PATTERNS OF COMMUNITY
POLICING IN NONURBAN AMERICA

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To date, most community policing research has taken place in large urban areas. Only a handful of studies, most using case study or small-N cross-sectional methodologies, have explored patterns of community policing in the small police agencies and nonurban areas that exist throughout much of the United States. Using data from the Justice Department's Office of Community Oriented Policing Services, this study examines levels and patterns of community policing implementation in a sample of nearly 6,000 American law enforcement agencies serving populations less than 50,000. The authors find significant variations in levels of community policing activity by geographic region and department size, with larger agencies and those from the Western region of the United States practicing a wider range of community-policing-related activities. The implications of these findings are discussed for three areas: future research on the police, current federal community policing programs and policies, and the broader community policing reform movement.

The community policing movement is sweeping throughout the United States, fueled by a number of potent catalysts, including recent federal legislation designed to stimulate local police agencies to implement community policing strategies; growing media coverage of community policing success stories; increased police awareness of its political, public relations, fear-reduction, and crime prevention benefits; and the broader reinventing government movement that is reshaping many public-sector industries. Despite the attention that community policing is receiving, there is still a

fundamental concern about the degree to which its basic precepts are actually being implemented throughout the country. Recent research indicates that community policing implementation is uneven across both individual agencies and various cross sections of agency and jurisdiction types (Maguire forthcoming; Sadd and Grinc 1994; Weisel and Eck 1994; Wycoff 1994). Scholars familiar with police history have raised the possibility that the community policing movement might someday encounter the same fate as some of the unsuccessful police reform strategies (e.g., "team policing") that have emerged in prior decades (Bayley 1988; Walker 1993). Nevertheless, federal community policing dollars from the 1994 Violent Crime Control and Law Enforcement Act (the "Crime Act") are flowing at a record rate into thousands of state and local law enforcement agencies throughout the country.

To date, most community policing research has taken place in large urban areas. Only a handful of studies, most using case study or small-N cross-sectional methodologies, have explored patterns of community policing in the nonurban areas that comprise much of the United States (Bobinsky 1994; Cox 1992; Kratcoski and Blair 1995; Wiatrowski 1995). These studies have been helpful in delineating possible patterns of community policing implementation in nonurban America, but their ability to draw inferences about community policing strategies in a large cross section of agencies is limited by their methodological designs. Other recent studies, based on larger samples of small agencies, have been useful in generating a more reliable snapshot of community policing activities (Trojanowicz 1994; Weisheit, Wells, and Falcone 1994a, 1994b; Wycoff 1994).[1]

This study reports on a late 1994 survey of community policing practices in nearly 6,000 law enforcement organizations throughout the United States serving populations of fewer than 50,000. This sample of agencies comprises nearly half of all general purpose local law enforcement agencies in the country (Reaves 1993; U.S. General Accounting Office 1995). Data from this sample of agencies are first used to provide a comprehensive and timely portrait of community policing practices in police agencies serving small jurisdictions throughout the United States. We then examine the effects of several contextual features on levels of community policing activity in this sample of police organizations. Finally, we discuss the implications of this study for police reform and scholarly research on the police.

COMMUNITY POLICING

Community policing is widely hailed as what is new and right in American policing. For the last decade, the community policing movement has gained

a lot of attention and support among scholars, reformers, politicians, and the public. Police chiefs are pressured by citizens and local government officials to start "doing" community policing. A number of professional police organizations—including the Police Executive Research Forum, the Police Foundation, the International Association of Chiefs of Police, the National Organization of Black Law Enforcement Executives, and the National Sheriff's Association—have endorsed community policing as the wave of the future.[2] The U.S. presidents Bill Clinton, George Bush, and Ronald Reagan have all supported community policing (Mastrofski and Uchida 1993). And with the recent passage of the 1994 Crime Act, community policing has received a legislative seal of approval from the federal government. The message is simple and clear: Police agencies who want strong public support, the right image, or federal funding to hire new police officers under the Crime Act *must implement community policing* (U.S. Congress 1994).

Given the tremendous pressure that has developed over the last decade for American police agencies to implement community policing, many have succumbed to the incentives for reform. In Wycoff's (1994) sample of American police agencies, 52 percent of those serving populations less than 50,000 reported that they have either already adopted community policing or are currently in the planning or implementation process. Only 48 percent reported that they have no plans to adopt community policing at all. As the community policing movement continues to spread throughout the country, many of these "holdouts" will probably begin to implement community policing strategies in the near future.

Although many American police departments say that they already have implemented, or are planning to implement, community policing, critics express concern about the extent to which these agencies have actually made substantive changes. Community policing has become the new rhetoric of policing, and many people, including the police, do not understand what the term really means (Hunter and Barker 1993). For some, it means instituting foot patrols and bicycle patrols, getting out of patrol cars, and a host of other activities that are designed to bring police officers closer to the communities they serve. For others, it means order maintenance, cleaning up tattered neighborhoods, revitalizing depressed areas, and fixing "broken windows" (Wilson and Kelling 1982). For many agencies, community policing is nothing more than a series of "canned" community-relations programs, including Drug Abuse Resistance Education (D.A.R.E.), Neighborhood Watch, and a variety of others. Some of the original "architects" of the community policing movement lament that *anything* new and innovative in policing, from the mundane to the ambitious, is (mis)labeled as community policing (Goldstein 1994; Skolnick and Bayley 1988). For many critics,

community policing is more rhetoric than reality: nothing more than image management or a public relations gimmick (see Greene and Mastrofski 1988). As Bayley (1988) warned, "[I]t is a trendy phrase spread thinly over customary reality. Unless the state of affairs changes, . . . it will be remembered as another attempt to put old wine into new bottles" (pp. 225-26).

Most scholars and police executives who support the community policing movement view it not as a program but as a new philosophy of policing. To reformers, the new philosophy means more than implementing ministations and foot patrols, or setting up neighborhood watches. Community policing, in its ideal sense, means changing the traditional definition of policing from one of crime control to one of community problem-solving and empowerment (Goldstein 1990; Wilson and Kelling 1982). In addition to redefining the police mission, a practical shift to a community policing strategy means changing the "principal operating methods, and the key administrative arrangements of police departments" (Moore 1992:103). The reform literature consistently highlights three integral dimensions: engaging and interacting with the community, solving community problems, and adapting internal elements of the organization to support these new strategies (Bayley 1994; Community Policing Consortium 1994).

In its ideal sense, then, community policing promises to fundamentally transform the way police do business. Contemporary reformers argue that police should not be so obsessed with routine *people processing activities* (e.g., making arrests, filling out reports, issuing citations) but should focus instead on *people-changing activities* (Mastrofski and Ritti 1995). These include building up neighborhoods, designing custom solutions to local problems, forging partnerships with other community agencies, and a variety of other nonroutine police activities. The extent to which the police in small-town and rural America have successfully transformed their operational strategies during the community policing era remains unknown.

POLICING NONURBAN AMERICA

Although our knowledge of the police has increased rapidly in the last three decades, much of this knowledge has come from studying the several hundred largest American police agencies. Figures vary by source, but one recent study estimates that there are about 20,000 publicly funded state and local law enforcement agencies in the United States (Maguire et al., 1997).[3] This large number serves as an obstacle to collecting information from a broad cross section of American police agencies. Reiss (1992) argued that most scholarly studies of the police focus disproportionately on "large

metropolitan police departments from the Eastern region of the United States" (p. 54). As a result, some scholars have suggested that research on American policing tends to suffer from an urban bias (Crank 1990; Weisheit, Wells, and Falcone 1995).

Although smaller police agencies have not received much research attention, they have certainly been recognized in recent federal legislation. The 1994 Crime Act mandates that 50 percent of all community policing funds distributed to police agencies must be earmarked for jurisdictions serving populations of less than 150,000 (U.S. Congress 1994). As of May 1996, the federal government had already approved nearly 1 billion dollars of Crime Act funds for community policing grants to over 7,600 jurisdictions serving populations under 50,000 (Office of Community Oriented Policing Services 1996).

Compared to what they know about urban police departments, scholars know very little about small police agencies and police agencies serving rural and suburban areas (Cordner 1995). Nearly 15,000 of the 17,000+ police departments known to the U.S. Census Bureau serve populations of less than 50,000, yet virtually nothing has been written about them (Reaves 1993). Weisheit and his colleagues (1994b) began their review of crime and policing in rural and small-town America with the comment: "[T]o describe the volume of literature on rural crime and rural policing as scant would be too generous" (p. 1). Even when these police agencies are acknowledged in publications, they are either discussed as similar to urban agencies[4] or ascribed a lower status than their urban counterparts. For example, Pat Murphy, former police commissioner in several large U.S. cities, argues that

> a great many American communities are policed by a farcical little collection of untrained individuals who are really nothing more than guards. These genuinely small departments (fewer than twenty-five sworn officers), to begin with, tend not to have much of a franchise by and large; with small territory and limited clientele, they do not face much of a crime problem. (Murphy and Plate 1977:71-72)

Murphy echoes the sentiments of many vocal critics in the 1960s and 1970s who called for the elimination or merger of small police departments as one way of promoting police professionalism in the United States (see Ostrom, Parks, and Whitaker 1978; Ostrom and Smith 1976).

A limited amount of research on policing outside of metropolitan areas has begun to appear in recent years. For example, Cordner (1989) found mixed results in his examination of the relationship between police agency size and investigative effectiveness, although small agencies clearly had higher crime clearance rates than larger agencies. Weisheit et al. (1994a, 1994b) investigated the dynamics of crime, police behavior, and community policing in "small-town and rural America." Crank (1989, 1990) and Crank and Wells (1991) outlined some of the causes and effects of organizational features in small and medium-sized police agencies in Illinois. Bayley (1994) reported a number of differences among his sample of rural, suburban, and urban police precincts in five nations. For instance, calls for service increased and percentage of officers on patrol decreased with urbanization. Furthermore, Cordner (1995) prepared a descriptive document on "small town, rural, and special policing," including, as an appendix, a bibliography of articles on small-town and rural policing. Nearly all of these articles appeared in trade journals, such as the *FBI Law Enforcement Bulletin* or the *Campus Law Enforcement Journal*. They typically describe innovative programs in single departments, thereby offering little general descriptive knowledge of policing in small areas. At the national level, the ongoing data collection initiatives of the Bureau of Justice Statistics are beginning to fill a descriptive gap in our knowledge of the police in small towns (e.g., Reaves 1990, 1993).

Only three published studies have examined levels and patterns of community policing implementation among a cross section of nonurban police departments. First, on the basis of anecdotal evidence derived from interviews with 46 rural sheriffs and 28 small-town police chiefs, Weisheit et al. (1994a:565) reported that community policing "is not simply and invariably identical to rural policing. Rather, community policing is a formalized and rationalized version of small town policing." They suggest that the levels of community policing implementation in small-town and rural America vary according to whether one defines community policing in formal or informal terms. Informally, many small-town and rural agencies are practicing elements of community policing; however, the number of agencies practicing formal aspects of community policing is smaller. Second, on the basis of a survey conducted jointly between the Federal Bureau of Investigation and Michigan State University, Trojanowicz (1994) found that 66 percent of the 148 responding police departments that serve populations under 50,000 practiced community policing. Their ability to draw inferences about the national scope of these findings is limited because the sampling frame was nonrandom, consisting of agencies that had contacted the National Center for Community Policing in the 18 months prior to the survey. Last, in the cross-sectional study of community policing with the largest random sample of small police agencies to date, Wycoff (1994) found that 21 percent of the 795 agencies serving populations under 50,000 currently practiced community policing, and another 31 percent were in the midst of planning or implementing community policing strategies.

Although this limited body of research has begun to fill some of the gaps in our knowledge of American policing, there remains a tremendous area of unexplored empirical territory. The extent to which the rural areas, towns, townships, and small cities that comprise much of the United States have embraced the community policing movement remains unknown. The limited empirical research findings to date suggest that the community policing movement is progressing, although somewhat slowly, among the small police agencies of America. There is some evidence, however, that implementation patterns vary widely among various cross sections of small agencies. Prior studies have noted differences in community policing implementation according to a number of contextual features that impact police agencies. This study will examine the extent to which broad contextual features might influence the implementation of community policing in a large sample of small police agencies.

CONTEXTUAL INFLUENCES ON COMMUNITY POLICING

The notion that organizations are influenced strongly by the contexts, environments, or institutional milieu in which they are embedded is well established in organizational theory (Pfeffer and Salancik, 1978; Scott 1992), criminal justice theory (Duffee 1990; Hagan 1977, 1989), and police theory (Crank 1990; Crank and Langworthy 1992; Crank and Wells 1991; Langworthy 1986; Mastrofski 1994; Wilson 1968; Zhao 1996). Theoretical explanations for how contexts shape organizations vary widely, but several contextual features have assumed a prominent role in prior research on the police. Research on community policing, in particular, has shown that region of the country, size of the agency, community characteristics, and type of department all affect implementation patterns.

Region

Scholars have frequently observed regional variations in American policing and other types of public policies and programs. Unfortunately, justifications for including regional variables in models of policing have traditionally ranged from none at all to the convenient explanation "it is something that must be controlled for." Perhaps even more unfortunate is that theoretical explanations of the reasons for regional variation in policing have not significantly improved during the last three decades (Lineberry and Fowler 1967; Swanson 1979).

Scattered works in the policing literature suggest three possible reasons for examining regional effects: (1) regional differences in political structures, (2) regional variation in innovation diffusion networks, and (3) regional differences in the historical development of the police, including police reform. James Q. Wilson first identified a relationship between local political culture and aggregate patterns of police behavior in 1968. Political structures tend to be regional in nature, with the West characterized by progressive nonpartisan council-manager forms of government and the Northeast by traditional partisan, mayor-council forms of government. If progressive local governments are more reform oriented, then to the extent that local governments influence styles of policing, departments in the western region of the United States might embrace police innovations more readily. Although there is little research on innovation diffusion in American policing, recent research by Weiss (1994) suggests that local police agencies may look to certain other key agencies within their region for obtaining current information on innovations in policing. Although this is beyond the scope of Weiss's research, it may be that regional innovation diffusion networks develop in different ways, thus prompting regional variations in patterns of innovation adoption. Finally, regional variation may simply be a product of differences in the historical development of the police in different regions. Langworthy and Travis (1994), for instance, highlighted the differences in the evolution of policing in the Northeast, the South, and the "frontier." Further research is needed to disentangle these and other effects that might be responsible for producing regional variations in policing.

Regardless of the reasons for regional variation, prior research on community policing has consistently identified regional differences. Wycoff (1994) found that Western municipal agencies of any size and Western sheriffs serving larger jurisdictions were more likely to be engaged in community policing than were agencies from other regions, with the South coming in second. Zhao (1996) reported similar findings, with his random sample of police agencies (serving populations greater than 25,000) in the Northeast and Central regions reporting significantly fewer community policing activities than those in the West. Whether these regional variations persist among smaller agencies remains unknown.

Department Size

The effect of department size on the adoption of community policing innovations is not clear. Larger departments, because they have more (human) resources, may have the opportunity to participate in a broader range

of community policing activities. Research by Yeh (1994) showed that 68 percent of cities with populations over 100,000 had adopted community policing as compared with only 42 percent of medium-sized cities (50,000-100,000). Similarly, Wycoff (1994) found that large municipal police agencies were twice as likely to be involved in community policing as small municipal agencies. However, in his public opinion survey, Flanagan (1985) found that citizens from smaller communities preferred police to perform a wider variety of functions, whereas those from larger jurisdictions preferred that police restrict their activities to the enforcement of criminal laws. Therefore, to the extent that public opinion influences police practices, one might expect police in smaller communities to engage in a broader array of service-related activities, some of which could be considered to be community policing. Those studies that have identified a size effect on community policing implementation have compared large agencies with small agencies. Whether size continues to exert an effect *within* the category of small agencies remains unknown.

Community Characteristics

Various community characteristics might also influence styles of policing. The area, the density, and the population size of a community all affect police organizations in many ways.[5] Geographically large jurisdictions might have a good reason to install new ministations but might find foot patrols less useful. Densely populated areas provide police with unique opportunities to implement a variety of community policing programs such as Neighborhood Watch, foot and bike patrols, tenants' associations, and other activities that would not be possible in sparsely populated areas. Similarly, larger communities might simply offer more opportunities or demands for community-policing-related activities than smaller communities. No research, to our knowledge, has examined the effects of population density or area served on community policing implementation. Research confirms that community policing implementation is directly related to population size (Wycoff 1994; Zhao 1996). However, as Langworthy (1986) pointed out, population size and police department size are so highly correlated that it is often difficult to disentangle the two effects.

Department Type

The effects of department type on community policing implementation remain uncertain as well. Jurisdictions policed by sheriffs' agencies may be more apt to benefit from better police-community relations because the county sheriff is usually an elected position and therefore may be held more accountable to the citizenry. Falcone and Wells (1996) highlighted important differences between sheriffs' agencies and other forms of police organizations. For example, county sheriffs are often responsible for policing unincorporated rural areas. In such areas, they may be expected to provide a wider range of services because traditional social service agencies are either nonexistent or more remote than in incorporated or less rural areas traditionally served by local police agencies (Weisheit et al. 1995). On the other hand, Wycoff (1994) found that large municipal police agencies were twice as likely to be involved in community policing as sheriffs' departments of the same size. Although Native American police arrangements have not been studied frequently, limited evidence suggests that these agencies may also represent distinctive organizational forms (Depew 1992). Although department type appears to be an important contextual variable, its effect on community policing activities in small police agencies is unknown.

DATA AND METHODS

Data for this study were obtained from the Office of Community Oriented Policing Services (COPS), a component of the U.S. Department of Justice responsible for distributing federal community policing grants to police agencies throughout the United States and its territories. COPS has collected data from over 10,000 separate police agencies for a number of different community policing grant programs. The data used in this study were derived from police department applications to a police hiring program called COPS FAST (Funding Accelerated for Small Towns). The application asked police agencies to check off from a list of community policing activities those that they had already implemented or, separately, those that they planned to implement in the near future. In addition, agencies were asked to provide a written description of their community policing arrangements. All applications were reviewed by grant staff for completeness, internal consistency, and willingness to participate in community policing activities.[6] Of the nearly 6,000 applications received, 5,726 contained data of sufficient quality for inclusion in this study. The final sample of 5,726 police agencies contained the following distribution of agency types: local police (4,732), county police (5), sheriffs (877), Native American tribal law enforcement agencies (94), constables (3), and marshals (15). Sample agencies ranged in size from 1 part-time officer (.25 FTEs) to 409 full-time officers, with a mean of 16.7 and a median of 10 officers. These agencies served populations ranging from 106 to 49,949 people, with a mean of 11,205 and a median of 6,395.

Because of the nature of the data collection effort, the data used in this analysis *are not* assumed to be representative of all agencies serving populations under 50,000 in the United States. The agencies represented in this study are those that have provided either evidence of, or a desire to practice community policing, and have applied for federal grants to supplement those activities. Agencies completing this application had a strong incentive—federal grant dollars—to portray their community policing activities in the best possible light. Thus, although the results reported in this study may be based on a biased sample of agencies practicing a wider range of community policing activities than nonsample agencies, there is some evidence to suggest that the bias is limited. A 1995 study by the U.S. General Accounting Office (GAO 1995) found that about 49 percent of all eligible agencies applied for the COPS FAST program. In general, the agencies applying for COPS FAST had higher crime rates than nonapplicant agencies.[7] In addition, the majority of a GAO sample of nonapplicant agencies suggested that their reasons for not applying were cost related. Thus, although it is not possible to control for sample-selection bias using traditional statistical techniques (e.g., Berk 1983), there are two reasons to trust this sample. First, it is one of the largest samples of police agencies used in over three decades of police research. Second, we know about sources of potential bias: The sample agencies probably practice greater levels of community policing, have higher crime rates, and have greater leeway in their local government budgets than excluded agencies.

ANALYZING LEVELS OF COMMUNITY POLICING

To examine the effect of contextual factors on community policing, we first developed an index of community policing activities. We then analyzed each of the bivariate relationships between the community policing index and the contextual variables individually. Next, we estimated several multivariate models to examine the effects of each contextual variable controlling for the others. Finally, to provide a more thorough understanding of the contextual variables (beyond statistical significance levels), we estimated the predicted probabilities of various levels of community policing activity for agencies in different contexts.

Community Policing Index

All respondents were asked to check off from a list of 31 popular community policing activities those that they were currently practicing. The list covers a broad range of community policing activities, including internal organizational adaptations, community problem-solving activities, and a number of community interaction and engagement strategies. These types of activities are cited throughout the community policing reform literature (Bayley 1994; Community Policing Consortium 1994; Goldstein 1990; Greene, Bergman, and McLaughlin 1994; Moore 1992; Skolnick and Bayley 1986, 1988). See Table 1 for a list of the specific questions and the number of agencies participating in each type of activity. Agencies were not given a detailed explanation of the items, therefore interpretation was left to the respondents.

Responses to each of these questions were dummy-coded to indicate whether departments were currently performing, or engaging in, each of the individual community policing activities. These dummy variables were then combined into a 31-item index (range 0-31 with a median and mode of 13 community policing activities) gauging the extent to which departments were involved in a broad array of community policing activities. Reliability analysis of the 31-item index produced an alpha coefficient of .86.[8] Table 2 contains a frequency distribution for the Community Policing Index.

Bivariate Relationships

The first segment of the analysis examines the bivariate relationships between the Community Policing Index and five contextual variables. The first three contextual variables—size of the population served, number of full-time sworn officers, and total area of the jurisdiction in square miles served by the department—were all measured at the interval level. The last two contextual variables—region of the United States[9] and type of agency—were both measured at the nominal level.

Kruskal-Wallis one-way analysis of variance (ANOVA) tests were used to compare Community Policing Index rankings within regions and among different types of agencies.[10] The results are presented in Table 3. There were no significant differences in rankings according to type of agency (police, sheriff, or tribal);[11] however, levels of community policing did differ significantly across regions of the United States. Agencies serving nonurban areas in the West and the Northeast practiced more community policing activities than did those in the South and the Midwest, in declining order of rank.

As will be discussed in the following section, the Community Policing Index is not a natural interval-level variable. Therefore, for some of the following analyses, we transformed the index into an ordinal variable by dividing it into three categories: top third (21-31 activities), middle third (11-20 activities), and bottom third (0-10 activities).[12] One-way ANOVA tests

TABLE 1:   Number of Agencies Participating in 31 Community Policing Activities

Type of Community Policing Activity	Agencies	Percent
1 Community policing training for citizens.	691	12
2 Writing a strategic plan for community policing.	704	12
3 Citizen patrols within community.	716	13
4 Antiviolence programs.	918	16
5 Citizen advisory groups to law enforcement agency.	1,002	17
6 Locating office or stations within neighborhoods.	1,151	20
7 Develop partnerships with tenant's associations to combat crime.	1,316	23
8 Develop partnerships with police employee organizations to combat crime.	1,782	31
9 Community policing training for officers.	1,790	31
10 Citizens volunteer within law enforcement agency.	2,081	36
11 Regular meetings with community groups to discuss crime.	2,267	40
12 Develop partnerships with religious groups to combat crime.	2,281	40
13 Patrol officers perform foot, bike, and/or mounted patrol.	2,331	41
14 Patrol officers use business cards, cellular phones, or beepers to maintain contact with, and be contacted by, citizens (regarding public safety concerns).	2,432	42
15 Patrol officers make door-to-door contacts with citizens and businesses.	2,463	43
16 Citizens participate in antidrug or antiviolence programs.	2,648	46
17 Develop partnerships with neighborhood associations to combat crime.	2,778	49
18 Use computer systems to collect and analyze problem-solving information.	2,804	49
19 Youth programs (e.g., in-school, after-school, weekend police/youth programs).	2,832	49
20 Preventing crime by focusing on conditions that lead to crime (e.g., abandoned buildings and cars, referrals to other civil agencies).	2,875	50
21 Meeting with community leaders and groups to explain crime prevention techniques.	2,984	52
22 Developing partnerships with business groups to combat crime.	3,003	52
23 Citizens participate in Neighborhood Watch.	3,049	53
24 Working with other agencies to solve disorder problems (e.g., trash collection, public works agencies to solve lighting problems).	3,155	55
25 Develop partnerships with civic groups to combat crime.	3,298	58
26 Working in schools or other public agencies to teach crime prevention.	3,435	60
27 Identifying crime problems with members of the community and other government agencies (e.g., prosecutor and courts, social services, probation office).	3,579	63

TABLE 1:   Continued

Type of Community Policing Activity	Agencies	Percent
28 Identifying crime problems by looking at crime trends (e.g., keeping records of crimes and the types of requests for help).	3,834	67
29 Antidrug programs.	3,883	68
30 Develop partnerships with schools to combat crime.	4,476	78
31 Develop partnerships with other government agencies (e.g., probation office, sanitation) to combat crime.	4,582	80

were used to assess whether levels of community policing are influenced by population size, department size, or the area of the jurisdiction (see Table 4). As expected, the larger the population served and the larger the police agency in terms of sworn officers, the greater the levels of community policing activities. Area of the jurisdiction did not have a significant effect on levels of community policing.[13] Dividing the index into six levels (0-5, 6-10, 11-15, 16-20, 21-25, and 26-31 community policing activities) produced similar results.

Multivariate Relationships

The second stage of the analysis tests the stability of the bivariate relationships by estimating several multivariate models to examine the relationships between the Community Policing Index and the contextual variables previously discussed. First, treating the 31-item index as an underlying interval-scale variable, we estimated an ordinary least squares (OLS) regression model. Some of the contextual features could not be included in the model because they presented collinearity problems.[14]

Because the Community Policing Index is not a natural interval-level variable, OLS can only provide an approximation of "true" parameter estimates. Although the index was measured at the ordinal level, 31 categories are too many to estimate a model using regression techniques designed for ordinal dependent variables. Therefore, consistent with the bivariate analyses, we categorized the index into thirds and sixths to examine the marginal effects of the independent variables on different levels of the Community Policing Index. Ordered probit or logit models are the appropriate estimation techniques when the dependent variable is polytomous with ordinal response categories.[15] We used ordinal logit because it is easier computationally to estimate predicted probabilities from logit coefficients.[16] The results of the

TABLE 2:   Frequency Distribution of Community Policing Index

Number of Community Policing Activities Practiced	Number of Agencies	Cumulative Percentage	Number of Community Policing Activities Practiced	Number of Agencies	Cumulative Percentage
0	78	1.4	16	300	68.7
1	54	2.3	17	286	73.6
2	63	3.4	18	265	78.3
3	99	5.1	19	219	82.1
4	144	7.6	20	196	85.5
5	155	10.4	21	180	88.7
6	204	13.9	22	170	91.6
7	225	17.8	23	102	93.4
8	266	22.5	24	91	95.0
9	298	27.7	25	100	96.8
10	326	33.4	26	65	97.9
11	341	39.3	27	46	98.7
12	341	45.3	28	34	99.3
13	382	52.0	29	19	99.6
14	356	58.2	30	15	99.9
15	299	63.4	31	7	100.0

TABLE 3:   Kruskal-Wallis One-Way ANOVA[a] Comparing Community Policing Activities by Type of Agency and by Region of the United States

Community Policing Index by Agency Type			Community Policing Index by Region of the United States		
Mean Rank on Community Policing Index	N (5,703)	Agency Type	Mean Rank on Community Policing Index	N (5,726)	Region
2,868	4,732	Police	3,369	721	West
2,792	877	Sheriff	2,932	1,064	Northeast
2,627	94	Tribal	2,756	2,075	South
—	—	—	2,750	1,866	Midwest
$\chi^2 = 3.34, df = 2, p = .19$			$\chi^2 = 87.08, df = 3, p < .0001$		

a. ANOVA = analysis of variance.

first three regression models using the full sample are presented in Table 5. Because the sample of agencies was not randomly selected, estimates of the statistical significance of the coefficients may not be meaningful. However, p values are included here because some readers may find them useful in evaluating and/or comparing elements of the model.

TABLE 4:   One-Way ANOVA[a] Relating Area, Number of Full-Time Officers, and Population to Community Policing Activity Levels

Number of Community Policing Activities	Number of Agencies	Mean Area of Jurisdiction	Mean Number of Full-Time Sworn Officers	Mean Population Served
0-10	1,912	222.5	10.0	7,645
11-20	2,985	918.4	16.2	11,150
21-31	829	229.4	33.5	19,613
Total	5,726	586.2	16.7	11,205
F Ratio		1.2	463.7	326.9
F Probability		.3043	.0000	.0000

ANOVA = analysis of variance.

In addition, these same three analyses were run on a subset of the full sample using only local police departments. Previous research has shown that many law enforcement agencies other than local police departments, such as county or state agencies, are often unable to accurately estimate the size of the population or area that they serve because of jurisdictional overlap with other agencies (Maguire et al. 1997). To the extent that this assertion is valid, these variables would introduce measurement error into the full-sample models. Results from the three local-police-only regression models are presented in Table 6.

The F statistics for the OLS models and the chi-square statistics for the logit models confirm that all six equations are statistically significant; thus the independent variables have a jointly significant effect on levels of community policing. The significance levels suggest that in repeated sampling, we would only expect to find test statistics this high by chance less than 1 in 10,000 times.[17]

Many of the results varied widely across both samples (full sample and local-police-only sample) and across the three regression models used (OLS, ordered logit with three categories, and ordered logit with six categories). Some of the findings, however, were stable, exhibiting similar characteristics in all six equations. First, the area of the jurisdiction in square miles did not have a significant effect on the Community Policing Index in any of the six equations. Independent of other factors, the geographic size of a jurisdiction does not appear to influence the levels of community policing activities in small police agencies. Second, the region dummy variables exerted a statistically significant effect on the Community Policing Index in all six equations. There are substantial regional variations in levels of community policing among police agencies serving small jurisdictions throughout the

TABLE 5: Three Regression Models Predicting Number of Community Policing Activities (full sample, N = 5,714)

Variable	OLS[a] Dependent Variable = 31 Categories			Ordered Logit Dependent Variable = 6 Categories			Ordered Logit Dependent Variable = 3 Categories		
	β	SE	p	β	SE	p	β	SE	p
Area	0.16 E-4	.105 E-3	.880	0.21 E-4	.330 E-4	.518	0.26 E-4	.380 E-4	.500
Region 1	-2.63	.288	.000	-0.85	.091	.000	-0.84	.100	.000
Region 2	-2.21	.258	.000	-0.69	.081	.000	-0.70	.089	.000
Region 3	-2.14	.260	.000	-0.66	.081	.000	-0.65	.090	.000
Type 1	1.12	.574	.052	0.36	.179	.043	0.30	.195	.120
Type 2	0.70	.594	.237	0.17	.185	.350	0.10	.202	.609
PopArea	0.12 E-3	.448 E-4	.006	0.26 E-4	.140 E-4	.069	0.26 E-4	.160 E-4	.101
FTSW[c]	0.12	.414 E-2	.000	0.04	.149 E-2	.000	0.04	.171 E-2	.000
PopCop	0.15 E-3	.948 E-4	.123	0.63 E-4	.300 E-4	.032	0.73 E-4	.320 E-4	.025
Intercept 1	12.18	.578	.000	-4.26	.199	.000	-2.40	.201	.000
Intercept 2				-2.42	.184	.000	0.40	.197	.044
Intercept 3				-1.01	.181	.000			
Intercept 4				0.36	.181	.049			
Intercept 5				1.89	.184	.000			
	R^2 = .16, F = 124.6, p < .000001			χ^2 = 991.44, df = 9, p = .0001			χ^2 = 864.48, df = 9, p = .0001		

a. OLS = ordinary least squares.
b. DV = dependent variable.
c. FTSW = full-time sworn officers.

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TABLE 6: Three Regression Models Predicting Number of Community Policing Activities (local police sample only, N = 4,726)

Variable	OLS[a] Dependent Variable = 31 Categories			Ordered Logit Dependent Variable = 6 Categories			Ordered Logit Dependent Variable = 3 Categories		
	β	SE	p	β	SE	p	β	SE	p
Area	-0.49 E-04	.177 E-3	.780	-0.44 E-05	.560 E-4	.938	-0.02 E-03	.064 E-3	.740
Region 1	-2.70	.305	.000	-0.89	.964 E-1	.000	-0.87	.106	.000
Region 2	-2.34	.287	.000	-0.74	.907 E-1	.000	-0.75	.100	.000
Region 3	-2.09	.288	.000	-0.66	.906 E-1	.000	-0.66	.100	.000
PopArea	0.86 E-04	.452 E-4	.057	0.15 E-04	.140 E-4	.307	0.13 E-04	.016 E-3	.438
FTSW[c]	0.13	.450 E-2	.000	0.43 E-01	.165 E-2	.000	0.45 E-01	.191 E-2	.000
PopCop	0.48 E-04	.188 E-3	.798	0.30 E-04	.059 E-3	.606	0.37 E-04	.064 E-3	.564
Intercept 1	13.31	.291	.000	-3.93	.128	.000	-2.10	.108	.000
Intercept 2				-2.06	.099	.000	0.71	.102	.000
Intercept 3				-0.65	.093	.000			
Intercept 4				0.73	.094	.000			
Intercept 5				2.28	.101	.000			
	R^2 = .18, F = 152.4, p < .0000001			χ^2 = 944.01, df = 7, p = .0001			χ^2 = 836.29, df = 7, p = .0001		

a. OLS = ordinary least squares.
b. DV = dependent variable.
c. FTSW = full-time sworn officers.

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United States. Departments in the Western region of the United States report a mean score of 15.4 on the Community Policing Index, followed by 13.8 in the Northeast, 13.1 in the South, and 13.0 in the Midwest. Third, agency size has a consistent positive influence on levels of community policing in all six equations. Even within a sample of relatively small police agencies, larger departments practice more community policing activities than do smaller departments.

The remaining results are less stable, varying across different equations. First, at the .05 level, one of the department-type dummy variables is non-significant in one equation, barely significant in another, and borderline significant in another. The second department-type dummy variable is non-significant in all three equations (there is no department-type variable in the local-police-only sample). Local police have the highest mean score (13.5) on the Community Policing Index, followed by sheriffs (13.2), tribal police (12.5), county police (12.0), marshals (11.1), and constables (10.3). Whether the barely significant effects of department type on the Community Policing Index are random or systematic is unknown. Second, the effects of population density (population per square mile) on levels of community policing vary across equations. Density exerts a significant positive effect on the Community Policing Index in only one of six equations (full-sample, OLS). In both samples, the coefficients for the density variable are greatest in the OLS equation, followed by the six-category logit, and then the three-category logit. Whether this trend is random or systematic is unknown. Finally, the population-to-police ratio (PopCop) exerts a significant positive effect on the Community Policing Index in two of the six equations (full-sample, three- and six-category ordered logits). The significant effects indicate that as the number of people per police officer increases, so do levels of community policing activity, but this finding is not consistent across separate equations.[18]

Predicted Probabilities

In the final stage of analysis, holding the other independent variables constant at their means, we now estimate the predicted probabilities of various levels of community policing activity on the basis of selected values of size and region (which were the two variables demonstrating a consistent significant effect on the Community Policing Index). Using the coefficients from the six-category logit model presented in Table 5, and holding all other independent variables at their means, we estimate the following predicted probabilities that agencies from various regions will participate in 16 or more community policing activities: West (51.6 percent), Midwest (35.6 percent), South (34.9 percent), and East (31.3 percent).[19] Using the same methodology,

but instead selecting values for department size, we estimate the following predicted probabilities that agencies will participate in 16 or more community policing activities: 10 officers (30.5 percent), 25 officers (44.4 percent), 50 officers (68.4 percent), and 75 officers (85.4 percent). These predicted probability levels enable us to glean more than *statistical significance* levels from the regression equations. They demonstrate the *substantive effects* of size and region on community policing.

Taking these probabilities one step further, we now estimate predicted probability of community policing levels for different values of size and region *together*. The estimates, based on the six-category logit model using the full sample (listed in Table 5), are presented in Table 7. For example, the probability of a Western agency with 50 officers participating in only 0 to 5 community policing activities is 1.3 percent (.013), whereas the probability of the same agency participating in 26 to 31 community policing activities is 13.5 percent (.135). The probabilities can be added across columns to perform comparisons. For example, the predicted probability of a Western department with 50 officers participating in 16 or more of the 31 community policing activities is 80.1 percent, whereas the same probability for a Northeastern department with 20 officers is only 34.2 percent. Similarly, whereas the probability of a Western department with 50 officers participating in 10 or fewer community policing activities is only 6 percent, the same probability for a Northeastern department with 20 officers is 32.8 percent. These differences illustrate the joint substantive significance of region and department size as contextual influences on levels of community policing.

DISCUSSION AND CONCLUSIONS

The various regression models used in this analysis showed clearly that among agencies serving populations less than 50,000, larger departments and those from the western portion of the United States participate in a greater volume of community policing activities than do smaller agencies and those from other regions of the country. In addition, the geographic size of a jurisdiction is unrelated to levels of community policing activity in nonurban agencies. The remaining findings are mixed, with different contextual features exerting a significant effect on community policing in some equations and not others. Although the interpretation of these findings is somewhat unclear, it is probable that the effects are weak or unstable.

Several factors should be kept in mind when evaluating the results presented in this analysis. This study examined a secondary data source that was constructed by a government agency for the purpose of tracking grant

TABLE 7:   Predicted Probabilities of Community Policing Activity Levels by Region and Department Size

Region	Department Size	0-5 Activities	6-10 Activities	11-15 Activities	16-20 Activities	21-25 Activities	26-31 Activities
West	20 officers	.043	.129	.278	.319	.185	.045
	50 officers	.013	.047	.139	.305	.361	.135
Northeast	20 officers	.095	.233	.330	.229	.093	.020
	50 officers	.031	.098	.239	.336	.234	.063
South	20 officers	.082	.211	.327	.249	.107	.023
	50 officers	.026	.085	.219	.338	.259	.073
Midwest	20 officers	.080	.207	.326	.253	.110	.024
	50 officers	.025	.083	.215	.338	.264	.075

applications, not conducting social science research. Thus the instruments are not ideal, and the sample is not random. Nevertheless, the sample is one of the largest collections of agency-level police data that we are familiar with, and the findings should be considered robust. Although the sample is not random, an extensive study of the COPS FAST program conducted by the GAO (1995) suggests several possible areas in which sample agencies might be different from nonsample agencies, including crime rates and the fiscal health of the local government. In addition, agencies that either practice or want to practice community policing and are seeking federal funds to support these activities comprise the majority of the sample. Even though there is no way of knowing whether agencies fudged the community policing questionnaire, this again would contribute to bias in the same direction. The information reported in this study, in all probability, represents the best possible picture of community policing in small police agencies throughout the country.

Another area of concern in this study might be the nature of the dependent variable: level of community policing activities. Community policing is a complex innovation that has been defined in a number of ways. A high score on the Community Policing Index does not guarantee that a department has made the philosophical shift from rhetoric to reality that many reformers see as the core element of community policing. The Community Policing Index is simply a count of community-policing-related activities, not an overarching attempt to develop a comprehensive measurement model of community policing. Nobody, to our knowledge, has attempted yet to develop a measurement model of community policing. Measuring community policing would be a challenging research project in itself and is clearly beyond the scope of this study (Maguire forthcoming).

The results obtained in this study, although limited, have direct implications for current public policies relating to the police. Billions of dollars from the 1994 Crime Act are slated for dissemination to thousands of law enforcement agencies throughout the United States over the next several years. The one string that the federal government attaches to these dollars is that to receive the money, police agencies must implement, or continue practicing, community policing strategies. On the basis of the results of this research, the federal government should consider focusing more resources on smaller police agencies and those outside the Western region of the United States. Predicted probability levels showed that holding other variables constant, Western agencies have a 20 percent higher probability than Eastern agencies of practicing 16 or more community policing activities. Even larger differences were found across different categories of agency size. These variations in community policing activity are large and should be reflected in public policy.

Similarly, some of the tabular results reported in this study might also be fruitfully applied to public policy on the police. As shown in Table 1, 80 percent of the departments surveyed report that they have developed partnerships with other government agencies, 78 percent have developed partnerships with schools, and 68 percent participate in antidrug programs. On the other hand, only 12 percent have a strategic plan for community policing, only 31 percent provide community policing training for officers, and only 51 percent meet with the community to explain crime prevention techniques. Community outreach activities appear to be popular, but those that reflect an organization-wide commitment to community policing, such as training and strategic planning, are not so widely implemented. These patterns have direct implications for the spread of the community policing movement and should also be reflected in public policy.

Last, and perhaps most important, this research highlights the need for scholars to conduct further research on interdepartmental variations in policing styles and patterns of innovation adoption. By learning what factors are responsible for producing contextual variations in the volume of community policing activities that law enforcement agencies report, scholars can contribute valuable, lasting insights to those reformers at the helm of the community policing movement today.

NOTES

1. Studies of "small" police agencies use different terminology to describe the departments and the populations they serve. Rural agencies, small agencies, departments serving small populations, and nonurban agencies are often distinctly different from one another (Crank and

Wells 1991; Weisheit, Wells and Falcone 1995). However, taken together, they are also distinctively different from the large, urban, metropolitan police agencies that are frequently the focus of police research (Reiss 1992).

2. These five organizations have banded together to form a cooperative organization known as the Community Policing Consortium, which is administered and funded by the Office of Community Oriented Policing Services, U.S. Department of Justice. The consortium was founded to serve as a central hub for disseminating community policing training and information throughout the United States.

3. The United States, with its highly decentralized policing system, is unique among industrialized democracies. Most countries have far fewer police forces: Canada has 461, Japan 47, Britain 45, India 22, and Australia 8 (Bayley 1992, 1994). The large number of American police agencies makes it nearly impossible to track what each is doing.

4. Weisheit, Wells, and Falcone (1995) stressed this point, arguing that there is a clear "urban bias in research efforts concerning police organizations, management, operations, and methods in America" (p. 58).

5. In his discussion of how the environment affects organizations, Aldrich (1979) suggested that one important dimension is the "concentration-dispersion" continuum. Organizations serving geographically concentrated environments must often rely on different policies, strategies, and organizational forms than those serving geographically dispersed environments. Reiss (1992) implicitly discussed the importance of concentration-dispersion as police organizations have moved from decentralized, to centralized, and now back to decentralized modes of deployment.

6. Otherwise, no attempt was made to validate the responses contained in the community policing checklists. Grantees were later required to participate in traditional grant monitoring activities to ensure that federal funds were not misused. Thus their community policing activities were monitored after the grant was awarded. However, these later monitoring efforts were not used to validate the initial community policing checklists used in this study.

7. However, the crime rate did not have an effect on whether agencies were *awarded* a grant.

8. For purposes of all bivariate analyses, the 31-item community policing index was treated as an ordinal-level variable. Separate analyses treating the index as an underlying interval-level scale produced no significant differences.

9. Northeast ($n = 1,064$), South ($n = 2,075$), Midwest ($n = 1,866$), and West ($n = 721$).

10. Marshals ($n = 15$), constables ($n = 3$), and county police departments ($n = 5$) were dropped from these analyses because of insufficient numbers. Tribal agencies ($n = 94$) were included in a separate analysis but did not influence the results.

11. Constables and county police agencies were dropped because of insufficient numbers. We also reran the analysis comparing only police and sheriffs and there were still no differences.

12. We collapsed the 31-item index into a smaller number of ordinal categories because a one- or two-unit difference in scores is not substantively meaningful. The utility of the Community Policing Index is that it captures large (ordinal-level) differences in community policing activities, not subtle (interval-level) variations.

13. Significant eta coefficients were .36 for population and .43 for full time sworn.

14. Because population size and number of sworn officers were so highly correlated (.86), to eliminate multicollinearity problems, population size was dropped from the model and replaced by population per sworn officer. Although these are substantively different concepts, our interest in population size is motivated by the effect that it has on police workloads. Thus population per sworn officer is a reasonable substitute.

15. These models cannot be estimated using ordinary least squares (OLS) because the dependent variable is not measured at the interval level. McKelvey and Zavoina (1975) demonstrated how coefficients derived from OLS significantly underestimate the effects of regressors on ordinal dependent variables. Similarly, these models should not be estimated with multinomial logit, a similar tool for modeling nominal-level polytomous response variables, because this technique is incapable of using the ordinal nature of the dependent variables (Liao 1994).

16. We also estimated all of the same equations using ordered probit. The effects were nearly identical across both types of models.

17. Readers should keep in mind the effect of sample size on statistical significance levels. With the large samples used in this study, very small effects might produce low p values.

18. This finding may be due to the sources of potential measurement error discussed earlier. The ratio of citizens to police officers does not have a significant effect on levels of community policing activity in the local-police-only sample, but the effect *is* significant in the full sample.

19. In results presented earlier, agencies from the Northeast had a higher mean score on the Community Policing Index than those from the South or Midwest. The estimated probabilities presented here show that agencies from the South and Midwest are more likely to have higher scores on the Community Policing Index than those from the Northeast. This is not a mistake. The probability estimates are derived from a multivariate model with a number of other independent variables held constant. Although the Northeast has a higher mean score than the other two regions, introducing statistical controls into the model prompts a shift in the regional differences. This finding confirms the need for researchers examining regional variations in policing to control for the effects of organizational size.

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WELFARE AND HOMICIDE

JAMES DeFRONZO

This study analyzes homicide rates for 141 cities for which data on homicide, Aid to Families with Dependent Children (AFDC), cost of living, household status, and other social and economic variables were available. Cost-of-living-adjusted AFDC payment per recipient person was found to have an independent, direct negative impact on homicide rates and a separate indirect negative relationship to homicide rates through its association with household status. The results provided support for both strain theory and Sampson and Wilson's social disorganization-strain perspective.

What is the relation of welfare to homicide? Many political figures have argued that if there is a relationship, it is likely to be a positive indirect one. They have suggested that high levels of welfare assistance may promote criminogenic lifestyles, primarily by inducing many poor people to rationally choose to raise children in female-headed households and rely on government assistance rather than seeking gainful employment (thereby undermining traditional crime-limiting family patterns and values such as the two-parent household and the "work ethic"). More "liberal" politicians, in contrast, have suggested that high levels of welfare assistance may have a direct negative effect on homicide by acting to alleviate some of the economically generated stress among the poor that might otherwise result in homicide. Some have also speculated on a possible negative indirect effect of welfare on homicide in that higher levels of assistance, in lessening emotional stress, might promote educational achievement, more contraceptive use, and lessen child abuse (a form and general cause of violent crime; Widom 1989) and child homicide.

Research on the relation of welfare assistance to homicide, the crime thought to be most accurately represented in official statistics (Land, McCall, and Cohen 1990), is limited. DeFronzo (1983) found that variation in cost-of-living-adjusted levels of Aid to Families with Dependent Children (AFDC) assistance per person among 39 Standard Metropolitan Statistical