurring in communities across the country.

From 1980 to 1990, the Hispanic population in the USA increased by 53 per cent, more than seven times the growth of the rest of the nation (US Census

Bureau, 1993, p. 2). Over the past few decades, the nation has seen a rapid increase in Hispanics immigrating to the USA. Although politicians and other public figures have dramatically overstated the extent of illegal immigration from Mexico, their message has nonetheless been widely publicized (Dillon, 1997). For instance, conservative commentator and former presidential candidate Pat Buchanan proclaimed in a 1995 television interview that he would stop illegal immigration from Mexico “by putting a double-linked security fence along the 200 miles of the border, where millions pour in every year” (Dillon, 1997). He further expanded on this theme during his 2000 run for the presidency, when he advocated the use of the US military to “defend” the country’s border from non-English-speaking people (Buchanan, 2000).

Fueled by such rhetoric, feelings of ethnic threat may be very much out of proportion with the true size of the minority population (just as the fear of crime is often disproportionate to the true likelihood of victimization). This may have resulted in a decreased emphasis (and focus) on African-Americans as the “primary threat group” and increased attention toward Hispanics as a threatening population. Caucasians, who represent the dominant ethnic group in most communities, lack cultural familiarity with Hispanics. Both groups are sometimes further separated by a language barrier, which might increase the level of perceived threat.

The parabolic relationship we found between per cent Hispanic and the creation of gang units is consistent with Blalock’s power threat hypothesis, but the threshold (or “tipping point”) at which the relationship turns from positive to negative was somewhat unexpected. Social threat theory suggests that the degree of threat will continue to rise until the concentration of a minority group approaches becoming a majority (or at least a non-minority) at approximately 50 per cent. We found a tipping point of approximately 19 per cent in this study. We have no ready explanation for this incongruous finding. Although it is inconsistent with hypotheses set forth by some social threat theorists (Blalock, 1967; Hawkins, 1987), it is consistent with other previous research. For instance, Greenberg *et al.* (1985) found a tipping point for non-whites ranging from 14.4 per cent to 30.3 per cent. Similarly, Brandl *et al.* (1995) found tipping points for blacks of 17.1 per cent and 22.3 per cent.

Although we cannot explain why these tipping points are less than the percentage needed for a majority, we can suggest three possibilities for our findings that may be worthy of further inquiry. First, as suggested by Turk (1969), it may be that moderately sized minority populations pose a significant enough political threat to the dominant group that élites fear the loss of power[21]. As such, élites negotiate control by making concessions that result in reduced crime control efforts aimed at minority populations. In return, minority groups accept the authority of the dominant group, as long as the dominant group does not impose overly restrictive restraints on the minority group.

Second, just as fear of crime is often fueled by unrepresentative news coverage of sensational criminal events, social threat may be based less on the

actual size of the threatening population than on the perceived size. A recent study found that politicians like Pat Buchanan and former California Governor Pete Wilson have fanned the flames of social threat by exaggerating the number of illegal immigrants crossing into the USA from Mexico more than eightfold (Dillon, 1997). Third, many cities have an illegal Hispanic immigrant population that was not accurately enumerated in the 1990 Decennial Census. Therefore, had all Hispanics, legal and illegal, been counted, then a higher tipping point that is closer to that from Blalock's power threat hypothesis might have been found.

Surprisingly, given the number of Hispanics in the USA in general, and Hispanic involvement in the criminal justice system specifically, there has been remarkably little research that has examined the relationship between Hispanics and police (organizational) behavior. This said, our results are consistent with Jackson and McBride's (1985) finding that the proportion of Hispanics in a community was significantly related to the amount of financial resources spent on policing and with Holmes's (2000) research that showed that the proportion of Hispanics in a community was positively related to police brutality complaints. As such, our findings add further support to the conclusion that Hispanics are targeted for concentrated and aggressive crime control practices carried out by the police.

We also found support for resource dependency theory. Police organizations receiving external funding for gang control functions were significantly more likely to have established specialized police gang units. At the core of resource dependency theory is the belief that organizations and their members make decisions based on the current external political climate. Rather than viewing organizations as passive actors who simply react or adapt to environmental forces, resource dependency theory views organizations in a more active light, believing that organizations can also enact or manipulate their environment to secure the flow of resources (Pfeffer and Salancik, 1978)[22]. As Pfeffer and Salancik (1978, p. 213) argue, "Formal organizations have interests and make demands on government just as individual citizens do." Although we find evidence that police organizations that have received external funding to deal with the gang problem are more likely to have specialized gang units, the nature of our data does not allow us to make inferences about the resource acquisition process.

The motivations and methods for receiving external funding for gang control efforts may be many. It might be that some of these agencies are simply fulfilling contractual requirements – altering their organizational structure and/or engaging in operational activities, because they promised to do so as part of agreements with funding agencies[23]. Similarly, some of the organizations may have applied for external funding for gang control efforts because of the rich funding opportunities for crime control efforts aimed at combating gangs. For example, as a consequence of the 1994 Crime Act the federal government assumed a prominent role in spreading the use of gang units by providing millions of dollars to police organizations to make structural

changes and engage in operational strategies that are oriented toward community gang problems (Decker and Curry, 2000). It is also possible that some of the gang units might have been created by police organizations prior to receiving external funding for the purpose of manipulating their environment. By creating gang units, police departments can be signaling that they are faced with gang problems and need additional organizational resources. Therefore, this finding (as a consequence of the operationalization of our resource dependency variable) treats the resource acquisition process as a “black box” of sorts. We have evidence that the black box exists, but we cannot make any inferences about its contents due to the nature of the data. Qualitative research is necessary to reveal the nature of the resource acquisition and gang unit formation processes.

This positive effect of having external funding parallels a finding from Zatz’s (1987) qualitative case study of the Phoenix Police Department. Relying on data obtained from social workers, court records, and newspapers, Zatz reported that Phoenix was not faced with a serious gang problem at the time the gang unit was created. Rather, she argues that the gang unit was created to illustrate to influential actors in the external environment that the city did have a gang problem, and, therefore was eligible for federal grant dollars. In other words, the department “managed” its environment, creating a perception of a gang problem to obtain much needed resources. More research is necessary to fully understand the effect of external funding on organization change and the degree to which such funding represents a form of external control over organizations that are thought to be largely autonomous (Pfeffer and Salancik, 1978).

Although included in the model only as a control, the age of the police organization was also related to the establishment of a specialized gang unit. Younger agencies were more likely to create a gang unit, a finding that rejects the structural elaboration hypothesis discussed earlier (Maguire, 2001). This finding supports the notion that younger police organizations are more likely to adopt innovation (see King, 1999). Unfortunately, the underlying meaning of such a finding is unclear. Merely finding an age effect is very different from being able to understand the causal process through which age affects the structure of an organization. Only through a combination of more detailed comparative ethnography and further analysis can we begin to understand differences in decision-making processes between older and younger organizations.

Consistent with previous research, we also found evidence that police organizations vary considerably by geographic region (Maguire, 2001). Theoretical explanations for regional variation in policing have not significantly improved over the last three decades (Lineberry and Fowler, 1967; Swanson, 1979). We suggest three alternative explanations. First, regional differences in political structures might produce differences in police practice (Wilson, 1968). Second, regional variation in innovation diffusion networks might alter the rate at which police organizations adopt programmatic and

structural innovation. Third, there are probably regional differences in the historical development of the police, though we attempted to capture some of that variation with our measure of age. There is a clear need for research that helps disentangle these competing explanations for regional differences in US policing.

The results of this study, however, must be interpreted cautiously given the methodological limitations of the data noted earlier. First, the reliability and validity of the proxies that we used to measure the amount of gang-related crime in each city have not been thoroughly tested. While Block (2000) found that the overall level of crime increased in areas with the number of gangs in an area, it is not known whether this relationship holds at the city level. Furthermore, his research was conducted in Chicago, a city with a long history of chronic gang problems. The relationship that he found between crime and gangs might not hold in communities that are smaller with emerging gang problems. We did use an alternative measure of the gang problem in each community with data obtained from the National Youth Gang Center; however, as mentioned earlier, the reliability and validity of these data are also unknown. While the results of our model were found to be the same regardless of which measure we used (which gave us confidence in our results), it might be that neither measure accurately reflects the severity of a community's gang problem.

Second, as we discussed in the above section, our resource dependency variable only permitted us to examine whether resource exchange patterns are related to police organizational structure. Our data, however, did not allow us to examine whether this resource exchange was the consequence of transaction-specific motives on the part of the police department (e.g. contractual agreements, local police seeking additional resources) or the result of system-wide interests (e.g. federal government seeking more influence and power over local agencies)[24]. As a consequence, we do not know the causal ordering of the events that might have occurred. Future research should examine the motivations for such exchanges and further elaborate how resource exchanges impact organizational structure and operational behavior.

We would also recommend further research examining the relationship between the ethnic and economic structure of cities and the creation of police gang units. While we examined the relationship between the creation of specialized police gang units and the proportion of a community's general population that is Hispanic and African-American, greater specificity and understanding of the dynamics that result in such a relationship should be further examined. For example, the relationship between the creation of police gang units and ethnic threat might be more pronounced, if one examined the proportion of young minority males in a community or the change in minority population in a community. Additionally, other intervening processes (as understood through culture conflict theory and social disorganization theory) might account for the relationship between the ethnic and economic structure of cities and the creation of police gang units.

Conclusion

Police organizations represent specialized forms of coercive or official social control and are organizations that have a presence in or near every community in the USA. The emergence of gang units represents an even more specialized form of social control, because it is largely focused on young gang-aged males, often minorities. Therefore, understanding the factors related to their emergence is an important question. Drawing on a diverse array of data sources, this study rejected the most obvious and rational explanation for the emergence of gang units: that they are formed in places with more gang-related crime. The study found support for social threat and resource dependency explanations for the creation of gang units. This research demonstrates the necessity of widening our theoretical understanding of police organizations in the context of the “crime control industry” (Christie, 1994), as well as how other organizational and environmental factors may influence such concentrated forms of social control. It is only with this understanding that we will be able to more fully understand how and why police organizations respond to problems in the way that they do.

Notes

1. This is an important difference between contingency and resource dependency theories. In contingency theory, the organization responds to the environment, but the environment does not respond to organizations. In resource dependency theory, the environment and the organization act on each other.
2. For related work see Banaszak-Holl *et al.* (1996) and Meyer (1979).
3. Institutional theory has been thoroughly explicated in the general organizational literature for almost two decades (Meyer and Rowen, 1992; Scott, 1992); however, Crank and Langworthy (1992) were the first to show its utility for understanding criminal justice organizations.
4. According to data from the *Directory of Law Enforcement Agencies 1996* (Bureau of Justice Statistics, 1996), there are 13,353 municipal police agencies in the USA, serving 172,106,329 people and employing 385,425 sworn full-time police officers. Although the 484 largest municipal police agencies comprise only about 3.6 per cent of all municipal police agencies, they serve 49 per cent of the total population covered by all municipal police agencies and employ 58 per cent of the police officers.
5. Selection bias is most serious when the factors associated with non-response are correlated with the dependent variable. Since response rates were similar for each study across levels of organization size, we can only think of one other causal sequence through which this might reasonably occur: if more complex organizations are less likely to complete surveys and more likely to have gang units, then non-response bias could possibly be a problem. As we demonstrate later, however, organizational complexity does not have a significant effect on the probability of having a gang unit.
6. From the outset, a police agency was considered to have a specialized gang unit, if it met one of three criteria: it had a specialized unit that engaged in gang enforcement; it had a specialized unit that engaged in gang enforcement and gang education; or it had a specialized unit that engaged in gang enforcement plus one other gang-related function, and, in name, was called a gang unit.
7. See Needle and Stapleton (1983) for a discussion on the different organizational forms of gang control within police agencies.

8. We initially hoped to include homicides in our measure of violent crime. For some reason, however, homicide data disaggregated by age and gender are missing at a higher rate than for other offense types. Including homicides in our violent crime construct reduced the number of valid cases by about 10 per cent (28 cases). Although it would seem important to measure homicide rates in a study related to gangs, additional analysis suggests that dropping homicide from the model had no effect on the findings. First, because homicide is a rare event relative to other violent crimes, the correlation between the two violent crime constructs (one including and one excluding homicide) is 0.99. Second, the results of the final model presented later are the same, whether we include homicide rates separately in the model or as a component of the violent crime construct.
9. We measured misdemeanor assaults separately from more serious violent crimes, because they are committed at a much higher rate, and therefore would have the effect of overwhelming (and diluting) the number of serious violent offenses.
10. In all, for both violent and drug crimes “about 30 per cent of the variation in overall incident level was accounted for by the number of gangs active in the area” (Block, 2000, p. 379). The relationship between property crime and the number of gangs in an area was also significant, although not as dramatic, with 10 per cent of the variation in the number of incidents accounted for by the number of gangs (Block, 2000, p. 379). Block (2000) argues that there is evidence, then, that the level of crime (particularly violent and drug crime) in a community is significantly related to the number of gangs in a community.
11. A key methodological issue in examining community gang problems has been how to operationally define “gang problem.” A number of gang scholars have commented on the utility of law enforcement data for estimating the national scope of gang-related problems, but few have actually methodically examined the issue. A major problem with comparing the number of gang members, gangs, and gang crime between cities is that uniform definitions are not used. Maxson and Klein (1990) and Curry *et al.* (1994) have reported that the number of gang-related crimes can be inflated by as much as 200 to 300 per cent, depending on the definition used by the agency. Similarly, departmental estimates of the number of gangs and gang members have been found to be highly unreliable. A number of researchers have argued that these figures have more to do with politics and organizational needs than with a community’s actual gang problem (Hagedorn, 1990; Zatz, 1987). Some empirical evidence appears to support the contention that these data are not reliable. A federal official examining data obtained from the National Youth Gang Survey found that estimates of gangs and gang members provided by the police to OJJDP varied significantly year-to-year, leading him to conclude that the data are not particularly valid or reliable. Kuhns (1997) cited the following figures as examples of the problems associated with the survey’s reliability: Chicago reported 35,000 gang members in 1993 and then 100,000 in 1995; St Louis reported 1,200 gang members in 1991, 650 in 1993, and then 3,500 in 1995; and Jersey City reported 1,150 gang members in 1991, 73 in 1993, and then 3,500 in 1995. He argued that these fluctuations were not due to the changing nature of the gang problem in these communities but rather were due to the “guesswork” of desk clerks in these agencies. Furthermore, for the purposes of this paper, another problem with using gang data collected by police departments is that agencies reporting these data are most likely those with established gang units. Therefore, the data may reflect more about the presence of a gang unit than the seriousness of the gang problem. For the above reasons, both OJJDP and NIJ officials have recommended that local policymakers assess local gang problems using Uniform Crime Statistics (Birch, 1999). Therefore, the measure we have chosen is that which we believe is most reliable and is most likely to be used by police agencies in determining whether or not to establish a gang unit.
12. Previous researchers (Spergel, 1995) examining the nature and extent of community gang-related problems have also used these variables representing contingency theory.

13. The authors would like to thank David Curry, Scott Decker and Cheryl Maxson for this suggestion and their counsel on the use of arrest rates as a proxy for community gang problems.
14. Quadratic terms are frequently collinear with their linear component terms. To reduce the problem of multicollinearity, we center the linear terms (so that they are expressed as deviations from the mean) used to form the quadratic term (Aiken and West, 1991).
15. In calculating the Gini coefficients we used Blau's formula: $2s_i p_i (P_{bi} - P_{ai}) / 2 \sum s_i p_i$, where p_i is the proportion of the population within a category, s_i is the mean status within a category, P_{ai} is the proportion of the population whose status is above the category, and P_{bi} is the proportion whose status is below the category.
16. As mentioned previously, there are theoretically compelling reasons to include both organization size and population size in the model. However, previous research has shown consistently that, among municipal police agencies, the two variables are so highly correlated that it is difficult to separate their effects (Langworthy, 1986). In our sample, the two variables have a correlation of ($r = 0.929$). We have chosen population size for two reasons. First, the theoretically expected effects of organization size operate largely through organizational complexity, which we have already included in the model. Second, population size has been found to be related to youth gang problems (Office of Juvenile Justice and Delinquency Prevention, 1997). A separate model substituting organization size for population size produced no appreciable differences in findings.
17. The Gini index and per cent below the poverty line both loaded highly (> 0.95) on a single component. We are careful to highlight the fact that the two variables that are used to form the component are conceptually distinct, with the Gini index representing relative deprivation, and the poverty variable representing absolute deprivation. As Land *et al.* (1990, p. 944) point out, however, they are not necessarily empirically distinct. Communities with high levels of relative deprivation often have high levels of absolute deprivation; therefore, the two variables are highly (and positively) correlated. Consequently, it is difficult to isolate their causal effects on other variables. The use of a single income component allows us to retain both variables, representing two qualitatively distinct forms of deprivation, while at the same time hopefully solving our problems with multicollinearity.
18. Standardized coefficients have unknown qualities for square terms and their component terms. We present the second measure as an alternative for assessing the relative importance of each independent variable.
19. In an earlier unreported logit model, we tested the need to use quadratic terms for per cent African-American and per cent Hispanic. In these analyses, the quadratic term for per cent African-American was not statistically significant, so we dropped it from the model. The quadratic term for per cent Hispanic was significant, so we retained it.
20. Below we demonstrate how we performed our computations. As an example we interpreted the effects of per cent Hispanic. The logit model we estimated with a parabolic effect for per cent Hispanic has the general form given in Equation (1), where b_1 is the coefficient of the linear term for per cent Hispanic, b_2 is the coefficient of its square, and b_k is the set of coefficients for the remaining X_k independent variables in the model.

$$\ln \frac{P}{1-P} = a + b_1 H + b_2 H^2 + b_k X_k + e. \quad (1)$$

We interpret the effects of per cent Hispanic following general principles for interpreting parabolas, as summarized by Stolzenberg (1979) for OLS models and by Liao (1994, pp. 56-7) for logit models. Because the coefficient of the per cent Hispanic squared term is negative, the relationship of per cent Hispanic with the probability of having a gang unit is an upward-pointed parabola, and there will be a particular value of per cent Hispanic at which the probability of having a gang unit will be a maximum. Thus, the key task

concerns finding this value of the per cent Hispanic. The basic steps in doing so are first, finding the formula for the first derivative of Equation (1) and second, solving the equation which results from setting the formula for the first derivative equal to zero for a specific value of the per cent Hispanic.

Were Equation (1) an OLS model, this derivative would equal $b_1 + 2b_2H$. The only change for the derivative when a probability is a dependent variable (as it ultimately is in the dichotomous logit of Equation (1)) is that the simple first-order partial of the right-hand side of the equation given directly above must be multiplied by the product of a particular probability (P) and its arithmetic inverse ($1 - P$) as presented in Equation (2) (Aldrich and Nelson, 1984, p. 43; Roncek, 1991, p. 515)[20]:

$$\frac{\partial b}{\partial H} = [b_1 + 2b_2H]P(1 - P). \quad (2)$$

The formula on the right-hand side is then set equal to 0 as in Equation (3), and solved for a value of the per cent Hispanic:

$$0 = [b_1 + 2b_2H]P(1 - P). \quad (3)$$

The “expected” tipping point, thus, might depend on the political organization of a minority population in a community. For example, a community with a highly politically organized Hispanic population of 19 per cent would presumably be able to elicit more advantageous concessions from the dominant group than an African-American population of 29 per cent that was not politically organized.

22. The importance of resources plays a prominent role in at least two theories of organizations: resource dependency theory and institutional theory. While many organizational theorists see the two theories as complementary (Scott, 1995), some argue that the two are clearly distinct (Tolbert and Zucker, 1997). In particular, these theorists maintain that institutional theory places much greater emphasis on understanding the role of legitimacy and how shared cultural understanding determines organizational structures, whereas resource dependency theory places greater emphasis on understanding how the need to acquire resources from external sources determines organizational structures. While the data that we have collected allow us to test a hypothesis about the relationship between resource acquisition and organizational structure, they are not sufficient to assess whether resource acquisition behaviors are undertaken in a search for organizational legitimacy.
23. Some have asked us, “Wouldn’t a department face severe penalties, if they accepted money to create or maintain a gang unit and then fail to create or maintain an existing gang unit? If so, how is this in any way related to resource dependency theory?” Our answer to this question is that a police department might feel that they might be penalized for not complying with the demands of those who provided the resources to the organization, which is why many departments that apply and receive money for a gang unit would comply. If they did not, they might risk the possibility of not being eligible for resources from the funding agency in the future – an agency on which they are dependent for resources. As such, while these resource exchanges result in increased opportunities for resources, they also result in organizational constraint and dependency (*à la* resource dependency theory). However, it is important to point out that it appears that not all organizations feel that they will be penalized. As shown in Table I, only 35.5 per cent of agencies that received funding for the creation or maintenance of a gang unit actually had a gang unit. For additional discussion of this issue see Mizruchi and Schwartz’s (1987) *Intercorporate Relations: The Structural Analysis of Business*.
24. Some might contend that it is tautological to argue that agencies that receive money to create or maintain a gang unit are more likely to have a gang unit. Past research suggests that such assumptions should not necessarily be made. For example, Black (1980) found that, even though legislation required police officers to make arrests in all felony cases

when there is sufficient evidence, police officers made arrests only 58 per cent of the time. Similarly, many police departments across the country have received COPS funding to implement or “maintain” existing community policing initiatives; however, many of these same organizations have been found to have not actually implemented community policing. Our findings yielded similar results. Only 35.5 per cent of the agencies that received funding to create or maintain a gang unit actually had a gang unit. While these results were significant, and supported the resource dependency perspective, the two variables were not as perfectly correlated as one might suspect. We would like to thank one anonymous reviewer for bringing this issue to our attention.

References

- Aiken, L.S. and West, S.G. (1991), *Multiple Regression: Testing and Interpreting Interactions*, Sage, Newbury Park, CA.
- Aldrich, J.H. and Nelson, F.D. (1984), “Linear probability, logit, and probit models”, *Sage University Paper Series on Quantitative Applications in the Social Sciences*, Sage, Newbury Park, CA.
- Banaszak-Holl, J., Zinn, J. and Mor, V. (1996), “The impact of market and organizational characteristics on nursing care facility service innovation: a resource dependency perspective”, *Health Services Research*, Vol. 31, pp.97-117.
- Belsley, D., Kuh, E. and Welsch, R. (1980), *Regression Diagnostics: Identifying Influential Data and Sources of Collinearity*, John Wiley & Sons, New York, NY.
- Birch, J. (1999), personal communication.
- Black, D. (1980), *The Manners and Customs of the Police*, Academic Press, New York, NY.
- Blalock, H. (1967), *Toward a Theory of Minority-Group Relations*, John Wiley, New York, NY.
- Blau, P.M. (1977), *Inequality and Heterogeneity*, Free Press, New York, NY.
- Block, R. (2000), “Gang activity and overall levels of crime: a new mapping tool for defining areas of gang activity using police records”, *Journal of Quantitative Criminology*, Vol. 16 No. 3, pp. 369-83.
- Brandl, S.G., Chamlin, M.B. and Frank, J. (1995), “Aggregation bias and the capacity for formal crime control: the determinants of total and disaggregated police force size in Milwaukee, 1934-1987”, *Justice Quarterly*, Vol. 12 No. 3, pp. 543-62.
- Brantley, A. and DiRosa, A. (1994) “Gangs: a national perspective”, *FBI Law Enforcement Bulletin*, May, pp. 1-17.
- Brown, C. and Warner, B. (1995), “The political threat of immigrant groups and police aggressiveness in 1900”, in Hawkins, D. (Ed.), *Ethnicity, Race, and Crime*, State of New York Press, Albany, NY.
- Buchanan, P. (2000), “American patriots battle to retain USA’s character”, *USA Today*, Wednesday, August 9, 13A.
- Bureau of Justice Statistics (1996), *Directory of Law Enforcement Agencies, 1996*, US Department of Commerce, Bureau of the Census, Ann Arbor, MI.
- Bureau of Justice Statistics (1999), *Law Enforcement Management and Administrative Statistics (LEMAS), 1997 Sample Survey of Law Enforcement Agencies* [Computer file]. ICPSR version. US Department of Commerce, Bureau of the Census, Ann Arbor, MI: Inter-University Consortium for Political and Social Research [distributor] (1998).
- Burns, E. and Deakin, T.J. (1989), “A new investigative approach to youth gangs”, *FBI Law Enforcement Bulletin*, October, pp. 20-4.
- Bursik, R.J. and Grasmick, H.G. (1995), “Defining gangs and gang behavior”, in Klein, M.W., Maxson, C.L. and Miller, J. *The Modern Gang Reader*, Roxbury Publishing Company, Los Angeles, CA.

- Chamlin, M. (1989), "A macrosocial analysis of change in police force size, 1972-1982: controlling for static and dynamic influences", *The Sociological Quarterly*, Vol. 30, pp. 615-24.
- Chi, K. and Grady, D. (1991), *Innovators in States Government*, The Council of State Government, Lexington, MA.
- Christie, N. (1994), *Crime Control as Industry: Towards Gulags, Western-Style*, Routledge, New York, NY.
- Cox, D.R. and Snell, E.J. (1989), *The Analysis of Binary Data*, 2nd ed., Chapman & Hall, London.
- Crank, J. and Langworthy, R. (1992), "An institutional perspective of policing", *The Journal of Criminal Law and Criminology*, Vol. 83, pp. 338-63.
- Cureton, S. (2001), "An empirical test of the social threat phenomenon using 1990 census and uniform crime reports", *Journal of Criminal Justice*, Vol. 29, pp. 157-66.
- Curry, G.D., Ball, R.A. and Decker, S.H. (1996), *Estimating the National Scope of Gang Crime from Law Enforcement Data*, National Institute of Justice, Washington, DC.
- Curry, G.D., Ball, R.A. and Fox, R.J. (1994), *Gang Crime and Law Enforcement Recordkeeping*, National Institute of Justice, Washington, DC.
- Curry, G.D., Ball, R.A., Fox, R.J. and Stone, D. (1992), *National Assessment of Law Enforcement Anti-Gang Information Resources*, National Institute of Justice, Washington, DC.
- Decker, S. and Curry, G.D. (2000), "Responding to gangs: does the dose match the problem?", in Sheley, J. (Ed.), *Criminology*, Wadsworth, Belmont, CA.
- Decker, S. and Van Winkle, B. (1996), *Life in the Gang: Family, Friends, and Violence*, Cambridge University Press, New York, NY.
- Dillon, S. (1997), "Migrant data overblown, US and Mexico find", *New York Times*, August 31.
- Donaldson, L. (1995), *American Anti-Management Theories of Organization*, Cambridge University Press, Cambridge.
- Downs, A. (1967), *Inside Bureaucracy*, Little-Brown, Boston, MA.
- Esbensen, F. and Winfree, T. (1998), "Race and gender differences between gang and non-gang youths: results from a multi-site survey", *Justice Quarterly*, Vol. 15, pp. 505-26.
- Fisher, J. and Mason, R. (1981), "The analysis of multicollinear data in criminology", in Fox, J.A. (Ed.), *Methods in Quantitative Criminology*, Academic Press, New York, NY.
- Fowles, R. and Merva, M. (1996), "Wage inequality and criminal activity: an extreme bounds analysis for the United States, 1975-1990", *Criminology*, Vol. 34, pp. 163-82.
- Greenberg, D.F., Kessler, R.C. and Loftin, C. (1985), "Social inequality and crime control", *The Journal of Criminal Law and Criminology*, Vol. 76 No. 3, pp. 684-704.
- Hagedorn, J.H. (1990), "Back in the field again: gang research in the nineties", in Huff, C.R. (Ed.), *Gangs in America*, Sage, Newbury Park, CA.
- Hall, R.H. (1999), *Organizations: Structures, Processes, and Outcomes*, Prentice Hall, Upper Saddle River.
- Hawkins, D. (1987), "Beyond anomalies: rethinking the conflict perspective on race and criminal punishment", *Social Forces*, Vol. 65, pp. 719-45.
- Hawkins, D. (1995), *Ethnicity, Race, and Crime: Perspectives across Time and Place*, SUNY Press, Albany, NY.
- Holmes, M. (2000), "Minority threat and police brutality: determinants of civil rights criminal complaints in US municipalities", *Criminology*, Vol. 38, pp. 343-68.
- Huff, C.R. and McBride, W.D. (1990), "Gangs and the police", in Huff, C.R. (Ed.), *Gangs in America*, Sage, Newbury Park, CA.
- Jackson, P. (1989), *Minority Group Threat, Crime, and Policing*, Praeger, New York, NY.

- Jackson, P. (1992a), "The police and social threat: urban transition, youth gangs, and social control", *Police and Society*, Vol. 2, pp. 193-204.
- Jackson, P. (1992b), "Minority group threat, social context, and policing", in Liska, A. (Ed.), *Social Threat and Social Control*, State University of New York Press, Albany, NY.
- Jackson, P. and Carroll, L. (1981), "Race and the war on crime", *American Sociological Review*, Vol. 46, pp. 290-305.
- Jackson, R.K. and McBride, W.D. (1985), *Understanding Street Gangs*, Custom Publishing Company, Costa Mesa, CA.
- Jacobs, D. and Britt, D. (1979), "Inequality and the legal order: an ecological test of the conflict model", *Social Problems*, Vol. 25, pp. 403-12.
- Jacobs, D. and O'Brien, R. (1998), "The determinants of deadly force: a structural analysis of police violence", *American Journal of Sociology*, Vol. 103, pp. 837-62.
- Katz, C.M. (1997), "Police and gangs: a study of a police gang unit" Doctoral dissertation, University of Nebraska at Omaha, Omaha, NE.
- Katz, C.M. (2001), "The establishment of a police gang unit: An examination of organizational and environmental factors", *Criminology*, Vol. 39 No. 1, pp. 301-38.
- Katz, C.M., Webb, V. and Schaefer, D. (2000), "The validity of police gang intelligence lists: examining differences in delinquency between documented gang members and non-documented delinquent youth", *Police Quarterly*, Vol. 3 No. 4, pp. 413-37.
- Kelling, G. and Moore, M. (1988), "The evolving strategy of policing", *Perspectives on Policing*, Vol. 4, National Institute of Justice, Washington DC.
- Kessell, J. (1962), "Governmental structure and political environment: a statistical note about American cities", *American Political Science Review*, Vol. 56, pp. 615-20.
- Kimberly, J.R. (1976), "Organizational size and the structuralist perspective: a review, critique, and proposal", *Administrative Science Quarterly*, Vol. 21, pp. 571-97.
- King, W.R. (1999), "Time, constancy, and change in American municipal police organizations", *Police Quarterly*, Vol. 2 No. 3, pp. 338-64.
- Klein, M., Maxson, C.L. and Miller, J. (1995), *The Modern Gang Reader*, Roxbury Publishing Company, Los Angeles, CA.
- Klein, M.W. (1995), *The American Street Gang*, Oxford University Press, New York, NY.
- Knox, G., McCurrie, T., Lasky, J. and Tromanhauser, E. (1996), "The 1996 national law enforcement gang analysis survey: a research report from the national gang crime research center", *Journal of Gang Research*, Vol. 3, pp. 41-55.
- Kovandzic, T., Vieraitis, L. and Yeisley, M. (1998), "The structural covariates of urban homicide: reassessing the impact of income inequality and poverty in the post-Reagan era", *Criminology*, Vol. 36 No. 3, pp. 569-600.
- Kuhns, J. (1997), "Gang problems in the United States: what we really know and what we can potentially learn", unpublished manuscript, Community-oriented Policing Services Office.
- Land, K.C., McCall, P.L. and Cohen, L.E. (1990), "Structural covariates of homicide rates: are there any invariances across time and social space?", *American Journal of Sociology*, Vol. 95 No. 4, pp. 922-63.
- Langworthy, R. (1986), *The Structure of Police Organizations*, Praeger, New York, NY.
- Lawrence, P.R. and Lorsch, J.W. (1967), *Organization and Environment: Managing Differentiation and Integration*, Harvard University, Boston, MA.
- Liao, T.F. (1994), "Interpreting probability models: logit, probit, and other generalized linear models", *Quantitative Applications in the Social Sciences*, Vol. 101, Sage, Thousand Oaks, CA.

- Lineberry, R.L. and Fowler, E. (1967), "Reformism and public policies in American cities", *American Political Science Review*, Vol. 61, pp. 708-17.
- Liska, A. (1992), *Social Threat and Social Control*, SUNY Press, Albany, NY.
- Liska, A. and Chamlin, M. (1984), "Social structure and crime control among macrosocial units", *American Journal of Sociology*, Vol. 90, pp. 383-95.
- Liska, A., Chamlin, M. and Reed, M. (1985), "Testing the economic production and conflict models of crime control", *Social Forces*, Vol. 64, pp. 119-38.
- Liska, A., Lawrence, J. and Benson, M. (1981), "Perspectives on the legal order: the capacity for social control", *American Journal of Sociology*, Vol. 87, pp. 413-26.
- Lutz, J. (1989), "Emulation and policy adoptions in Canadian provinces", *Canadian Journal of Political Science*, Vol. 22, pp. 147-54.
- McCorkle, R. and Miethe, T. (1998), "The political and organizational response to gangs: an examination of a 'moral panic' in Nevada", *Justice Quarterly*, Vol. 15, pp. 41-64.
- Maguire, E. (2001), *Context, Complexity and Control: Organization Structure in Large Police Agencies*, SUNY Press, Albany, NY.
- Maguire, E., Zhao, J. and Lovrich, N. (1998), "Dimensions of community policing", unpublished manuscript, University of Nebraska at Omaha, Omaha, NE.
- Maguire, E.R., Zhao, J. and Langworthy, R.H. (2000), *The Structure of Large Municipal Police Organizations during the Community Policing Era*, Final Report to the National Institute of Justice, University of Nebraska at Omaha, Omaha, NE.
- Mastrofski, S.D. (1998), "Community policing and police organizational structure", in Brodeur, J.-P. (Ed.), *How to Recognize Good Policing*, Sage, Thousand Oaks, CA, pp. 161-89.
- Mastrofski, S.D. and Ritti, R.R. (2000), "Making sense of community policing: a theoretical perspective", *Police Practice and Research*.
- Mastrofski, S.D., Ritti, R.R. and Hoffmaster, D. (1987), "Organizational determinants of police discretion: the case of drinking-driving", *Journal of Criminal Justice*, Vol. 15, pp. 387-402.
- Maxson, C. and Klein, M. (1990), "Defining and measuring gang violence", in Huff, C.R. (Ed.), *Gangs in America*, Sage Publications, Newbury Park, CA.
- Menard, S. (1995), "Applied logistic regression analysis", *Sage University Paper Series on Quantitative Applications in the Social Sciences*, Sage, Thousand Oaks, CA, pp. 07-106.
- Meyer, J. and Rowen, B. (1992), "Institutional organizations: formal structure as myth and ceremony", *American Journal of Sociology*, Vol. 83, pp. 340-8.
- Meyer, M. (1979), "Organizational structure as signaling", *Pacific Sociological Review*, Vol. 22, pp. 481-500.
- Mizruchi, M.S. and Schwartz, M. (Eds) (1987), *Intercorporate Relations: The Structurd Analysis of Business*, Cambridge University Press, New York, NY.
- Moore, J. (1990), "Gangs, drugs, and violence. Drugs and violence: causes, correlates, and consequences", in De La Rosa, M., Lambert, E. and Gropper, B. (Eds), *NIDA Research Monograph*, Vol. 103.
- Nagelkerke, N.J. (1991), "A note on a general definition of the coefficient of determination", *Biometrika*, Vol. 78, pp. 691-2.
- Nalla, M., Lynch, M. and Leiber, M. (1997), "Determinants of police growth in Phoenix, 1950-1988", *Justice Quarterly*, Vol. 14, pp. 115-43.
- Needle, J. and Stapleton, W. (1983), *Police Handling of Youth Gangs*, Reports of the National Juvenile Justice Assessment Centers, Government Printing Office, Washington, DC.
- Office of Juvenile Justice and Delinquency Prevention (1997), *1995 National Youth Gang Survey*, Office of Juvenile Justice and Delinquency Prevention, Washington DC.

-
- Oliver, C. (1990), "Determinants of interorganizational relationships: integration and future directions", *Academy of Management Review*, Vol. 11, pp. 241-65.
- Pfeffer, J. and Salancik, G. (1978), *The External Control of Organizations*, Harper & Row, New York, NY.
- Putnam, R.D. and Yonish, S. (1999), "How important is response rate? An evaluation of a 'mail panel' survey archive", unpublished paper, Harvard University, Cambridge, MA.
- Reimann, B.C. (1973), "On the dimensions of bureaucratic structure: an empirical reappraisal", *Administrative Science Quarterly*, Vol. 18, pp. 462-76.
- Roncek, D.W. (1991), "Using logit coefficients to obtain the effects of independent variables on changes in probabilities", *Social Forces*, Vol. 70, pp. 509-18.
- Rosenfeld, R., Bray, T. and Egley, A. (1999), "Facilitating violence: a comparison of gang-motivated, gang-affiliated, and non-gang youth homicides", *Journal of Quantitative Criminology*, Vol. 15 No. 4, pp. 495-516.
- Rush, J.P. (1996), "The police role in dealing with gangs", in Miller, J.M. and Rush, J.P., *Gangs: A Criminal Justice Approach*, Anderson Publishing Company, Cincinnati, OH.
- Sanchez-Jankowski, M. (1991), *Islands in the Street*, University of California Press, Berkeley, CA.
- Sanders, W. (1994), *Gang-bangs and Drive-bys*, Aldine/De Gruyter, New York, NY.
- Scott, W.R. (1992), "Introduction: from technology to environment", in Meyer, J.W. and Scott, W.R. (Eds), *Organizational Environments*, Sage Publications, London.
- Scott, W.R. (1995), *Institutions and Organizations*, Sage Publications, Thousand Oaks, CA.
- Sorensen, J., Marquart, J. and Brock, D. (1993) "Factors related to killings of felons by police officers: a test of the community violence and conflict hypotheses", *Justice Quarterly*, Vol. 10, pp. 417-40.
- Spergel, I.A. (1995), *The Youth Gang Problem: A Community Approach*, Oxford University Press, New York, NY.
- Stinchcombe, A.L. (1965), "Social structure and organization", in March, J.G. (Ed.), *Handbook of Organizations*, Rand-McNally, Chicago, IL.
- Stolzenburg, R.M. (1979), "The measurement and decomposition of causal effects in non-linear and non-additive models", in Schuessler, K.F. (Ed.), *Sociological Methodology 1980*, Jossey-Bass, San Francisco, CA, pp. 459-88.
- Swanson, C. (1979), "A comparison of organizational and environmental influences on arrest policies", in Meyer, F.A. Jr. and Baker, R. (Eds), *Determinants of Law-Enforcement Policies*, Lexington Books, Lexington, MA.
- Tolbert, P.S. and Zucker, L.G. (1983), "Institutional sources of change in the formal structure of organizations: the diffusion of Civil Service reform, 1880-1935", *Administrative Science Quarterly*, Vol. 28, pp. 22-39.
- Tolbert, P.S. and Zucker, L.G. (1997), "The institutionalization of institutional theory", in Clegg, S.R., Hardy, C. and Nord, W.R. (Eds), *The Handbook of Organization Studies*, Sage Publications, Thousand Oaks, CA.
- Tolnay, S. and Beck, E.M. (1992), "Racial violence and black migration in the south, 1910 to 1930", *American Sociological Review*, Vol. 57, pp. 103-16.
- Tomaskovic-Devey, D., Leiter, J. and Thompson, S. (1994), "Organizational survey non-response", *Administrative Science Quarterly*, Vol. 39, pp. 439-57.
- Turk, A. (1969), *Criminality and Legal Order*, Rand McNally, Chicago, IL.
- United States Census Bureau (1990), 1990 Decennial Census, Summary Tape File Extract 3A.
- United States Census Bureau (1993), *We the American ... Hispanics*, GPO, Washington DC, September.

- Venkatesh, S. (1997), "The social organization of street gang activity in an urban ghetto", *American Journal of Sociology*, Vol. 103 No. 1, pp. 82-111.
- Walker, S. and Katz, C.M. (1995), "Less than meets the eye: police department bias crime units", *American Journal of Police*, Vol. 14, pp. 29-48.
- Walker, S., Spohn, C. and DeLone, M. (1996), *The Color of Justice*, Wadsworth, Belmont, CA.
- Weisel, D. and Painter, E. (1997), *The Police Response to Gangs: Case Studies of Five Cities*, Police Executive Research Forum, Washington DC.
- Wilson, J.Q. (1968), *Varieties of Police Behavior: The Management of Law and Order in Eight Communities*, Harvard University Press, Cambridge, MA.
- Zatz, M.S. (1987), "Chicano youth gangs and crime: the creation of a moral panic", *Contemporary Crises*, Vol. 11, pp. 129-58.
- Zhao, J. (1995), "Contemporary organizational change in community-oriented policing: a contingency approach", Doctoral dissertation, Washington State University, Pullman, WA.
- Zhao, J. (1996), *Why Police Organizations Change: A Study of Community-Oriented Policing*, Police Executive Research Forum, Washington DC.

Further reading

- Fox, J. (1991), "Regression diagnostics", *Sage University Paper Series on Quantitative Applications in the Social Sciences*, Sage, Thousand Oaks, CA, p. 79.
- Leiber, M. (1994), "A comparison of juvenile court outcomes for native north American Indians, African-Americans, and Whites", *Justice Quarterly*, Vol. 11, pp. 257-79.
- Pate, A. and Fridell, L. (1993), *Police Use of Force*, Police Foundation, Washington DC.
- Pyndick, R.S. and Rubinfeld, D.L. (1998), *Econometric Models and Economic Forecasts*, 4th ed., Irwin/McGraw-Hill, Boston, MA.
- Scott, W.R. (1977), "Effectiveness of organizational effectiveness studies", in Goodman, P. and Pennings, J. (Eds), *New Perspectives on Organizational Effectiveness*, Jossey-Bass, San Francisco, CA.
- Spergel, I.A. and Curry, G.D. (1993), "The national youth gang survey: a research and development process", in Goldstein, A.P. and Huff, C.R. (Eds), *The Gang Intervention Handbook*, Research Press, Champaign, IL.