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MULTIWAVE ESTABLISHMENT SURVEYS OF POLICE ORGANIZATIONS

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Abstract

This article discusses the use of multiwave establishment surveys of American police organizations. It presents a definition and brief history of this set of methodologies, then discusses some of the well-known surveys within this genre. The essential elements of each survey are described, including sponsorship, sampling, methods of administration, item content, and contribution to knowledge about policing. The article concludes with some general impressions about these surveys, some of the useful lessons that might be learned from their use, and some suggestions for how they might be used to expand the present body of knowledge about policing.

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Surveys in which organizations are the unit of analysis (not the individuals within them) are known as "establishment" or "organizational" surveys (Dillman, 2002; Knoke, Marsden, & Kalleberg, 2002). Establishment surveys of police organizations are fairly common. A brief search of publications listed in the National Criminal Justice Reference Service (NCJRS) over the past 27 months (January 1, 2000, to April 1, 2002) revealed at least 10 separate establishment surveys of police organizations conducted on a wide variety of topics. Table 1 contains a listing of these surveys. It illustrates the diversity of topics that can be examined in such surveys.[1]

Table 1
Topics of Publications Listed in the NCJRS Database (from 1/1/2000 to 4/1/2002) That Used Data From Establishment Surveys of Police Agencies

Description	Sample Size	Response Rate	NCJRS #
Approaches to crime reduction	43	100.0%	186755
Citizen police academies	128[a]	86.0	188452
Hate crime policies	152[a]	60.8[b]	190199
Law Enforcement Management and Administrative Statistics, 1999	3,319[a]	97.8	184481
Measuring police innovation	431[c]	___[d]	185735
Relationships between police and news media	203[a]	84.9[e]	188563
Traffic stop data collection policies	49	100.0	191158
Training needs of SWAT teams	64[c]	___[f]	186387
Use of psychological profiles	46[a]	48.4	192002
Use of CCTV or video cameras	207[a]	21.0[g]	193283

[a] Final sample size excluding nonrespondents: based on the number of agencies that completed and returned a useable survey.
[b] I am grateful to Donald P. Haider-Markel at the University of Kansas for providing response rate information on this study.
[c] Initial sample size including nonrespondents: based on the number of agencies to whom surveys were sent or administered.
[d] A meaningful response rate cannot be calculated since this article relied on multiple data sets with different response rates.
[e] I am grateful to Professor Steven Chermak of Indiana University at Bloomington for providing response rate information on this study.
[f] Unknown.
[g] I am grateful to Laura Nichols at the International Association of Chiefs of Police for providing response rate information on this study.

[1] I have included NCJRS numbers rather than complete citations for each study. Citations for all studies are available in a searchable database, including NCJRS numbers, at http://www.ncjrs.org.

Another way to gauge the frequency of use of establishment surveys in policing is from the perspective of the police agencies required to complete such surveys. In 1993, the Police Foundation asked respondents to the police executive portion of its community policing survey to estimate the number of questionnaires they received since January 1, 1992. Depending on when the survey was completed, this represented about an 18-month period. The estimates ranged from 0 to 97, with a mean of 12 and a median of 6. Twenty-five percent of the respondents estimated that they received more than 15 surveys during the previous 18 months (Annan, 1994). It is likely that these numbers have increased somewhat in the wake of expanded federal funding for police research under the 1994 Crime Act.

The majority of establishment surveys in policing are cross-sectional, administered only once and used to draw inferences at a snapshot in time. A handful are repeated at periodic intervals, allowing for the possibility of analyzing organizational change. In this article, I refer to those surveys that are repeated over time as "multiwave" surveys. While this type of survey offers much promise for learning about change in police organizations, it is not nearly as prominent as the cross-sectional survey. The term "multiwave survey" conceals some variation in the kinds of surveys that are repeated over time. I use this general term to refer to (at least) three specific kinds of surveys:

1) *Panel surveys*, in which the same sample is surveyed repeatedly using the same (or a very similar) instrument,
2) *Repeated cross-sectional surveys*, in which the same instrument is used repeatedly on different samples, and
3) *Hybrid surveys*, in which portions of the same instrument are used repeatedly (though perhaps modified) and/or portions of the same sample are surveyed repeatedly (though perhaps augmented or adjusted in some way).

This report reviews the evidence on the nature of multiwave surveys of police agencies.

In addition, I limit the scope of my inquiry to those surveys that collect what Uchida, Bridgeforth, and Wellford (1986) refer to as "law enforcement management and administrative statistics."[2] The data collected in such surveys describe the inputs, processes, and outputs of policing. According to Uchida and his colleagues (1986, pp. 24–25),

> "input data are compiled which describe the demands for service (both crime and non-crime related) that are placed upon law enforcement agencies. The second type of data involves process data – the characteristics and processes of law

[2] Uchida and his colleagues used the acronym "LEMAS" to describe these kinds of statistics. Their study formed the basis for the well-known LEMAS surveys established in 1987 and conducted periodically by the Bureau of Justice Statistics. For more information about LEMAS, see Langworthy (2002).

enforcement agencies . . .. Finally, data concerning the performance of law enforcement agencies (output data) are included in the definition . . .."

This definition includes those surveys asking questions about calls for service, policies, procedures, practices, structures, personnel, innovations, arrests, use of force incidents, and civil suits. It excludes those surveys in which the primary focus is crime. It also excludes surveys in which the unit of analysis is an individual, whether a police chief, an officer, or a citizen.

Part One: A Brief History of Multiwave Establishment Surveys of Police Organizations

Throughout the history of data collection on policing, many multiwave establishment surveys of police organizations have been conducted. Some represent a coordinated effort by a team of research professionals who have secured external funding. Others represent the efforts of a single individual pursuing a research topic of personal or professional interest. Not all of these efforts will be reviewed here; instead, I have selected those of value for their historical contribution, their popularity, or their timely examination of current trends and issues.

The Uniform Crime Reports

The first multiwave survey of police organizations was established in 1930 by the Federal Bureau of Investigation and continues today. The Uniform Crime Reports (UCR) is a collection of different data collection instruments, some of which are of interest here and some of which are not. Of primary interest are three files: the Age, Sex, and Race (ASR) file, the Supplementary Homicide Reports (SHR) file, and the Police Employees (PE) file. Data for all three files are made available each year in the data archive at the Inter-university Consortium for Political and Social Research at the University of Michigan (hereafter referred to as ICPSR). I will discuss each of these files briefly.

The ASR file collects monthly arrest data (also available yearly) from police departments for 29 general offense categories, though some of the categories (like drug abuse violations) are divided into more specific offense types. Furthermore, arrests for each offense type are disaggregated by sex (2 categories), and age (22 categories). Twelve other categories represent various combinations of age, race, and ethnicity.[3] Thus, overall there are 56 separate variables for each offense type,

[3] An additional eight categories exist for age (adult and juvenile) and race (white, black, Indian, and Asian). An additional four categories exist for age (adult and juvenile) and ethnicity (Hispanic and non-Hispanic).

representing various combinations of age, sex, race, and ethnicity. These data have been used frequently by researchers to examine arrest rates for police departments.

The SHR file collects incident-level data on homicides in the United States. Because the data set contains an offense circumstance code for "felon killed by police," it can be used to estimate the use of deadly force in police agencies. The SHR has collected data on justifiable homicides by police since 1968, though the records maintained since 1976 have more complete information than previously (Brown & Langan, 2001). Several researchers have used the SHR data to study patterns of deadly force by police. For instance, Tennenbaum (1994) has used these data in a time series analysis to examine the effect of *Tennessee v. Garner* on the use of deadly force. Jacobs and O'Brien (1998) have used these data to explore the correlates of deadly force rates among American cities. The SHR data have therefore been useful for both cross-sectional and longitudinal research on the use of deadly force by American police agencies.

The Police Employees file collects data each year on the number of civilian and sworn police personnel, and the number of officers killed and assaulted. It also once collected data on the number of officers assigned to different beats, but those fields are no longer collected. The file has not been used often by researchers, though recently King and Maguire (2000) merged 24 years of Police Employees data (archived at ICPSR) to examine trends in civilianization. The Police Employees file is discussed in much more detail in another paper in this volume by Uchida and King (2002).

The ICMA Surveys

Starting in 1934, the International City Manager's Association (now called the International City/County Management Association) began collecting data from police organizations as part of its *Municipal Yearbook* series. The *Municipal Yearbook* issues include data on a variety of city government features, with police data only one small part of a much larger data collection effort that inquires about form of government, salaries of local officials, personnel practices, technology, economic development, and other related topics (Uchida, et al., 1986). The *Yearbooks* are compiled based on a variety of surveys conducted by the ICMA.

Currently, the ICMA survey most directly related to policing is the *Police and Fire Personnel, Salaries, and Expenditures Survey,* which is conducted annually. The ICMA provides summary findings and response rate information on this survey from 1993 to 2001 on its Web site.[4] This information is presented in Table 2, along with response rates for several other modern multiwave establishment

[4] http://icma.org/pdf/InfoResources/datsets.pdf (accessed 4/8/02).

Table 2
Six Multiwave Establishment Surveys of Police Organizations

Organization Responsible for Survey	Name of Survey	Wave	Year	Mode	Respondents	Response Rate
BJS	LEMAS, 1987	1	1987	Mail	2,907	95.2%
BJS	LEMAS, 1990	2	1990	Mail	2,945	94.5
BJS	LEMAS, 1993	3	1993	Mail	3,028	92.6
BJS	LEMAS, 1997	4	1997	Mail	3,412	94.9
BJS	LEMAS, 1999	5	1999	Mail	3,246	97.8
BJS	LEMAS, 2000	6	2000	Mail	2,985	97.4
BJS	Directory Survey, 1986	1	1986	Mail	16,707	100.0[a]
BJS	Directory Survey, 1992	2	1992	Mail	17,358	100.0[a]
BJS	Directory Survey, 1996	3	1996	Mail	18,769	100.0[a]
BJS	Directory Survey, 2000	4	2000	Mail	19,249	100.0[a]
ICMA	Police and Fire	1	1993	Mail	1,798	64.3
ICMA	Police and Fire	2	1994	Mail	1,470	52.3
ICMA	Police and Fire	3	1995	Mail	1,172	41.6
ICMA	Police and Fire	4	1996	Mail	1,449	51.0
ICMA	Police and Fire	5	1997	Mail	1,381	48.3
ICMA	Police and Fire	6	1998	Mail	1,399	49.0
ICMA	Police and Fire	7	1999	Mail	1,413	49.1
ICMA	Police and Fire	8	2000	Mail	1,327	46.0
ICMA	Police and Fire	9	2001	Mail	1,295	44.6
Police Foundation	Comprehensive Analysis of Community Policing Strategies (Wycoff, 1994)	1	1993	Mail	1,606	71.3
Macro International/ Police Executive Research Forum	Community Policing: 1997 National Survey Update of Police and Sheriffs' Departments (Rosenthal et al., 2000)	2	1997	Mail	1,835	74.7
Urban Institute	COPS Evaluation, Wave 1	1	1996	Phone	2,098	77
Urban Institute	COPS Evaluation, Wave 2	2	1997	Phone	515	85
Urban Institute	COPS Evaluation, Wave 3	3	1998	Phone	766	93
Urban Institute	COPS Evaluation, Wave 4	4	1999	Phone	1,270	86
Washington State Univ.	Municipal Police Dept, 1978	1	1978	Mail	—[b]	—[b]
Washington State Univ.	Municipal Police Dept, 1981	2	1981	Mail	—[b]	—[b]
Washington State Univ.	Municipal Police Dept, 1984	3	1984	Mail	—[b]	—[b]
Washington State Univ.	Municipal Police Dept, 1987	4	1987	Mail	—[b]	—[b]
Washington State Univ.	Municipal Police Dept, 1990	5	1990	Mail	221	78.6
Washington State Univ.	Municipal Police Dept, 1993	6	1993	Mail	210	74.7
Washington State Univ.	Municipal Police Dept, 1996	7	1996	Mail	246	87.5
Washington State Univ.	Municipal Police Dept, 2000–01	8	2000	Mail	229	81.5

Note. BJS = Bureau of Justice Statistics; LEMAS = Law Enforcement Management and Administrative Statistics; Directory Survey = Directory Survey of Law Enforcement Agencies; ICMA = International City/County Management Association; Police and Fire = Police and Fire Personnel, Salaries, and Expenditures; COPS Evaluation = National Evaluation of the COPS Program (Wave 4 was the Police Hiring and Retention Survey); Municipal Police Dept = National Survey of Municipal Police Departments.

[a] Represents an attempted census of every agency.
[b] Information not available.

surveys of police organizations. The response rates for the ICMA surveys tend to be lower than response rates for the other surveys listed in Table 2, although on average the instruments tend to be short (about five pages). Without more detailed study, I do not have a ready explanation for this finding.

While it is difficult to judge the utility of the ICMA data for practitioners and city managers, the data are not used very often in scholarly studies of the police. The data are not available in public archives, though they are available for a fee from the ICMA. Academic prices for the data sets on police range from $200 for those that are dated to $450 for the most current (2001) version. Commercial prices are triple the academic price.[5]

Other Administrative Surveys

Starting in 1951, the Kansas City Police Department (KCPD) and the Fraternal Order of Police (FOP) both began conducting annual surveys of police agencies. The FOP surveys asked questions about compensation and benefits, and the results were published in the FOP's *Survey of Salaries and Working Conditions* (Uchida, et al., 1986). The survey continued until at least the early 1980s, but is no longer being conducted.[6] Kansas City's General Administrative Surveys were more general, focusing on a variety of administrative characteristics, and were only sent to the largest agencies (the lower threshold for what constituted a large agency changed over time, but ranged from 100,000 to 300,000) (Farmer, 1978; Uchida, et al., 1986). The survey was terminated in 1973 due to municipal fiscal constraints. It was then reestablished in 1976 in concert with the Police Foundation. The 1978 version was published by the Police Foundation in *Police Practices: The General Administrative Survey* (Heaphy, 1986). I am not aware of the FOP data being used in any social scientific analysis. The Kansas City data were used by Langworthy (1986) in his examination of police organizational structures. Neither data set appears to be available in public archives. Other administrative surveys were conducted by various groups, but were not repeated. Uchida et al. (1986), in their review of law enforcement agency administrative statistics, conclude that many of these surveys resulted simply in tabular presentations of data by city or agency; little, if any, analysis was done.

[5] I am grateful to Sebia Clark of the ICMA for providing this information.

[6] A spokesman at the headquarters of the Fraternal Order of Police confirmed that this survey is no longer being conducted, but he did not know what year it ended. He pointed out that other organizations are now assembling similar data, including two Web sites (www.lris.com and www.policepay.net). Both contain data on salary and benefits for police agencies. I am grateful to Andrew Bitner of the FOP for providing this information.

Washington State University Surveys

The Division of Governmental Studies and Services (DGSS) at Washington State University, under the direction of Professor Nicholas Lovrich, has conducted a national mail survey of municipal police departments every three to four years since 1978.[7] The 2000–2001 survey represented the eighth wave of data collection. The instrument changes each year, retaining some questions, deleting others, and adding new ones designed to reflect the issues prominent at the time. For instance, the 1993–2000 surveys asked questions about community policing, the 2000 survey asked additional questions about technology, and the 2003 survey is slated to ask questions about racial profiling, forensic DNA, and homeland security issues related to terrorism. The sample has remained stable since the first wave, consisting of 281 municipal police agencies in 47 states (Zhao, Lovrich, & Thurman, 1999). According to Zhao (1996, p. 42), "the cities in the sample are selected from among those municipalities initially included in a 1969 representative national survey of police chiefs in cities with populations over 25,000, conducted by the International City Management Association."

The instruments from 1990–2000 range in length from 8 to 11 pages. Response rates are routinely high, one benefit of having established an ongoing relationship with the departments under study. Lovrich explained that the DGSS is careful to send reports summarizing the results to all respondents. Among the several "modern" multiwave establishment surveys listed in Table 2, the Washington State University series is unique in that it is self-sponsored, it is the only series that is based in a university, and it has probably produced the greatest amount of published scholarship, including one book (Zhao, 1996) and about a dozen articles and book chapters. Numerous other pieces are still in preparation and under review. Lovrich notes that the data are not archived, but are available to researchers from Professor Jihong Zhao at the Department of Criminal Justice, University of Nebraska at Omaha. Zhao is a former doctoral student at Washington State University who has published widely using the data.

Another unique aspect of the Washington State University surveys of police organizations is that the same cities are chosen for participation in a mail survey of City Clerks. The survey instrument is much shorter, and contains a variety of questions asking about the form of government, local political culture, and other characteristics of local government. Together, these data sets are useful for examining the relationships between police organizations and their local environments (see Zhao, 1996).

[7] I am grateful to Professor Nicholas Lovrich for providing copies of his survey instruments and answering several questions that arose during the preparation of this section.

Directory Surveys

In 1986, the Bureau of Justice Statistics (BJS) launched its Directory Survey of Law Enforcement Agencies series with the help of the U.S. Census Bureau. The 1986 survey was intended to create an updated and accurate list of all law enforcement agencies in the nation. This list could then be used to "provide a universe from which a sample of law enforcement agencies could be selected based on the number of sworn officers" (Bureau of Justice Statistics, 1986, p. 11). The first survey resulted in a final list containing 16,707 agencies. The survey contained only a handful of questions asking about the type of agency, the scope of its geographic jurisdiction, whether the agency runs a jail facility, and the number of sworn and non-sworn employees.

The Directory Survey was repeated in 1992, 1996, and 2000. The 1992 survey resulted in a list containing 17,358 agencies. While the 1992 instrument changed little from the 1986 version, the 1996 instrument contained some important additions: the number of officers responding to calls, the number of investigators, the number of officers working in jails, and the number of officers working in courts. In 1996, the list of agencies grew to 18,769. In 2000, the list grew to 19,249 agencies.[8]

A few observations about the Directory Survey series are noteworthy. First, the survey is not a sample survey, it is a census. The codebooks accompanying each data set are careful to point out that the data sets are based on a 100% response rate. Certainly the methods used to achieve this response rate could be instructive to other researchers doing survey research on police organizations. Second, the increases in the number of agencies listed in the databases should not be interpreted as an increase in the number of agencies in the nation. The Bureau of Justice Statistics has been working hard to ensure that its list is comprehensive, and that effort is responsible for much of the increase in the population size. Finally, while the scope of the 1992 survey was criticized as incomplete (Maguire, Snipes, Uchida, & Townsend, 1997), these errors have been effectively addressed in the 1996 and 2000 versions. Therefore, the Directory Survey now serves two important roles: as the primary source for descriptive information about the population of law enforcement agencies in the United States, and as an effective sampling frame for sample surveys of these agencies.

Law Enforcement Management and Administrative Statistics

The major multiwave establishment survey in American policing is the Law Enforcement Management and Administrative Statistics (LEMAS) series produced by BJS. The LEMAS series was launched in 1987, and has been repeated in 1990,

[8] I am grateful to Matthew Hickman from BJS for providing information on the 2000 Directory Survey and the 2000 LEMAS survey.

1993, 1996, 1999, and 2000. The 2000 survey results have not yet been released. The data sets for these surveys are all archived at the ICPSR, and they are now used frequently by scholars. Given its importance in research on American policing, the National Research Council (NRC) commissioned a separate paper on LEMAS by Robert Langworthy (2002). Readers are urged to consult Langworthy's article in this volume for more detailed information.

Community Policing Surveys

In 1993, the Police Foundation, with funding from the National Institute of Justice (NIJ), conducted a national survey of American police agencies on community policing (Wycoff, 1994). More than 1,600 agencies responded to the 18-page survey, providing a useful snapshot of community policing as practiced by a random sample of American police agencies. I have now used this data set in three studies of organizational change in policing (Maguire, 1997; Maguire & Katz, 2002; Maguire & Mastrofski, 2000).

In 1997, Macro International and the Police Executive Research Forum, with funding from NIJ, conducted a follow-up to the 1993 study (Rosenthal et al., 2000). The instrument was modified slightly, and the sample was augmented to include an additional subsample of Community Oriented Policing Services (COPS) grantees. The resulting data set allowed the researchers to draw inferences about changes in the implementation of community policing from 1993 to 1997. The research team was careful to point out that sampling errors in the earlier survey complicated their ability to draw inferences about change. Of all the "modern" establishment survey series listed in Table 2, this is the only one in which different research organizations were responsible for different waves of survey administration.

The final report produced by the 1997 research team presented a variety of findings about how community policing changed from 1993 to 1997. The authors presented the proportion of respondents participating in each community policing activity in 1993 and 1997, and then ran statistical tests to determine whether each change was statistically significant. These change scores, or some composite measures developed from them, could also serve as important and useful dependent variables in a theoretically informed multivariate analysis on the causes or correlates of organizational change in policing. It is this kind of research that ultimately will be the true benefit of multiwave establishment surveys of police organizations. This is an ideal dissertation topic for an ambitious doctoral student. The data sets for both studies have already been archived at ICPSR.

Urban Institute Surveys

From 1996 to 2000, the Urban Institute conducted four waves of telephone surveys on random samples of American police organizations as part of its Na-

tional Evaluation of the COPS Program (Roth et al., 2000). The samples ranged in size from 515 to nearly 2,100. The surveys examined a number of topics, including community policing, grant funding, procurement and implementation of technology, and the hiring and retention of police officers (Koper, Maguire, & Moore, 2001; Roth et al., 2000). Final reports have been completed for these surveys, but the data have not yet been archived.

Other Surveys

The surveys listed above are not the only multiwave establishment surveys that have been done. For example, from 1994 to the present, the COPS Office has sent a series of questionnaires to its grantees. For more detailed information on the nature of these data collection efforts, see Maguire and Mastrofski (2000). The COPS Office questionnaires were designed for administrative purposes, not for social science research. They were created to be used as a grant-monitoring tool and to help the COPS Office understand patterns of community policing among its grantees. While data collection is ongoing, the questionnaires are not really administered in increments like other multiwave surveys. Nonetheless, these surveys have been somewhat useful for understanding patterns of community policing in the United States.

In 1996, I distributed a fax survey to all municipal police agencies in the nation employing 100 or more full-time sworn officers (Maguire, 2002). The survey contained a number of items useful for measuring some dimensions of organizational structure. In 1998, together with Jihong Zhao and Robert Langworthy, and with funding support from NIJ, I distributed a mail survey to police agencies using the same selection criteria.[9] While the 1998 instrument was much longer and more comprehensive than the 1996 instrument, we retained the earlier questions. As with the community policing surveys discussed earlier, combining both waves enabled us to do two things: first, to measure structural change, and second, to treat the resulting change score as a dependent variable. The final report for this study is now under preparation, and the data will be archived shortly.

Presumably this brief review of multiwave establishment surveys of police organizations is missing some studies. Many organizations distribute surveys to police organizations. There is no central repository either for these surveys or for the data that result from them. Nonetheless, I have attempted to cover the major surveys here, including the ones most used by researchers who study the police.

[9] The inclusion criteria were the same in each study, but the increase in the size of police agencies from 1996–1998 expanded the pool of eligible agencies from 432 to 482.

Part Two: Issues and Trends

In this section, I explore briefly some general issues and trends related to multiwave establishment surveys of police organizations. How are they done? What kinds of data do they collect? How are the data used? What other directions might be worth pursuing?

Survey Administration

The primary mode through which surveys are administered to police organizations is by mail. The Urban Institute successfully used a telephone survey in its National Evaluation of the COPS Program, but nearly every other survey addressed in this paper was done by mail. The most plausible reason for this is that most of the surveys require respondents to assemble data from multiple locations and sources. Data on human resource practices, salaries, policies, and structures may not be easily accessible during a brief telephone survey. Other modes of survey administration have been used successfully in establishment survey research on police organizations, including fax surveys (Maguire, 2002) and postcard surveys (King, 2001). I am not aware yet of any Internet surveys of police organizations, but these are likely to become more popular in the near future, especially given the availability of several software packages designed exclusively for conducting secure Web-based surveys.

The instruments used in multiwave establishment surveys of policing range from 2 to 18 pages. Although common sense suggests that shorter surveys are more likely to stimulate higher response rates among individuals, the research evidence does not support this assertion (Kanuk & Berenson, 1975). Similarly, the length of establishment surveys of police organizations does not appear to be interfering with response rates. Some lengthy instruments obtain high response rates, and some shorter instruments obtain low response rates. On average, the response rates in this genre of research appear to be quite high compared with typical rules-of-thumb used by survey researchers. With the exception of the ICMA survey series, the studies listed in Table 2 routinely achieve response rates in excess of 70%, with those surveys conducted by BJS routinely exceeding 90%.

The substantive areas of inquiry in multiwave establishment surveys of police organizations run the gamut from basic administrative features and human resource issues to innovation and a variety of other topics of concern to researchers, policymakers, and practitioners. There are some gaps, though judging what topics should be included in these surveys is likely to be a matter for debate. The other papers commissioned by the NRC cite at least two such gaps. Langworthy (2002) argues that current data collection systems do not enable researchers to measure accurately the general organizational structures of police organizations.

Similarly, Fyfe (2002) argues that there is a need for more systematic data collection on the use of force by police. Other deficits exist as well.

Furthermore, new issues on which we have little information arise frequently in the policy arena. For example, although community policing was becoming popular throughout the late 1980s and early 1990s, there was little information about the extent to which American police organizations had adopted elements of community policing until the Police Foundation's survey in 1993 (Wycoff, 1994). There have now been more than a dozen national surveys containing questions about community policing implementation. A more recent example is local police preparedness for domestic terrorism, a topic on which the most recent survey data from police organizations was collected in 1993 (Riley & Hoffman, 1995). But, since the designers of these surveys have no more access to a crystal ball than the rest of the population, survey research on special topics is bound to develop only after such topics emerge in the policy arena. Thus, establishment survey research on police organizations is likely to focus at least as heavily on domestic terrorism over the next few years as it did on community policing over the last decade. Much of what gets studied is presumably affected by how the studies are funded.

Sponsorship in these studies varies. Of the six series listed in Table 2, two were sponsored by BJS (LEMAS and Directory surveys), two were sponsored by NIJ (Urban Institute and community policing surveys), and two were self-funded (ICMA and the Washington State University surveys). All four of the government-sponsored survey series either already have archived or will soon archive their data at ICPSR. The two self-sponsored series are not available in a public archive. The Washington State University data are available on request, and the ICMA data are available for a fee.

Data Quality

This review is not meant to explore or compare the quality of data in individual surveys or survey series. However, it is appropriate to discuss the quality of data from multiwave establishment surveys of police organizations more generally. The quality of the data depends largely on the ambiguity, subjectivity, and neutrality of the variable being measured.

First, respondents may have some difficulty in providing reliable or valid responses to questions measuring ambiguous concepts (such as autonomy or cynicism), whereas they can easily provide useful responses to questions asking about more concrete issues (such as the starting salary for new patrol officers or the types of sidearms officers are authorized to carry).

Second, in establishment surveys, the respondent is not providing a response for himself or herself as an individual, but for *the organization*. To the extent

that a question can be considered subjective, any response from a single informant within the police organization will contain measurement error. For instance, if a survey question asks a respondent to select from an ordinal scale the category which best describes the extent to which community policing is embraced by patrol officers, the response is likely to vary across the pool of potential informants. For this reason, some researchers have suggested using multiple informants to measure some organizational properties (Weiss, 1997).

Third, some questions that are not value-neutral may encourage exaggerated responses or false claims by survey respondents. For instance, in surveys in which respondents are not promised confidentiality, respondents may be more inclined to claim that they engage in community policing (Maguire & Mastrofski, 2000). Similarly, Walker and Katz (1995) found that 37.5% of the departments that indicated in their LEMAS responses that they had a specialized unit for enforcing bias crime statutes reported, when contacted subsequently by researchers, that they never had such a unit.

These three issues are only some of the factors that influence data quality in multiwave establishment surveys of police organizations. As with all surveys, those falling in this research genre are subject to a variety of both random and systematic errors. The three data quality concerns outlined in this section are perhaps paramount in establishment surveys.

Inferences and Applications

Why are these surveys conducted, and how are the data being used? The reasons for conducting them vary widely. Some of the topics listed in Table 1 (which contains a number of cross-sectional surveys) are quite specific; these surveys are clearly being conducted in response to a particular policy issue (such as hate crimes or the use of closed-circuit televisions). Others, like the LEMAS series, are meant as a more general reference source for descriptive data on police organizations. While the reasons for conducting cross-sectional surveys of police organizations are numerous, this review focuses in particular on multiwave surveys, or surveys that are repeated periodically. There are at least three reasons for conducting such surveys: to provide current, cross-sectional, descriptive data; to calculate descriptive measures of change; and to explain why such changes are taking place.

Sometimes the only reason for conducting multiwave surveys of police organizations is to provide a current source of cross-sectional data. The ICMA databases on police and fire salaries are most likely used in this way. This is probably the way that most policymakers and practitioners use data from multiwave surveys. Unfortunately, little is known about how the data series presented in Table 2 are used by policy and practitioner audiences.

Sometimes data from multiwave surveys are used to *describe how* police organizations are changing. Research on community policing by Rosenthal and her colleagues (2000), for instance, was useful in presenting a descriptive picture of how the implementation of community policing changed from 1993 to 1997. Researchers, policymakers, and practitioners are all likely to find something of value in such findings. Having quality measures of organizational change in policing is an important end in itself. However, it begs the larger and more important question about why such change occurs in some agencies and not in others.

Data from multiwave surveys are sometimes (though rarely) used to *explain why* organizational change occurs. Maguire's (1997) research on the effect of community policing on structural change in police organizations is one such example. For social scientists, explanation is the most theoretically compelling and intellectually stimulating reason to conduct multiwave establishment surveys of organizations. However, administrative data in policing are used more often for description than explanation (Uchida et al., 1986).

Part Three: Recommendations and Conclusion

This paper has provided a brief review of multiwave establishment surveys of police organizations. Six survey series are presented in Table 2, four of which are or have been sponsored by federal government agencies. Should the government continue to invest in such surveys, and, if so, should the existing surveys be modified in any way? Should the police research community be urging the government to sponsor new multiwave surveys? Should we invest in other forms of research that would produce more useful or trustworthy findings? I end with a number of conclusions and recommendations. Some of these are minor, and perhaps might even be considered somewhat esoteric. The last two speak to core issues in the police research enterprise, however.

First, multiwave establishment surveys of police organizations are useful in a number of ways, and they should continue to be conducted. The Directory Surveys conducted by the Bureau of Justice Statistics are an invaluable source of descriptive information on American police agencies and they serve as an effective sampling frame for drawing random and stratified samples of police organizations. The LEMAS series, as Langworthy (2002) concludes, provides useful descriptive statistics on American police organizations. The Washington State University survey series has probably produced more scholarship than any other series discussed in this paper, and appears to be continuing this productive trend. The community policing surveys conducted by the Urban Institute, Macro International, Police Executive Research Forum, and the Police Foundation have all

increased our knowledge about community policing. Overall, I see no compelling reason to abandon or reduce the use of these survey series.

Second, there is a lack of information on who uses the LEMAS survey data, and which portions of it generate the most interest among practitioners, policymakers, and researchers. Before entertaining too many changes to its instrumentation, BJS should consider investing in some applied evaluation research on how its police data are used, and by whom. The LEMAS instruments could then be modified to fit the needs of their users. Langworthy (2002) has already recommended a series of content changes that would fit the needs of the research community. Perhaps the practitioner community has its own set of issues that need to be explored as well.

Third, I support Langworthy's (2002) recommendation to treat the LEMAS series as a platform on which to build special topics surveys in between the regularly scheduled survey intervals. The COPS Office has already sponsored one such survey in 1999. Others could be developed to keep up with issues emerging in the policy community. Over the last couple of years, racial profiling could have been one such special topic. Currently, there is a need for additional research on homeland security and local preparedness for domestic terrorism. Other policy issues will emerge, and the LEMAS platform can be mobilized quickly to respond with timely data collection initiatives.

Fourth, there have been enough establishment surveys of police organizations over the past decade that a meta-analysis of these studies could provide crucial information about the factors associated with high response rates (and perhaps other desirable outcomes). NIJ and other funding agencies could then use the results to produce a set of useful guidelines for doing quality establishment survey research in policing.

Fifth, while there are many reasons for doing multiwave establishment surveys, the one that is most stimulating intellectually and theoretically is understanding the factors that influence organizational change in policing. While some studies *describe* such changes, there is a noticeable shortage of studies that *explain* the dynamics underlying them. Doing so will require researchers to calculate change scores from longitudinal data, and then to use these scores as dependent variables. Although there has been tremendous investment in multiwave surveys, the data are only rarely used to explain organizational change. This kind of research will represent the major intellectual contribution of this genre of data collection.

Finally, I will echo a theme that is consistent in other papers commissioned by the NRC, including those by Fyfe (2002), Langworthy (2002), and Uchida and King (2002). A serious effort should be made in all establishment survey research to validate the findings reported. There are many ways to accomplish

this validation. One method that finds support in research on organizations more generally is surveying multiple informants within each organization. Combining their multiple responses into a single organizational score can reduce the error associated with responses from individual informants. Another method is to combine survey research with some type of systematic interview and observation protocol conducted on-site. While this can only be done in a small subsample of the organizations receiving a survey, it provides essential information on how well the survey responses reflect what is really happening within the target organizations. A final method is to develop some type of audit procedure. This might involve selecting a random subsample of respondents and asking them to provide documentation supporting their survey responses. All of these methods introduce logistical concerns, but some kind of validation procedure is necessary. The days of sending establishment surveys to police organizations and having blind faith in the results are sadly coming to an end.

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