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EDUCATING THE POLICE: An Interim Assessment of Policy Impacts

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This is the Final Report of "A Two-Wave Panel Study of the Impact of Education on Police Attitudes and Performance" to the Office of Criminal Justice Education and Training (LEAA Grant 78-CD-AX-00027)

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Preface

This interim report on the effects of college education on policing examines the model underlying reform policies. Analysis of the impact of college education for police is a complex as well as long-term undertaking. Consequently, this report restricts the analysis to an examination of the question, Have expectations surrounding calls for college education for police been realized? and it sets the stage for a second, more exploratory report. Focusing exclusively on patrol officers who, in fact, provide most of the services, consume the vast majority of expenditures for policing, and are the only police most citizens ever see, we examine the proposition that additional years of education will transform their attitudes and performance.

To examine this policy model we use comparative and longitudinal data pieced together from three related studies in policing. For clarity, our examination is presented in two parts. Part One provides an overview of the research issues addressed, approaches used and a summary of findings. It also points the direction for future research. The second part describes in detail the research design, data collection strategies and findings. It also carefully identifies the methodological weaknesses inherent in the study design used. Taken together, these parts provide a picture of what is now known about the impact of police education and what questions remain to be answered.

Acknowledgments

This study brings together findings from three sizable research projects. It represents therefore an informal collaboration of the researchers and funding sources who made the various components possible. Combining these projects results in a rapid accumulation of debts. Despite the lengthy enumeration which follows, it will not be possible to acknowledge all of them here. The 1972 study of the St. Louis area was made possible through Grant Number 5R01MH1911 from the Center for Studies of Metropolitan Problems of the National Institute of Mental Health to Elinor Ostrom. Many students and some faculty at the Center for Urban Affairs and the Department of Political Science at Indiana University contributed generously to the design and implementation of the study. In the Police Services Study, data on policing in three metropolitan areas were collected in the summer of 1977 under a grant (NSF-GI-43949) from the National Science Foundation (Applied Science and Research Applications) to Elinor Ostrom and Roger Parks, the Workshop in Political Theory and Policy Analysis at Indiana University and Gordon P. Whitaker at the University of North Carolina. Students from Indiana University, The University of North Carolina and New York University comprised a superb staff, participating in the design of instruments and the collection and processing of data. Dennis Smith also received support from the NSF grant during part of the data analysis. Additional police officer survey data were collected in November, 1977, under a grant (LEAA Grant 78-CD-AX-00027) from the Office of Criminal Justice Education and Training of the Law Enforcement Assistance Administration. LEAA funds also provided support for computer services and secretarial staff at New York University. During the data analysis phase, it provided full-time support for Diane Baillargeon and two researchers, Nancy Reichman and Ellen Lovitz, and part-time for Dennis Smith. Additional computer time was provided by the Courant Institute of Mathematical Sciences at New York University through an ERDA contract, E(11-1)3077. Our colleague at the Graduate School of Public Administration, James Knickman, ministered to our statistical woes.

Acknowledgments (Continued)

This study would not have been possible without extraordinary cooperation of the leaders and officers of police departments studied: In the Rochester, New York area the study includes the police departments of Gates, Greece and Rochester, and the Monroe County Sheriff's Office. In Florida, the police departments of Clearwater, Largo, Pinellas Park, St. Petersburg, Tampa, Tarpon Springs, and the sheriff's offices of Hillsborough and Pinellas Counties are included. In 1972 and 1977 in the St. Louis, Missouri area, we studied the police departments of Bellefontaine Neighbors, Berkeley, Breckinridge Hills, Bridgeton, Crestwood, Ferguson, Florissant, Glenwood, Hazelwood, Jennings, Kinloch, Kirkwood, Northwoods, Overland, Pinelawn, Richmond Heights, Rock Hill, St. Ann, St. Louis County, the City of St. Louis, University City, Vinita Park, Webster Groves and Wellston. The Brentwood Police Department was included in the Police Services Study (1977) only. Five very small departments which were studied in 1972 (Bella Villa, Beverly Hills, Calverton Park, Riverview and St. George) were not resurveyed in the November, 1977, follow-up.

We are grateful for the help and patience of key people associated with funding of this study: Elinor Ostrom, Roger Parks and Gordon Whitaker of the Police Services Study, and Price Foster, George Datesman and Jean Moore of the Office of Criminal Justice Education and Training (LEAA).

The authors are particularly grateful to Nancy Reichman for her critical insights and indefatigible labors in the analysis of data for the report and to Elizabeth Lewis for typing the several drafts with skill and good humor. Of course, we accept credit for the errors of commission and omission and absolve funding sources and other researchers involved in the project from any complicity in the conclusions presented.

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Part I

Introduction

This report describes the first stage of an effort to place policy debates on higher education for police on a firmer base of empirical evidence than has ever before been available. When a virtual chorus of commissions, task forces and study groups created in response to the urban crisis of the 1960's called, almost in unison, for a massive effort to raise the education level of police as a key to improving their performance, there was little or no empirical evidence on the subject available. (President's Commission on Law Enforcement and the Administration of Justice, 1967; National Advisory Commission on Civil Disorders, 1968; Committee for Economic Development, 1972; the Advisory Commission on Intergovernmental Relations, 1971; the American Bar Association, 1972; the National Advisory Commission on Criminal Justice Standards and Goals, 1973; see also, Task Force on the Police, 1967; Germann, 1967; Clark, 1970; Bittner, 1970; Saunders, Jr., 1970.) As Charles Saunders (1970) acknowledged in his book, Upgrading the American Police: Education and Training for Better Law Enforcement, the reform rested "more on faith than on fact." At the time reform agendas were being formulated, too few police officers had college education to measure adequately its impact. Although some peripheral (and methodologically weak) studies were sometimes adduced as evidence in favor of police education, the reform received the support it needed from the fact that it fit the widespread public confidence in the worth of higher education in general.

It also fit the traditional view that police reform depended on changing the quality of police personnel (Skolnick, 1966).

In one sense, the reform effort was a huge success. Congress created and funded the Law Enforcement Education Program (LEEP). Colleges and universities around the nation responded by swelling the number of educational programs for police to over 1,000 (Sherman, et al., 1978). Many communities and departments created policies that required or at least rewarded college educational attainment by officers. However, the reform effort is now under a cloud of doubt. Support for federal funding for higher education for police has eroded. A national commission, after spending more than a year collecting evidence and opinion, came to the conclusion, "Whatever the potential value of higher education for changing the police, police education is now falling short of that potential." (Sherman, et al., 1978: 19)

The current doubts about the impact of education on policing rest more on what might be called "circumstantial evidence" than on empirical studies of the relevant issues. The conclusions of the National Advisory Commission on Higher Education for Police Officers about the inadequacy of police education were not based on studies which rigorously examined the relationship between changing education levels of police and their performance.[1] Instead, the commission focused on perceived weaknesses of the college programs: the educational settings, the programs' curricula, the specific courses, their faculty, and their students. All of these input factors are assumed to be related to the desired outcome, police change; but this assumption has not been tested.

Faced with its low assessment of the impact of higher education on policing, the Commission (1978) proposed to try harder rather than give up. It called for a shift of emphasis from two-year community college programs and in-service college attendance by police to four-year university programs aimed especially at bringing college graduates into policing. Once again, there is no evidence that pre-service education or a baccalaureate degree in liberal arts will bring to police departments individuals more oriented to and capable of changing police organizations and their performance. As Goldstein (1977: 290) notes in reviewing the problems confronting efforts to learn about the impact of college education, too few individuals with the kind of background now being proposed have been attracted into police work to allow any precise measurement of their impact. Goldstein (1977: 291) concludes:

> All of these observations point to the critical need for a carefully designed and carefully controlled study in which agreement is first reached on what constitutes improved performance, and in which an effort is then made over a period of time to compare the performance of police officers who have less education. Consideration should also be given to whether the value of a college education might differ, depending on the size of the agency, the character of the community served, and the specific nature of the duties performed. Is it as valuable for example, for an officer assigned to street operations as it is for an officer having administrative responsibilities? Extremely difficult methodological problems are involved in developing such a study, but the tremendous investment that is being made at all levels of government to encourage college work - not to mention the time and effort of the people involved - would seem to warrant it.

The Two-Wave Panel Study of Police Education

In 1977, the authors of this report proposed to the Office of Criminal Justice Education and Training (OCJET) of the Law Enforcement Assistance Administration (LEAA) an intensive study of the relationship between college education and police performance. That proposal requested funds to expand a comparative study of police service delivery being supported by a grant from the National Science Foundation (NSF),[2] to enrich the data available on officer education and to provide the resources necessary to analyze that data. The supplemental funding which created the present study made it possible to take advantage of a unique opportunity to create the most extensive and rich data base ever assembled for the study of education and police attitudes and performance. First, the 1977 NSF Police Services Study included a replication and expansion of an earlier study which included an analysis of police education in the St. Louis metropolitan area (Smith, 1976). It expanded the 1972 study by including two other metropolitan areas (Rochester, New York, and Tampa-St. Petersburg, Florida) and by collecting a much greater variety of data. By returning to eleven of the twenty-nine departments studied in St. Louis in 1972, it set the stage for a longitudinal study of the effects of education. The OCJET/LEAA grant made possible the inclusion of the remaining St. Louis departments studied in 1972, and specifically enabled this study to re-survey several hundred officers who had been interviewed in 1972.

The data base created by combining the 1972 study, the NSF study done in the summer of 1977 and the LEAA funded supplementary survey conducted in November, 1977, is described in considerable detail in Part II of this report (Table II-1). Briefly stated, the 1972 study surveyed police officers and residents of households in neighborhoods served by those officers and collected traditional official statistics such as crime and clearance rates. The NSF study included police and citizen surveys similar to those used in the previous study, but also systematic observation of patrol and dispatch operations, and de-briefing of citizens whose encounters with police were observed. Official data including calls for service records were collected. Extensive data on the communities studied were collected and public officials were surveyed. Data on local college education programs were also collected. In the November, 1977 supplement to the NSF study, police officers in the St. Louis area were surveyed and more extensive data on college programs were collected. In the section below, we will enumerate the opportunities for analysis provided by the combination of these studies.

Potential for Analysis

Previous studies of police education have suffered from a variety of methodological problems (Smith, 1978; Lefkowitz, 1977). Most have included small numbers of officers, usually in a single department, studied at one point in time, with only crude measures of education (e.g. degree, no degree) and either controversial measures of performance, or no measures of performance

at all. To test adequately the model underlying the policy of higher education for police, as Goldstein observed, it is necessary to have data on various aspects of officers' education and their attitudes and their performance, all in a variety of organizational and community contexts, collected at more than one point in time. While the present study is certainly limited in numerous ways, it does provide at least some relief from the methodological problems of past studies. By including comparable data on policing by different departments in a number of sets of similar neighborhoods, we are able to examine relationships between education, attitudes and performance with a large number of police officers. Obtaining data on the same departments and the same officers at two points in time, enables us to examine change and to strengthen our insights into cause and effect.

We plan to "mine" this mountain of data in several stages. This report represents the first stage, which is a systematic test of the central elements of the model underlying the case for police education made by proponents of the reform. It tests the propositions which link quantity of education to the attitudinal orientation of police and, then, to their performance. The approach of the second stage of analysis will be set forth at the end of Part I of this report.

Since the key question is whether educational attainment affects the way police services are provided, we focus in this first report on the impact of education on patrol rank officers. To answer this question we look at both individuals and

TABLE I-1

COMPARISON OF EDUCATIONAL CHARACTERISTICS
1977 STUDY SAMPLE AND NATIONAL PROFILE

Characteristics	National Profile			Study Sample		
Predominate type of education institution attended	Two-year community colleges			Two-year community colleges		
Faculty characteristics	Part-time, non-Ph.D., practical experience in policing			Part-time, non-Ph.D., practical experience in policing		
Student status	Part-time, post-recruitment matriculants			Part-time, post-recruitment matriculants		
	High School or Below	13-15 Years	16 Years or More	High School or Below	13-15 Years	16 Years or More
Educational attainment at entry	72%	23%	5%	51%	43%	6%
Educational attainment in 1974 (national), 1977 (study)	53%	38%	9%	24%	59%	16%

a. Source: Sherman (1978:141) and passim.

departments, in both 1972 and 1977. Relationships between education level of patrol officers and a wide range of their attitudes, as well as relationships between education level of patrol officers and a variety of measures of performance are analyzed. We also compare responses from approximately 300 officers who were surveyed both in 1972 and 1977 in order to isolate the effects of education on attitudes from the effects of attitudes on educational attainment.

To place the findings from our study in a national context, the education of officers we studied are compared with a nationwide profile of police compiled by Sherman, et al. (1978) from a variety of sources (see Table I-1). While the type of education obtained appears to be similar, the officers included in our study had attained considerably more college education than officers nationwide. In part the difference could be explained by the rate at which officers were going to college during the interval between the national profile (1974) and our study (1977). Also, the national survey included rural areas while our study concentrated on metropolitan/urban departments where the emphasis on and opportunity for college education are greater.

Findings

In what ways have the education levels and attitudes of officers in general changed over the period from 1972 to 1977?

Comparing the responses of all patrol officers serving the St. Louis neighborhoods studied in both 1972 and 1977, we find:

- the percent of officers having some college education increased significantly;
- in 1977, 52% have attained more than two years of college, compared with 12.1% in 1972;
- for many of the attitudes we surveyed, the percentage of officers holding particular views did not change (the percentage agreeing with the statements that a military model of organization is appropriate for police, or that local politicians have too much influence, and the percentage who believe citizens they service would rate their police "outstanding" remained remarkably constant over the five-year interval);
- more officers now assert that police have a right to organize to improve working conditions, that police need precise guidelines, and that restrictions on police use of force reduce their effectiveness; and
- fewer officers believe that promotions are awarded fairly in their departments, that all officers have an opportunity to influence decisions in their department, that local courts are cooperative, that "probable cause" requirements reduce their effectiveness, or that police do the best job by following the orders of superiors.

(See Table II-22 for the percentages and other statistics.)

In sum, during a period when the education level of officers was rising substantially, many attitude patterns persisted. (See Kelling and Wycoff, 1978, for a similar finding in a study of the Dallas Police Department.) Some of the attitudes which, in the aggregate at least, did not change (such as acceptance of the military model of organization) were ones which advocates of education as a police reform hoped would be altered. Some which apparently changed (such as attitudes toward the efficacy of force in controlling crime) moved in a direction opposite to reform aspirations. To obtain a clearer picture of what has happened, we have to look more closely at the individual police officer's education level and attitudes.

Are attitudes of individual officers related to education level?

In the sometimes implicit but often explicit model underlying policies of increasing police education, a wide range of attitudes or orientations of officers are posited as an intervening factor between education and police performance. Making brief what has been elaborated elsewhere (Task Force on Police, 1967; Smith, 1976; Goldstein, 1977; Sherman et al., 1978), education was expected to make officers more democratic, tolerant, service oriented and less isolated from the communities served. More tolerance was expected, for example, to result in better police management of multiracial encounters. Educated officers' rejection of military bureaucracy as an ideal organization for police was expected to result in more participatory or open operations. Given the widely noted discretion left to officers on patrol, the possibility that individual views (as opposed to, for example, agency policies) would shape actions has a certain plausibility. Previous analysis of the entire set of officers (command and patrol rank combined) in the St. Louis 1972 study found little evidence of relationships between education and attitudes (Smith and Ostrom, 1974; Smith, 1976; Smith, 1978). Our examination of relationships between education level of patrol officers and attitudes in 1972 and 1977 (see Tables II-6, II-15, II-16, II-17) found:

- overall, a wide range of attitudes do not vary with an officer's level of education;
- a pervasive pattern of no relationship between education level and attitudes was also found among sub-groups of officers created by categories of control variables (i.e., size of department, racial composition and level of wealth of neighborhoods served);

- o in both 1972 and 1977 some isolated relationships between education and attitudes were found, but the variables related in 1977 tended not to be the same as the ones found in 1972.

Does the distribution of attitudes vary with the educational attainment of patrol officers in a department (or sub-unit of a department) taken as a group?

We explored the possibility that the impact of education might be aggregative, that is, that the prevalence of particular attitudes might vary with the proportion of patrol officers assigned to a study neighborhood with some college work rather than with each isolated individual's education level. We found (see Tables II-7, II-19) that:

- o in neither 1972 nor 1977 is the educational attainment of the group associated with a prevalence of attitudes which reform advocates expected to foster, a finding which holds when community and departmental characteristics are included in the analysis.

Is educational level related to attitudes over time?

We used responses from officers surveyed in both 1972 and 1977 to examine two questions which can only be addressed with longitudinal data: Does education have time-lagged effects (that is, effects which would not show up in cross-sectional survey data because both variables are measured at the same time)? and, Where relationships are found in 1977, is education a cause or consequence of attitudes? We compared relationships between education in 1972 and 1977 attitudes with 1972 attitudes and 1977 education to see which relationship was stronger. We found (see Table II-24 and discussion of statistics used):

- o there is little evidence of time-lagged effects of education, and
- o where relationships are found in 1977, attitudes appear to predict education better than education predicts attitudes.

Thus, in a multifaceted analysis, education level of officers is not related to attitudes which the reform intended to influence. While the model underlying the policy of increasing the education level of police, the effects of college are expected to be mediated through attitude changes, it is nevertheless possible that education has a direct impact on performance or an impact which is mediated by factors other than attitudes. Therefore, we examine the relationship between education and performance.

Does police performance vary with college educational attainment of officers?

The major objective of police education is to change police performance. This seems to us a more fundamental objective than the one stated by the National Advisory Commission on Higher Education for Police Officers, namely to change police organizations. Changing the organization is not an end in its own right but is desired because of its presumed subsequent impact on the way police deliver services to the community.

Measuring police performance is, as is widely acknowledged, a complex, even controversial, matter. This is especially notable in the context of an evaluation of the impact of police education, where there is some evidence that the goals or at least emphases of the reform have changed from control of police

abuses to enhancement of their capacity for crime control (Jacobs and Magdovitz, 1977). We cannot follow Goldstein's advice to establish a consensus on what is meant by performance before undertaking the study. We can, however, measure performance a variety of ways which will allow our findings to be responsive to a variety of different views of what police performance means.

In 1972 and in 1977 measures of performance were obtained from surveys of households in study neighborhoods and from a variety of officially generated data. Systematic field observation of officers on patrol was added in 1977.

We find (see Tables II-8, II-20, II-21):

- across the multiple measures used to gauge police performance, the education level of surveyed patrol officers assigned to a study neighborhood was not related to the quality of police services provided; and
- police verbal abuse of citizens, use of force, provision of assistance and other characteristics or dimensions of police-citizen encounters, measured by data from systematic observation of individual officers on patrol, were not found to vary with the officer's education level; and
- patrol officer education level was unrelated to attributes of the encounters with citizens in all department sizes and all neighborhoods, regardless of the racial or economic characteristics of the population.

Summary

Our search for empirical evidence of the relationships between police education level and the attitudes and aspects of performance which proponents of this reform posited, has failed to produce the results expected by proponents of the

reform. There are isolated exceptions, but the overall pattern is clear: in the three metropolitan areas studied and given the range of variation included, college educational attainment is not generally related to police officer attitudes or performance.

In Part II of this report we have noted in some detail the methodological weaknesses in the manner in which the findings were developed. Nevertheless, as this study is methodologically stronger in a number of ways than previous research on this subject (specifically, than our own previous work), the evidence of "no relationship" becomes more unequivocal. One cannot help but be struck by the chasm between the expectations of those who proposed greater educational attainment for police and the pervasiveness of the pattern of no relationship which persists when a considerable variety of potentially confounding factors are included in the analysis. The findings raise serious questions about current policies which reward or require specific quantities of college education, particularly the type of education currently experienced by police officers. Whether different kinds of education or education under different circumstances will prove more effective, as some believe (Sherman, et al., 1978; Goldstein, 1977), has yet to examined empirically. It is to that more complex analysis of the consequences of police education that we will now turn.

Directions for Future Research

This report examines the policy model underlying the arguments that have been used in policy debates on the subject of police reform through higher education for officers. While it is appropriate to test the propositions underlying the case made for police education, the approach has serious limitations. The language of policy debates is an inadequate guide to policy research. Factors in the political process of policy formation often produce oversimplification and exaggerated claims. Once we acknowledge the inherent hyperbole in the promotion of college education as a reform in policing, the incompleteness of the evaluative research strategy of converting the stated expectations of policy proponents into hypotheses for empirical tests becomes obvious.

It was, after all, unreasonable to believe that brief exposure to a liberal arts curriculum, or much more commonly, brief sessions in classrooms populated by other officers and taught by primarily veterans of law enforcement careers, would have measurable (much less massive) impact on an otherwise unchanged institution. The extensive documentation in the literature on the powerful and pervasive influence of the occupational role and the organizational context should have disabused us of any such expectation. But, based on what is known about the impact of college education in general (Bowen, 1977), it seems reasonable to suspect that there are some organizational and personal circumstances where college education (or at least some kinds of college education) would have an impact on police.

In our second report we plan to undertake a different kind of search for college education's impact on policing.

Assuming that changing police through college education is an uphill struggle, we will follow a more exploratory strategy. In part, this entails using our existing data base (including narrative description of police/citizen encounters) to probe further for evidence of impact. The analysis presented in this report uses a larger sample of officers in more departments in several metropolitan areas who have obtained higher levels of education and uses more measures of attitudes and performance than have been used in previous studies of the relationship between officers' college educational attainment and their attitudes and performance. In the next phase of analysis we will incorporate into this large data base more variations on what is meant by "college education for police." While years of college is a salient variable in policy debates, there are obviously other potential refinements in terms of when an officer's college experience occurred (before or after recruitment) and the subject matter studied. Education of some officers (e.g. commanders) may have more impact than the educational attainment of others. Where college education is rewarded by promotion, its impact may differ. We will also examine how police officers themselves assess the strengths and weaknesses of their college education experience. Answering all of these questions is suggested by the discussions of police education in the literature.

We have also carefully examined studies of policing, studies of factors associated with the quality of bureaucratic/professional encounters with citizens in delivering public services, and studies of the process of higher education in general in order to identify hypotheses which are grounded in empirical findings. We will examine those rival hypotheses with our data base. Results from these inquiries are the subject of our second report. While quantity of college education is not generally related to attitudes and performance, we find it difficult to believe that education can make no contribution. However, we also doubt its potential can be realized without further research.

Notes to Part I

[1]A consultant's report to the Commission on the subject, "Empirical Studies of Higher Education and Police Performance," reviewed published studies and concluded that the few extant findings were contradictory and based on research that suffered from serious methodological flaws (Smith, 1978; see summary in Sherman, et al., 1978:238-239).

[2]This project, the Police Services Study, was the pivotal component of the research presented here. It provided the extensive resources necessary to undertake such a broad scale examination of the provision of urban police services. By providing supplementary support which enabled a more extensive examination of one aspect of the NSF study, the Office of Criminal Justice Education and Training (LEAA) obtained policy relevant research for its own use while significantly increasing the yield of the National Science Foundation supported study.

2.0 INTRODUCTION

Part II of the report presents our research findings in considerable detail. Since the data base for the study is a large and complex one, we felt it necessary to devote a separate part of the report to describing the overall research design, methods of data collection, and findings as they pertain to each component of the data base. After briefly identifying the various sources of data, our analysis is organized around the three major components of the study: the 1972 St. Louis Metro Study; the 1977 Three-Metro Study; and the 1972-1977 Longitudinal Study.

THE DATA BASE

The research findings described below are based on data from two comparative studies of police service delivery. A summary of the data sources used in the research is presented in Table II-1. The first study, in 1972, focused on 45 neighborhoods within the jurisdiction of twenty-nine police departments in the St. Louis, Missouri, metropolitan area. The second study has two parts: In the summer of 1977 part, the study focused on 60 study neighborhoods and twenty-four police departments in the St. Louis, Missouri, Rochester, New York, and Tampa-St. Petersburg, Florida metropolitan areas; in November, 1977, an additional thirteen departments in the St. Louis area were added to the study. The two studies were

TABLE II-1

DESCRIPTION OF DATA SOURCES

	Source	Study Description
1972	"Institutional Arrangements and the Police," a grant to Elinor Ostrom, Indiana University, from the Center for Studies of Metropolitan Problems, National Institute of Mental Health	The study included: - a survey of 4065 citizens distributed across 45 neighborhoods, served by 29 police departments. The survey included background data and citizen experiences with, perceptions and evaluations of police serving their neighborhood.* - a survey of 712 police officers. The survey included background data and police views on their department, on their community, and on selected issues in law enforcement policy.* - demographic,* crime and clearance, and expenditure data for each jurisdiction.
Summer 1977	"Police Services Study, Phase II," a grant to Elinor Ostrom, Roger B. Parks, Indiana University and Gordon P. Whitaker, University of North Carolina, from the Resources Applied to National Needs Division, National Science Foundation	The study included: - a survey of citizens in 60 neighborhoods served by 24 departments. The survey included background data and citizen experiences with, perceptions and evaluations of the police serving their neighborhood, using numerous questions from the 1972 survey (above).* - a survey of 1400 patrol officers and their commanders, including all chiefs. The survey included background data and police views on their department, their community, and on selected issues in law enforcement policy, using numerous questions from the 1972 survey (above).* - systematic observation of patrol, including 5000 observed encounters involving a total of 506 patrol officers.* - structured de-briefing of citizens observed (or heard) in encounters with patrol officers (or police dispatchers), n=1500. - dispatch observation data. - calls for service data for each jurisdiction. - expenditure data from each jurisdiction. - extensive organizational structure and procedures data for each jurisdiction. - crime and clearance data for each jurisdiction. - extensive demographic and community characteristics data for each jurisdiction.* - survey of police administrators, including their view of the political and social context of their department, their policies in major areas of policing, and their perceptions of changes in their department since 1972.

TABLE II-1 (Continued)

Source	Study Description
LEAA 1977 "A Two-Wave Panel Study of the Impact of Education on Police Attitudes and Performance," a grant to Dennis C. Smith from the Office of Criminal Justice Education and Training, Law Enforcement Assistance Administration	The study included: - a survey of 380 police officers distributed across 14 St. Louis area departments (studied in 1972). The survey included background data, extensive data on college educational experiences, and police views on their department, community, and selected issues in law enforcement policy.* - a survey of college programs attended by officers in the St. Louis metropolitan area.

*Utilized for this report. The additional sources will be drawn upon in a subsequent report.

originally designed to assess the effects of various organizational arrangements, and resource and personnel inputs on diverse policing outcomes. Both emphasize patterns of policing in specific neighborhoods served by the study departments. Neighborhoods (typically an agency beat or zone) as well as departments were selected in order to ensure a range of service conditions (socio-economic characteristics of neighborhoods) and organization types including, for comparative purposes, as many diverse combinations of conditions and types as possible. By isolating the effects of the independent variable (the level of education of individual organization members) from various structural effects (such as department size or community characteristics) this comparative approach has some advantages over case studies. The generalizability of case study research findings is limited by the particular organizational and service conditions of the department selected for study. A comparative approach provides an opportunity to identify organizational or service conditions under which education is particularly efficacious, or conversely, where education is associated with negative or unintended consequences. Thus, while case studies may be rich sources of research hypotheses, findings generated from such studies must be treated with considerably more caution than those employing a comparative design.

2.1 THE 1972 ST. LOUIS METROPOLITAN AREA STUDY

Table II-2 contains a matrix of the forty-five neighborhoods studied in 1972, distributed by service condition and type of department. (Ostrom, Parks, and Smith, 1973) The 1972 study included two major data collection strategies: in-person interviews of 712 police officers in the twenty-nine study departments and a survey of 4,065 citizens residing in the forty-five study neighborhoods.

POLICE OFFICER INTERVIEW

Extensive background data were obtained in the police officer survey as well as officers' perspectives on the job, department, the community and a wide range of issues facing contemporary law enforcement. The survey instrument is found in Appendix A. The attitude stimuli contained in the interview do not constitute a validated "test" or "scale." Instead, they are a conglomeration of items drawn from other surveys of police officers or developed by the research staff. The interviews were done by a staff of 14 male and 5 female interviewers, with 51% conducted by two individuals. With the exception of neighborhoods serviced by the two largest departments (the city of St. Louis and St. Louis County) and smaller departments (those with 25 officers or less), a sample of officers was drawn with the entire department as its base. In the case of the largest department, where all of the study

TABLE II-2

RESEARCH DESIGN MATRIX

(Distribution of 1972 Study Neighborhoods)

Neighborhood Characteristics[b]	Department Size[a]		
	Small	Medium	Large
Low Housing Value/Minority	1	0	0
Low Housing Value/Mixed	1	0	0
Low Housing Value/White	1	0	0
Middle Housing Value/Minority	0	0	1
Middle Housing Value/Mixed	2	3	2
Middle Housing Value/White	6	5	7
Upper Housing Value/Mixed	2	1	
Upper Housing Value/White	6	5	2
TOTAL	19 Neighborhoods (18 Departments)	14 Neighborhoods (9 Departments)	12 Neighborhoods (2 Departments)

a. Small = less than 31 sworn full-time officers
Medium = more than 30 and less than 200 sworn full-time officers
Large = 200 or more sworn full-time officers

b. Source:

Low housing value = those communities and neighborhoods in which median value of owner-occupied housing units is less than $10,000.
Middle housing value = those communities and neighborhoods in which median value of housing is between $10,000 and $14,999, plus those communities and neighborhoods in which median value of housing is between $15,000 and $19,999 and median contract rent per month is less than $120.
Upper housing value = those communities and neighborhoods in which median value of housing is between $15,000 and $19,999 and median rental per month is greater than or equal to $120, plus those communities and neighborhoods in which median value of housing is between $20,000 and $24,999.

Minority = less than 25% white
Mixed = 26% to 75% white
White = more than 75% white

neighborhoods fell within three districts, only those officers in the three districts and headquarters staff were sampled. In the second largest, each of its two districts and headquarters staff were sampled. In departments with twenty-five or fewer persons on the official roster, the goal was to interview each officer. The findings presented here include only officers holding the rank of patrolman.[1] Thus, the sample for this research includes only 481 of the 712 officers surveyed in 1972.

While 63% of the officers in our sample reported that they had some college education, very few officers had completed four years of college. In fact, only 4.8% of the officers reported that they had completed three years or more of college. (See Table II-3.) Among the twenty-nine study departments the proportion of officers with some college ranges from 0% to 75%. In order to determine whether or not educated officers have systematically different characteristics than non-educated officers the distribution of various officer characteristics by amount of educational attainment are examined . (Table II-4) Officers with some college education tended to be younger than officers with no college education. While over 60% of the officers with some education were thirty years old or less, only 33% of the officers with no education were in an equivalent age category. Consistent with this finding, officers with some education tended to have shorter tenures in police service.

TABLE II-3

DISTRIBUTION OF 1972 PATROL OFFICER EDUCATIONAL ATTAINMENT

College Education	Number of Officers	Percent
none	177	36.8
less than or equal to one year	186	38.7
more than one year and less than or equal to two	60	12.5
more than two years and less than or equal to three	35	7.3
more than three years	23	4.8
TOTAL	481	100.0

TABLE II-4

DISTRIBUTION OF 1972 PATROL OFFICER EDUCATION BY OFFICER AND DEPARTMENT CHARACTERISTICS

Officer Characteristics	College	
	Some	None
Age:		
30 years or less	190 (62.7%)	59 (33.5%)
31 years or more	113 (37.3%)	117 (66.5%)
missing	1	1
Officer Tenure:		
5 years or less	181 (59.5%)	58 (32.8%)
more than 5 years	123 (40.5%)	119 (67.2%)
Department Characteristics		
Departmental Size:		
Small	24 (7.9%)	20 (11.3%)
Medium	191 (62.8%)	89 (50.3%)
Large	89 (29.3%)	68 (38.4%)
TOTAL	304	177

We examined department size to determine if more highly educated officers were consistently found in a particular sized department. Size is apparently not associated with differences in education level of police; however, there is a slight tendency for a higher concentration of college educated officers to be found in the medium sized departments.

CITIZEN SURVEY

Citizens were surveyed about their evaluations of various aspects of police services provided to their neighborhoods as well as their personal experiences with the police. The survey instrument is found in Appendix B. A combination of in-person, mail and telephone interviews were utilized. For the mail sample, a random sample of addresses was drawn from the land-use files maintained by the University of Missouri - St. Louis. For the in-person interview, respondents were chosen by selecting census blocks at random from a list of all blocks in the neighborhood. All households on chosen blocks were included in the sample. The in-person interview was used almost exclusively in the lower income neighborhoods. Telephone surveys were used to follow-up persons initially not at home or who refused an in-person interview. Among the relatively higher income neighborhoods either a mail survey or combination of mail survey, in-person interview, and telephone follow-up was conducted. Potential differences in the patterns of response

among the three methods of data collection are minimal. Respondents returning the mail questionnaire have slightly higher levels of education than the other sets of citizen respondents.

It is important to note that the citizen survey sample systematically excluded selection of neighborhoods with commercial areas, high density rental housing, public housing and facilities such as hospitals, jails, dormitories, etc. The survey method systematically favors selection of householders who (a) are likely to be at home (e.g. the elderly and women with children, and not juveniles) and (b) have conventional residences. (See Boggs and Galliher, 197.) This sample bias necessitates that findings be interpreted cautiously and the survey responses not be construed to represent all members of the study neighborhoods. Nor is it necessarily representative of persons residing in the St. Louis metropolitan area generally. Table II-5 contains the distribution of citizen evaluations aggregated by study neighborhood. While for many of the items considerable variation exists, overall the data suggest substantial support for the police.

THE 1972 FINDINGS

In the findings reported below, education is operationalized as number of college credits completed. The attitude stimuli are typically items with multiple responses ranging from "strongly disagree" to "strongly agree" or "strongly oppose" to "strongly favor." Five category responses ranging from "very poor" to "outstanding" are also utilized. The

TABLE II-5

DISTRIBUTIONS OF 1972 CITIZEN EVALUATIONS
AGGREGATED BY STUDY NEIGHBORHOOD

	0-25%	26-50%	51-75%	76-100%	Total
% rate police outstanding	24	19	2	0	45 neighborhoods
% think police respond very rapidly	8	16	20	1	45 neighborhoods
% rate police-community relations outstanding	38	7	0	0	45 neighborhoods
% think police don't use too much force	0	5	12	13	30 neighborhoods (14 missing)
% very confident of police	3	7	20	0	30 neighborhoods (14 missing)
% agree police are honest	0	2	32	11	45 neighborhoods
% agree police are courteous	1	1	37	6	45 neighborhoods
% agree police treat all equal	0	3	39	3	45 neighborhoods

measures of performance are citizen evaluations of and experiences with various aspects of police service. The data are analyzed at two levels, the individual officer (n=481) and the neighborhood (n=45). At the individual level the data allow us to address the issue of the relationship between an officer's level of education and the attitudes he/she expresses. For 1972 we do not have any individual officer performance data. At the aggregate neighborhood level, we address questions pertaining to the effects of the proportion of surveyed officers with some college education on the attitudes of all interviewed officers in that department and on the evaluations of citizens residing in the study neighborhoods. Thus, at the aggregate neighborhood level the possible "spill-over" or cumulative effect of some educated officers on the attitudes and performance of all officers in that department is assessed while at the individual level the analysis is directed toward identifying any differences between college educated and non-college educated officers.

The Effects of Education on Attitudinal Responses

Individual Bi-Variate Analysis (Officer) - Table II-6 contains zero-order (bi-variate) relationships between patrol officer education level and attitudes toward police management, perceptions of citizen support, labor issues, civil rights, citizen involvement, and perceptions of organizational environment.

TABLE II-6

INDIVIDUAL 1972 PATROL OFFICER ATTITUDES BY EDUCATION[a]
CONTROLLING FOR DEPARTMENT SIZE

Attitudes[b]	Zero-Order	Small	Medium	Large
I. Police Management				
1. Military good model for policing	-.06[c] (N=454)	-.24* (N=41)	-.02 (N=265)	-.08 (N=148)
2. Police need precise guidelines	-.08 (N=475)	.11 (N=41)	-.10* (N=278)	.08 (N=156)
3. Higher salaries key to better police	-.00 (N=478)	.06 (N=43)	.02 (N=278)	-.06 (N=157)
4. Police do best job by following orders	.01 (N=471)	.06 (N=43)	.00 (N=274)	.05 (N=154)
5. Effective police need discretion	-.01 (N=474)	-.05 (N=41)	-.02 (N=277)	.02 (N=156)
6. Favor minority recruitment	.06 (N=456)	.04 (N=39)	-.01 (N=271)	-.00 (N=153)
7. Ethical codes important	-.05 (N=433)	-.17 (N=37)	-.02 (N=251)	-.06 (N=145)
8. Favor lateral entry	.16* (N=468)	.19* (N=42)	.07 (N=272)	.26* (N=154)
9. Have enough legal authority to be effective	.09 (N=477)	.01 (N=43)	.15* (N=277)	.04 (N=157)
10. Walking beats no longer useful	.04 (N=475)	.09 (N=42)	-.01 (N=276)	.11* (N=157)
11. Police should reside within jurisdiction	.08 (N=476)	.10 (N=43)	.08 (N=277)	.07 (N=156)
II. Labor Issues				
1. Police have right to organize	-.01 (N=474)	.15 (N=43)	.06 (N=275)	-.15* (N=156)
2. Effort alone leads to greater pay	-.07 (N=475)	-.10 (N=43)	-.04 (N=276)	-.10* (N=156)

TABLE II-6 Continued
1972:DEPARTMENT SIZE
Page 2

Attitudes	Zero-Order	Small	Medium	Large
III. Civil Rights				
1. Fewer restrictions on use of force would reduce crime	-.11* (N=477)	-.13 (N=43)	-.08 (N=278)	-.13* (N=156)
2. "Probably cause" requirements reduce effectiveness	-.12* (N=476)	-.09 (N=43)	-.10* (N=276)	-.15* (N=157)
3. No justification for protest and dissent	-.12* (N=473)	-.11 (N=43)	-.11* (N=276)	-.13* (N=154)
IV. Citizen Involvement				
1. Local politicians' interference reduces effectiveness	-.05 (N=469)	-.07 (N=42)	-.05 (N=274)	-.05 (N=153)
2. Only other police should judge citizen complaints	-.05 (N=397)	-.13 (N=36)	.00 (N=225)	-.09 (N=136)
V. Perceptions of Citizen Support				
1. Police perceptions of citizens' ratings of police	-.02 (N=463)	.02 (N=43)	.03 (N=271)	-.14* (N=149)
2. Newspaper support	-.06 (N=365)	-.02 (N=30)	-.05 (N=215)	-.11 (N=120)
3. Citizens likely to report suspicious event	.06 (N=472)	-.11 (N=43)	.12* (N=274)	.03 (N=155)
VI. Perceptions of Organizational Climate				
1. Promotion system fair	.08 (N=475)	.06 (N=42)	.14* (N=278)	-.02 (N=155)
2. Prosecutors cooperate with police	-.06 (N=458)	.20* (N=39)	-.06 (N=266)	-.16* (N=153)
3. Local courts support police	-.08 (N=447)	.04 (N=38)	-.01 (N=259)	-.21* (N=150)
4. Citizens influence police policy	-.00 (N=424)	.06 (N=41)	.01 (N=263)	-.06 (N=120)
5. Citizens understand police	-.03 (N=443)	-.20 (N=35)	-.16* (N=256)	.17* (N=152)
6. Knowledge exists to cope	-.07 (N=472)	-.16* (N=43)	-.03 (N=276)	-.12* (N=153)
7. All can influence policy	-.04 (N=468)	-.07 (N=44)	-.06 (N=269)	.01 (N=155)

TABLE II-6 Continued
1972:DEPARTMENT SIZE
Page 3

Note: The analysis includes samples of officers from twenty-four departments across three metropolitan areas.

a. The education variable is categorized as follows: (1= less than 12 years; 2 = one year college; 3 = two years college; 4 = three years college; 5 = four or more years college).
b. The attitudes are likert-type items ranging from 1 = strongly disagree to 4 = strongly agree or from 1 = very poor to 5 = outstanding.
c. The measure is Kendall's Tau.
* A non-negligible relationship ($p < .10$ and $tau_c > .10$).

The measure of the extent to which attitudinal responses vary with educational level presented in Table II-6 is Kendall's tau. Kendall's tau, which ranges from +1.0 to -1.0, indicates for the number of cases studied the tendency for rank order on one variable (perhaps categorized as "high" to "low") to be the same (or different) on another variable (perhaps categorized "strongly agree" to "strongly disagree"). On Table II-6, for the first attitudinal item listed ("favor recruiting minorities") a Kendall's tau of .06, for the 456 cases (officers) on whom data are available means that educational "rank" of the officer does not vary systematically with favoring or opposing the recruitment of minorities into policing. Although obviously somewhat arbitrary, we regard Kendall's tau of less than $\pm$.10 as "no relationship" or a negligible relationship.

The measure of association suggests there is no systematic relationship between individual officers' levels of education and their responses to attitude stimuli. The sole exception is with respect to attitudes towards civil rights. Patrol officers with more education are less critical of restrictions on their use of force and ability to search citizens and are more open to public protest and dissent. These relationships support reform expectations.

When a control for department size is introduced (Table II-6), the pervasive pattern of no relationship is substantially maintained. However, in the largest departments associations between supportive attitudes toward the protection of civil

rights and higher levels of educational attainment are somewhat stronger than are the associations for the entire sample. Also, in large departments educated officers are slightly more likely to perceive a hostile organizational climate (such as prosecutors and the local courts) than are less educated officers. Overall, however, the expected associations between education and attitudes are not found, despite the use of a generous standard of significance and strength of relationship ($p = .10$ and $tau_c > .10$).

Aggregate Multi-Variate Analysis (Neighborhoods) - Tables II-7 and II-8 contain the 1972 aggregate neighborhood level analysis. The unit of analysis is the study neighborhood. We use regression analysis to explore these relationships. The use of regression techniques allows us to examine the degree to which changes in the proportion of officers with some college education affect attitudinal responses and citizen evaluations while holding the effects of department size and neighborhood characteristics constant. Statements about cause and effect can be made only for those values that are statistically significant (*), that is, for those values where the likelihood of error due to sampling and other external factors is minimal (less than 5 out of 100).

Regression analysis of the percent of patrol rank officers with some college is presented in Table II-7. Examination of Table II-7 reveals that, holding the effects of department

TABLE II-7

REGRESSION ANALYSIS OF AGGREGATE 1972 PATROL OFFICER ATTITUDES WITH AGGREGATE 1972 PATROL OFFICER EDUCATION

Dependent Variables	Independent Variables: % Patrol Rank Personnel with some Education	Department Size	Racial Composition of Neighborhood (% non-white)	$\bar{X}$ Housing Value	R^2	n=
% Regard Recent Supreme Court Decisions Harmful	-.03[a] (.04)[b]	.34* (4.71)	-.26 (2.94)	.25 (2.43)	.25* (3.23)	(n=44)[c]
% Favor External Review	-.56* (16.92)	-.28* (4.17)	.09 (.45)	-.47* (10.75)	.42* (7.19)	(n=44)
% Regard Force Effective	-.40* (6.00)	-.08 (.23)	-.16 (1.01)	-.07 (.18)	.15 (1.73)	(n=44)
% Think Probably Cause Requirements Reduce Effect	-.22 (1.88)	.24 (2.20)	.00 (.00)	.09 (.26)	.18 (2.19)	(n=44)
% Favor Lateral Entry	.11 (.48)	-.29 (3.04)	.22 (1.79)	.14 (.68)	.16 (1.87)	(n=44)
% Strongly Agree Knowledge Exists to Cope with Problems	.06 (.13)	.19 (1.13)	.01 (.00)	-.02 (.01)	.03 (.29)	(n=44)
% Strongly Disagree No Justification for Protest and Dissent	.40* (6.09)	.28 (2.74)	.13 (.72)	-.13 (.54)	.16 (1.83)	(n=44)

a. Standardized Coefficient (Beta Weight)
b. F Statistic
c. One neighborhood is excluded because of problems with citizen survey data obtained.
* Significant at .05 or better.

size, racial composition and mean housing value constant, a percentage point increase in the proportion of officers with some college education will result in slightly over half of a percentage point decrease in the proportion of officers in the department who favor external review. Thus, we can make the claim that the proportion of officers with some college education is negatively associated with the percent who favor external review, supporting to a limited extent some of the fears of increased professionalization articulated by opponents of college for police. Similarly, the proportion of officers with some college is negatively related to the percent who regard force to be effective in crime control and is positively related to the percent who strongly disagree there is no justification for public protest or dissent. The slight association between education and attitudes supportive of civil rights on the individual level is thus substantiated in the aggregate analysis. However, the proportion of patrol officers with some college is insignificant in predicting the responses to the remaining attitude stimuli.

The Effects of Education on Police Performance

A pattern of insignificant relationships between officer education and aggregate police performance measures is found in Table II-8. Citizen evaluations of various aspects of police services comprise the measure of performance. The percent of

TABLE II-8

REGRESSION ANALYSIS OF AGGREGATE 1972 CITIZEN EVALUATION WITH AGGREGATE 1972 PATROL OFFICER EDUCATION

Dependent Variables	Independent Variables: Patrol Rank Personnel with some College	Racial Composition of Neighborhood (% non-white)	Neighborhood Wealth	Department Size	R^2	n=
% Rate Police Outstanding	.11[a] (.77)[b]	-.22 (3.12)	-.38* (8.04)	-.29 (4.89)	.50* (9.60)	(n=44)[c]
% Think Police Respond Very Rapidly	.17 (1.77)	-.14 (1.09)	-.05 (.12)	-.53* (15.48)	.46* (8.16)	(n=44)
% Think Crime Increasing	-.11 (.66)	.36* (6.77)	.04 (.07)	.41* (8.37)	.41* (6.69)	(n=44)
% Strongly Agree Police are Honest	.11 (.70)	-.26 (3.40)	-.29* (3:66)	-.20 (1.81)	.36* (5.51)	(n=44)
% Strongly Agree Police are Courteous	.11 (.76)	-.31 (5.77)	-.41* (9.24)	-.10 (.56)	.47* (8.78)	(n=44)
% Strongly Agree Police Treat with Equality	.03 (.04)	-.26 (2.87)	-.28 (2.81)	-.06 (.13)	.23 (2.97)	(n=44)
% Rate Police-Community Relations Outstanding	-.02 (.02)	-.18 (1.56)	-.46* (8.93)	-.07 (.24)	.33* (4.88)	(n=44)

a. Standardized coefficient (Beta Weight)
b. F statistic
c. One neighborhood is excluded because of problems with citizen survey data obtained.
* Significant at .05 or better

patrol officers with some college in a department or district serving a study neighborhood is regressed on citizen evaluations (aggregated by neighborhood) controlling for department and neighborhood characteristics. The results suggest that the education of officers in a department or district has no measurable bearing on citizen evaluations of police performance in the study neighborhoods, whereas department and neighborhood characteristics tend to be substantial predictors of citizen evaluation of police performance.

Summary of Findings

The findings of the 1972 study for the most part fail to substantiate the presumed association between individual officers' education and attitudes (as they are measured here). Thus, the causal model underlying policies designed to increase educational attainment among patrol officers is suspect. The proportion of officers in a department or district serving a study neighborhood with some college was found not to be related to the attitudes of all officers in a department or district. Furthermore, there is no evidence to suggest a direct relationship between the proportion of officers with some education and measures of police performance nor is the presumed officer attitude and performance relationship systematically found on the aggregate level.

Though these findings raise considerable questions about public efforts to educate the police, several methodological weaknesses need to be noted and the findings interpreted accordingly. In 1972 few officers in our sample had attained a baccalaureate degree and most of the officers with some college had completed one year or less or course work. The 1972 data is clearly susceptible to the charge that the subjects had received an insufficient amount of "treatment." That is, too few officers in the study had had sufficient exposure to college for the intended effects to be realized. Another weakness of the 1972 data is the use of citizen evaluations of police as the sole measure of performance. Though we believe citizen evaluations constitute a far superior performance measure compared to agency generated statistics, for example, they are still controversial. More damaging, methodologically, than the controversy, however, is the fact that the use of citizen evaluations obtained through surveys only provides aggregate measures of police performance in a neighborhood or a jurisdiction and does not pertain to an individual officer's performance. The design and data collection strategies of the 1977 study attempt to rectify these weaknesses.

2.2 THE 1977 POLICE SERVICES STUDY

Table II-9 contains a matrix of the departments and neighborhoods studied in 1977 distributed by neighborhood conditions and organization type. The findings reported here are derived from three primary data collection sources: in-person interviews with more than 1,800 officers in thirty-seven departments; observation of more than 900 patrol shifts in twenty-four departments; a telephone survey of approximately 12,000 citizens residing in sixty neighborhoods within the jurisdiction of twenty-four of the study departments.

THE POLICE OFFICER SURVEY

This survey focused on officers engaged in the supervision or provision of patrol services. A survey instrument similar to that used in the 1972 study was used. Officers were asked about various background characteristics, educational experiences and attitudes toward the community served and issues in law enforcement policy. Many of the 1972 items were replicated in the 1977 survey. The survey instrument is found in Appendix C. The interviews were conducted by a team of four male and four female interviewers. In each department, the officers surveyed included a census or sample of officers whose work assignment included one or more of the study neighborhoods. For those departments where the entire jurisdiction was the

TABLE II-9

RESEARCH DESIGN MATRIX

(Distribution of 1977 Study Neighborhoods)

Neighborhood Characteristics[b]	Department Size[a]		
	Small	Medium	Large
Low $\bar{X}$ Income/Minority	2	1	7
Low $\bar{X}$ Income/Mixed	1	0	5
Low $\bar{X}$ Income/White	0	1	2
Lower Middle $\bar{X}$ Income/Minority	0	0	1
Lower Middle $\bar{X}$ Income/Mixed	2	2	1
Lower Middle $\bar{X}$ Income/White	1	4	10
Middle $\bar{X}$ Income/Minority	1	0	0
Middle $\bar{X}$ Income/Mixed	0	1	0
Middle $\bar{X}$ Income/White	2	4	5
Upper Income/White	1	4	2
Subtotal	10 Neighborhoods (8 Departments)	17 Neighborhoods (9 Departments)	33 Neighborhoods (7 Departments)[c]
Departments with Neighborhood Characteristics Unavailable	7 Departments	5 Departments	1 Department
TOTAL	15 Departments	14 Departments	8 Departments

a. Small = less than 31 sworn full-time officers
Medium = more than 30 and less than 200 sworn full-time officers
Large = 200 or more sworn full-time officers

b. All neighborhood characteristics statistics are derived from the citizen survey.
Low $\bar{X}$ income = 0 - $12,000
Lower Middle $\bar{X}$ income = $12,001 - $17,000
Middle $\bar{X}$ income = $17,001 - $21,000
Upper $\bar{X}$ income = $21,001 and higher
Minority = less than 25% white
Mixed = 26% to 75% white
White = more than 75% white

c. Includes a central city department comprised of nine districts. Five were studied. Specific neighborhood data is available for three districts.

"neighborhood" focus, a sample or census was selected of all officers in a department whose work assignment was related to patrol services.

A special effort was also made to interview officers who had been interviewed in 1972, whatever their current work assignments. Two hundred and ninety-three of the officers interviewed in 1972 were interviewed in 1977 as well. Data analysis for this group of officers is reported only in section 2.4. For the purposes of the research reported here, only patrol rank officers are included in the analysis.

Among the patrol officers interviewed, completed education ranges from 3% with high school or less to 16% with four years of college or more (Table II-10). The proportion of patrol officers in a department with some college ranges from 38% to 100%. There appears to be a substantial increase in college attainment since 1972.

In order to determine if officers' characteristics differed across various categories of educational achievement, the levels of education completed by the officers surveyed in 1977 by department size and several personal attributes (sex, race/ethnicity, length of service) are presented in Table II-11. Overall, there is very little difference with respect to sex or race/ethnicity between officers with different levels of education. Officers with college degrees (i.e. completion of four years of college or more) seem to be more likely to have

TABLE II-10

DISTRIBUTION OF 1977 PATROL OFFICER EDUCATIONAL ATTAINMENT

Number of Years of Education Completed	Officers	% of Sample
High School or Less	250	23.3%
Some College	656	61.1%
College Graduate +	167	15.6%
Total	1,073	100.0%

TABLE 11-11

DISTRIBUTION OF 1977 PATROL OFFICER EDUCATION
BY OFFICER AND DEPARTMENT CHARACTERISTICS

	High School or Less	Some College	College Grad +	Total
Officer Sex				
Male	234 (94.0%)	630 (96.2%)	160 (95.9%)	1,024 (95.6%)
Female	15 (6.0%)	25 (3.8%)	7 (4.2%)	47 (4.4%)
TOTAL	249 (100%)	655 (100%)	167 (100%)	1,071 (100%)
Note: two cases unknown				
Race/Ethnicity				
White	228 (91.2%)	589 (89.9%)	153 (91.6%)	970 (90.5%)
Black	18 (7.2%)	60 (9.2%)	12 (7.2%)	90 (8.4%)
Latino	4 (1.6%)	5 (.8%)	1 (.6%)	10 (.9%)
Oriental	0 (0%)	0 (0%)	1 (.6%)	1 (.1%)
Other	0 (0%)	1 (.2%)	0 (0%)	1 (.1%)
TOTAL	250 (100%)	655 (100%)	167 (100%)	1,072 (100%)
Note: one case unknown				
Officer Tenure				
Less than 6 years	132 (52.8%)	425 (64.7%)	124 (74.3%)	681 (63.5%)
6 years or more	118 (47.2%)	231 (35.2%)	43 (25.7%)	392 (36.5%)
TOTAL	250 (100%)	656 (100%)	167 (100%)	1,073 (100%)
Department Size				
Small (less than 30 sworn officers)	35 (14.0%)	98 (14.9%)	9 (5.4%)	142 (13.2%)
Medium (30-199 sworn officers)	69 (27.6%)	217 (33.1%)	55 (32.9%)	341 (31.8%)
Large (200 or more sworn officers)	146 (58.4%)	341 (52.0%)	103 (61.7%)	590 (55.0%)
TOTAL	250 (100%)	656 (100%)	167 (100%)	1,073 (100%)

shorter tenures of service (five years or less) and are less likely to be found in smaller departments (less than 31 sworn officers) than their counterparts with less education.

Table II-12 contains the distribution of surveyed officers by categories of educational attainment and characteristics of their neighborhood assignments. Neighborhood data are available only for those officers surveyed in Part 1 (the Summer) of the 1977 study. (This includes sixty neighborhoods served by twenty-four departments.) Officers with different levels of education are similarly distributed across the median income and racial composition (percent white) of the study neighborhoods.

PATROL OBSERVATION

Patrol officers in twenty-four of the thirty-seven study departments were systematically observed by trained non-police observers. Each encounter (three or more verbal exchanges or interactions that might otherwise reasonably be considered to constitute an encounter) between police and citizens was recorded. Information pertaining to the type of problem or situation, the location of the encounter, the characteristics of the citizen participants and the actions taken by police as well as citizens was collected. The observation instrument is found in Appendix D-1. In each department fifteen shifts of patrol were observed. Observation was conducted across all

TABLE II-12

DISTRIBUTION OF 1977 PATROL OFFICER EDUCATION BY CHARACTERISTICS OF STUDY NEIGHBORHOODS INCLUDED IN OFFICERS' WORK ASSIGNMENTS*

	High School or Less	Some College	College Grad +	Total
Neighborhood $\bar{X}$ Income				
Lower (0 - $12,000)	65 (33.3%)	186 (34.1%)	52 (34.7%)	303 (34.0%)
Lower-Middle ($12,001 - $17,000)	74 (37.9%)	165 (30.0%)	36 (24.0%)	275 (30.9%)
Middle ($17,001 - $21,000)	45 (23.1%)	121 (22.0%)	40 (26.7%)	206 (23.1%)
Upper ($21,000 +)	11 (5.6%)	74 (13.6%)	22 (14.7%)	107 (12.0%)
TOTAL	195 (100%)	546 (100%)	150 (100%)	891 (100%)
Racial Composition				
Minority (25% white or less)	41 (21.0%)	126 (23.1%)	38 (25.3%)	205 (23.0%)
Mixed (26% white to 75% white)	20 (10.3%)	92 (16.8%)	27 (18.0%)	139 (15.6%)
White (76% white or more)	134 (68.7%)	328 (60.1%)	85 (56.7%)	547 (61.4%)
TOTAL	195 (100%)	546 (100%)	150 (100%)	891 (100%)

*Note: Only those officers in study departments with a neighborhood focus (Part 1 of the 1977 Police Services Study) are included here.

three shifts and more than five thousand police-citizen encounters were recorded. Observees were not randomly selected. While the research staff selected the day and shift for observation, department supervisors typically selected the particular patrol officers to be observed. In the research reported below individual encounters are characterized along five dimensions: (1) whether or not any of the citizen participants indicated signs of anger, (2) whether or not any arrests or labeling, such as removal to a psychiatric facility, occurred, excluding traffic related citations and summons, (3) whether or not the officer(s) used physical force against any citizen during the encounter, (4) whether or not the officer(s) used verbally abusive language toward any citizen during the encounter, and (5) whether or not the officer(s) rendered any help or assistance beyond their law enforcement, traffic regulation and information providing capacities. The measurement of these dimensions (citizen anger, police labeling, force, verbal abuse and helping) is not based upon interpretation of department policies or legal restraints on police or civilian conduct but instead reflects the observer's account of the interaction between police and citizens and our own interpretation of standards of public "civility" and what constitutes anger, verbal abuse, etc. (See Appendix D-2 for specific elaboration of the components of each of the dimensions.) Although it may certainly be argued that any of these dimensions

TABLE II-13

DISTRIBUTION OF 1977 NEIGHBORHOODS
BY AGGREGATE DIMENSIONS OF ENCOUNTERS

Dimensions	0-2%	2.1%-5%	5.1%-10%	10.1%-40%	Total
% Encounters with angry citizens	5	22	20	13	60 neighborhoods
% Encounters where police label	13	24	20	3	60 neighborhoods
% Encounters where police use force	10	20	22	8	60 neighborhoods
% Encounters where police are verbally abusive	2	15	18	25	60 neighborhoods
% Encounters where police provide special help	0	0	2	58*	60 neighborhoods

*Note: 33 neighborhoods fall within the 10.1% to 20% range.
25 neighborhoods fall within the 20.1% to 30.9% range.

is more or less appropriate in a given encounter situation, the intent of the use of these measures is to examine the extent to which education level makes a difference with respect to the frequency with which the various dimensions are present in encounters. The distribution of encounters aggregated by neighborhood along the five dimensions is presented in Table II-13.

CITIZEN SURVEY

Within the jurisdiction of twenty-four of the study departments a random sample of two-hundred citizens residing in each of the sixty neighborhoods was interviewed. Citizens were asked about their evaluations of police services provided to their neighborhood, their personal experiences with the police and the kinds of behaviors and activities with respect to police and public safety in which they engage. The survey instrument is found in Appendix E. Again, it should be noted that neighborhoods were selected so that the sample of citizens systematically excludes representatives of commercial establishments and residents of high density rental housing, public housing, nursing homes, jails and other institutions, some of whom are those most likely to have frequent contact with police. Also, because it was a telephone survey "street people" and those without telephones were automatically excluded, while those representatives of stable households who are more likely to be at home are over-represented.

Table II-14 presents the distribution of citizen evaluations aggregated by neighborhood. It is interesting to note that there are considerably fewer positive evaluations of the police in 1977 than in 1972.

THE 1977 FINDINGS

Education is operationalized, here, on the individual level as years of education completed. The attitude stimuli are multiple choice items, with many identical or similar to those used in 1972. Multiple measures of police performance are employed. These include several dimensions of police-citizen encounters and a variety of citizen evaluations of police services. Again the data analysis is conducted on two levels. At the individual level differences in attitudes and performance among officers with varying levels of education are addressed. At the aggregate neighborhood level the analysis focuses on the effects of the proportion of officers with some college in a department serving a study neighborhood on the attitudes of all officers whose work assignment includes that neighborhood and on police performance in that neighborhood.

The Effects of Education on Attitudinal Responses

Individual Bi-Variate Analysis (Officers) - Table II-15 contains zero-order measures of association between an officer's educational attainment and attitudes toward police management,

TABLE II-14

DISTRIBUTION OF 1977 CITIZEN EVALUATIONS
AGGREGATED BY STUDY NEIGHBORHOOD

Evaluations	0-25%	26-50%	51-75%	76-100%	Total
% rate police outstanding	49	11	0	0	60 neighborhoods
% think some jurisdictions get better service	43	17	0	0	60 neighborhoods
% say P.D. tries to provide services wanted	0	0	11	49	60 neighborhoods
% think police respond very rapidly	20	32	8	0	60 neighborhoods
% strongly agree police are honest	26	19	15	0	60 neighborhoods
% strongly agree police are courteous	11	27	22	0	60 neighborhoods
% strongly agree police treat all equal	33	25	2	0	60 neighborhoods

labor issues, civil rights, citizen involvement, social services, perceptions of citizen support and perceptions of organizational environment. Few significant relationships are found. As expected, officers with higher educational achievement are somewhat more likely to support departmental policies requiring college education for recruitment and promotion. Also, officers with more education are slightly less likely to perceive that "brass know what is going on on the street," that the military model of organization is appropriate for the police, and that "promotion is fair" than are officers with little or no college. Overall, however, there appears to be no systematic pattern of relationships between the attitudes and individual officer education.

Controls for department and neighborhood characteristics are introduced in the analyses of the association between individual patrol officer education and attitudes (Tables II-15, II-16 and II-19). Controlling for department size suggests that at least for small and large agencies individual officer education is slightly associated with stimuli in the police management and perceptions of organizational climate attitude sets. Educated officers in smaller departments tend to be less supportive of the traditional police command structure. More highly educated officers in small and large departments tend to perceive the organizational climate as less supportive

TABLE II-15

INDIVIDUAL 1977 PATROL OFFICER ATTITUDES BY EDUCATION[a]
CONTROLLING FOR DEPARTMENT SIZE

Attitudes[b]	Zero-Order	Small	Medium	Large
I. Police Management				
1. Military good model for policing	-.10*[c] (N=1063)	-.23* (N=137)	-.14* (N=340)	-.05 (N=586)
2. Police need precise guidelines	-.03 (N=1070)	-.01 (N=139)	.01 (N=341)	-.05 (N=590)
3. Higher salaries key to better policing	-.02 (N=1062)	-.07 (N=138)	-.07 (N=339)	.01 (N=585)
4. Police do best job by following orders	-.09 (N=1068)	-.12* (N=139)	-.06 (N=339)	-.10* (N=590)
5. Effective police need discretion	.02 (N=1070)	-.01 (N=138)	.04 (N=341)	.02 (N=591)
6. New officers should have some college	.34* (N=1068)	.35* (N=139)	.35* (N=340)	.33* (N=589)
7. Some college should be required for promotion	.29* (N=1068)	.25* (N=138)	.34* (N=341)	.27* (N=589)
II. Labor Issues				
1. Police have right to organize	.05 (N=1066)	.09 (N=138)	.03 (N=341)	.06 (N=587)
III. Civil Rights				
1. Fewer restrictions on use of force would reduce crime	-.07 (N=1068)	-.08 (N=138)	-.07 (N=340)	-.08 (N=590)
2. "Probably cause" requirements reduce effectiveness	-.08 (N=1069)	-.12* (N=139)	-.04 (N=341)	-.10* (N=589)
IV. Citizen Involvement				
1. Local politicians too influential	-.03 (N=1062)	.03 (N=137)	-.09 (N=340)	.00 (N=585)
2. Only other police should judge citizen complaints	-.09 (N=1070)	-.00 (N=139)	-.09 (N=341)	-.10* (N=590)
3. Citizen watch groups effective	.01 (N=1069)	.04 (N=139)	-.03 (N=341)	-.00 (N=589)
4. Auxiliary police big help	-.05 (N=1067)	-.07 (N=138)	-.08 (N=341)	-.02 (N=588)

TABLE II-15 Continued
1977:DEPARTMENT SIZE
Page 2

Attitudes	Zero-Order	Small	Medium	Large
V. Perception of Citizen Support				
1. Police perception of citizen rating of police	-.04 (N=1044)	-.03 (N=134)	-.04 (N=338)	-.05 (N=572)
2. People respect police	-.01 (N=1068)	-.05 (N=139)	-.00 (N=340)	-.02 (N=589)
3. Citizen abuse of police likely	-.05 (N=1069)	-.08 (N=138)	-.07 (N=341)	-.04 (N=590)
4. Citizens willing to press charges	-.03 (N=890) [d]	-.02 (N=81)	.02 (N=279)	-.07 (N=529)
5. Citizens report victimizations	-.01 (N=1045)	-.01 (N=132)	.01 (N=329)	-.03 (N=584)
VI. Perception of Organizational Climate				
1. Promotion system fair	-.10 (N=1053)	-.15* (N=137)	-.03 (N=333)	-.12* (N=583)
2. Prosecutors cooperate with police	-.03 (N=1049)	-.09 (N=136)	.01 (N=335)	-.04 (N=578)
3. Local courts support police	-.07 (N=1044)	-.04 (N=138)	-.06 (N=330)	-.07 (N=576)
4. Department rates high compared to others in area	-.01 (N=1029)	-.05 (N=139)	.03 (N=332)	-.03 (N=558)
5. Opportunity to influence department policies	-.09 (N=1067)	-.18* (N=138)	-.05 (N=340)	-.09 (N=589)
6. Brass know what is going on on street	-.10* (N=1062)	-.10* (N=139)	-.07 (N=338)	-.11* (N=585)
7. Superiors fit rules to the situation	.04 (N=1066)	-.05 (N=139)	.07 (N=340)	.04 (N=587)
8. Immediate supervisors let officers use discretion	-.04 (N=1068)	-.00 (N=138)	-.02 (N=340)	-.06 (N=590)
9. Good working relations exist within department	-.08 (N=1066)	-.11* (N=135)	-.02 (N=341)	-.09 (N=590)
10. Department morale high	-.04 (N=1066)	-.17* (N=138)	.04 (N=340)	-.06 (N=588)

TABLE II-15 Continued
1977: DEPARTMENT SIZE
Page 3

Attitudes	Zero-Order	Small	Medium	Large
VII. Social Services				
1. Referral to social services police job	-.04 (N=1065)	.03 (N=137)	-.02 (N=340)	-.05 (N=588)
2. Social services no police job	-.04 (N=1065)	-.03 (N=138)	-.01 (N=340)	-.06 (N=587)

a. Education is categorized as follows: (0 years to 12 years = 1) (13 years = 2) (14 years = 3) (15 years = 4) (16 years or more = 5).
b. Attitudes are likert items ranging from: 1 = strongly disagree to 4 = strongly agree, or from 1 = very poor to 5 = outstanding.
c. The measure is Kendall's Tau.
d. Includes only officers in Part 1 (summer) departments.
* A non-negligible relationship. ($p \leq .10$ and $Tau \geq .10$)

than do their non-college educated colleagues. Also, in the small and large departments a slight negative association is suggested by the data between education level and belief that probable cause requirements reduce effectiveness. In the medium size category, however, the pattern of no relationship remains unchanged. Similarly controlling separately for the mean income level and racial composition of the study neighborhood included in the officer's work assignment does not alter the general absence of association between officer education and attitudes. Officers with more education whose work assignment includes a low mean income study neighborhood or racially mixed neighborhood, however, are slightly more likely to perceive the organizational climate as unsupportive. In addition, college educated officers whose work assignment includes a racially mixed neighborhood tend to favor police management techniques emphasizing patrol officer discretion more than do officers with little or no college. Thus, the circumstances under which education and attitudes appear to be slightly associated are limited. However, those two attitude sets where the few significant relationships tend to be found do raise important questions about the potential unintended consequence of college education for police, i.e. greater demands for discretion and perceptions of the organizational climate as hostile or uncooperative.

TABLE II-16

INDIVIDUAL 1977 PATROL OFFICER ATTITUDES BY EDUCATION[a]
CONTROLLING FOR NEIGHBORHOOD INCOME

Attitudes[b]	Zero-Order	Lower	Lower-Middle	Middle	Upper
I. Police Management					
1. Military good model for policing	-.09[c] (N=890)[d]	-.07 (N=299)	-.10* (N=274)	-.12* (N=202)	-.04 (N=107)
2. Police need precise guidelines	-.05 (N=896)	-.07 (N=302)	-.10* (N=274)	-.02 (N=205)	.01 (N=107)
3. Higher salaries key to better policing	-.02 (N=890)	-.02 (N=300)	-.07 (N=271)	.02 (N=204)	-.04 (N=107)
4. Police do best job by following orders	-.08 (N=895)	-.08 (N=302)	-.12* (N=274)	-.08 (N=205)	-.03 (N=106)
5. Effective police need discretion	.03 (N=897)	-.01 (N=302)	.03 (N=275)	.08 (N=205)	.11* (N=107)
6. New offices should have some college	.33* (N=894)	.32* (N=301)	.32* (N=274)	.32* (N=204)	.41* (N=107)
7. Some college should be required for promotion	.28* (N=895)	.19* (N=300)	.29* (N=275)	.31* (N=205)	.43* (N=107)
II. Labor Issues					
1. Police have right to organize	.04 (N=893)	.02 (N=302)	.01 (N=273)	.09 (N=204)	.16* (N=106)
III. Civil Rights					
1. Fewer restrictions on use of force would reduce crime	-.06 (N=895)	-.09 (N=300)	-.09 (N=275)	.01 (N=205)	-.02 (N=107)
2. "Probable cause" requirements reduce effectiveness	-.08 (N=895)	-.10* (N=301)	-.12* (N=274)	-.07 (N=205)	.02 (N=107)
IV. Citizen Involvement					
1. Local politicians too influential	-.04 (N=891)	.01 (N=298)	-.04 (N=274)	-.03 (N=204)	-.09 (N=107)
2. Only other police should judge citizen complaints	-.08 (N=896)	-.06 (N=302)	-.08 (N=274)	-.05 (N=205)	-.11* (N=107)
3. Citizen watch groups effective	.01 (N=895)	-.02 (N=301)	.06 (N=274)	.02 (N=205)	.03 (N=107)
4. Auxiliary police big help	-.05 (N=894)	-.05 (N=301)	-.05 (N=273)	-.01 (N=205)	.04 (N=107)

TABLE II-16 Continued
1977:NEIGHBORHOOD INCOME
Page 2

Attitudes	Zero-Order	Lower	Lower-Middle	Middle	Upper
V. Perception of Citizen Support					
1. Police perception of citizen rating of police	-.03 (N=875)	-.05 (N=291)	-.09 (N=270)	-.06 (N=200)	.03 (N=107)
2. People respect police	-.00 (N=894)	-.01 (N=301)	.00 (N=274)	-.04 (N=204)	.05 (N=107)
3. Citizen abuse of police likely	-.06 (N=895)	-.05 (N=300)	-.06 (N=275)	-.01 (N=205)	-.05 (N=107)
4. Citizens willing to press charges	-.03 (N=890)	.02 (N=299)	-.09 (N=273)	.02 (N=203)	.06 (N=107)
5. Citizens report victimizations	-.00 (N=878)	.02 (N=296)	-.05 (N=268)	.04 (N=202)	-.02 (N=104)
VI. Perception of Organizational Climate					
1. Promotion system fair	-.10* (N=882)	-.16* (N=297)	-.11* (N=272)	-.10* (N=200)	.08 (N=105)
2. Prosecutors cooperate with police	-.01 (N=876)	-.03 (N=295)	-.01 (N=266)	.01 (N=200)	-.04 (N=107)
3. Local courts support police	-.06 (N=875)	-.03 (N=298)	-.08 (N=267)	-.04 (N=201)	-.17* (N=101)
4. Department rates high compared to others in area	.00 (N=860)	-.00 (N=284)	-.02 (N=263)	-.08 (N=202)	.11* (N=105)
5. Opportunity to influence department policies	-.08 (N=894)	-.14* (N=301)	-.02 (N=274)	-.08 (N=204)	-.09 (N=107)
6. Brass know what is going on on street	-.09 (N=888)	-.09 (N=300)	-.07 (N=271)	-.14* (N=202)	-.07 (N=107)
7. Superiors fit rules to the situation	.04 (N=892)	-.02 (N=299)	.04 (N=274)	.06 (N=204)	.17* (N=107)
8. Immediate supervisors let officers use discretion	-.04 (N=894)	-.11* (N=300)	-.07 (N=274)	.05 (N=205)	.03 (N=107)
9. Good working relations exist within department	-.07 (N=892)	-.12* (N=299)	-.06 (N=273)	-.05 (N=205)	.06 (N=107)
10. Department morale high	-.03 (N=892)	-.02 (N=299)	-.04 (N=273)	-.06 (N=205)	-.02 (N=107)

TABLE II-16 Continued
1977:NEIGHBORHOOD INCOME
Page 3

Attitudes	Zero-Order	Lower	Lower-Middle	Middle	Upper
VII. Social Services					
1. Referral to social services police job	-.04 (N=892)	-.04 (N=300)	-.07 (N=273)	.03 (N=204)	-.06 (N=107)
2. Social services not police job	- 03 (N=892)	.00 (N=301)	-.09 (N=272)	.04 (N=204)	-.11* (N=107)

a. Education is categorized as follows: (0 years to 12 years = 1) (13 years = 2) (14 years = 3) (15 years = 4)(16 years or more = 5)
b. Attitudes are likert items ranging from: 1 = strongly disagree to 4 = strongly agree, or from 1 = very poor to 5 = outstanding.
c. The measure is Kendall's Tau c.
d. Includes only officers in study departments with two neighborhood focus.
* A non-negligible relationship. ($p < .10$ and tau $> .10$)

TABLE II-17

INDIVIDUAL 1977 PATROL OFFICER ATTITUDES BY EDUCATION[a]
CONTROLLING FOR NEIGHBORHOOD RACIAL COMPOSITION

Attitudes[b]	Zero-Order	Minority	Mixed	White
I. Police Management				
1. Military good model for policing	-.09[c] (N=890)[d]	-.09 (N=203)	-.23* (N=136)	-.07 (N=543)
2. Police need precise guidelines	-.05 (N=896)	.07 (N=204)	-.13* (N=138)	-.07 (N=546)
3. Higher salaries key to better policing	-.02 (N=890)	-.04 (N=203)	-.02 (N=138)	-.03 (N=541)
4. Police do best job by following orders	-.08 (N=895)	.00 (N=205)	-.32* (N=138)	-.05 (N=544)
5. Effective police need discretion	.03 (N=897)	-.01 (N=205)	-.02 (N=138)	-.07 (N=546)
6. New officers should have some college	.33* (N=894)	.37* (N=204)	.21* (N=138)	.36* (N=544)
7. Some college should re required for promotion	.28* (N=895)	.29* (N=204)	.16* (N=137)	.31* (N=546)
II. Labor Issues				
1. Police have right to organize	.04 (N=893)	.03 (N=205)	.01 (N=138)	.05 (N=542)
III. Civil Rights				
1. Fewer restrictions on use of force would reduce crime	-.06 (N=895)	-.11* (N=203)	-.00 (N=138)	-.06 (N=546)
2. "Probable cause" requirements reduce effectiveness	-.08 (N=895)	-.11* (N=205)	-.06 (N=137)	-.09 (N=545)
IV. Citizen Involvement				
1. Local politicians too influential	-.04 (N=891)	.02 (N=203)	.02 (N=137)	-.08 (N=543)
2. Only other police should judge citizen complaints	-.08 (N=896)	-.08 (N=205)	-.07 (N=138)	-.08 (N=545)
3. Citizen watch groups effective	.01 (N=895)	.01 (N=204)	-.09 (N=138)	.03 (N=545)
4. Auxiliary police big help	-.05 (N=894)	.08 (N=203)	-.15* (N=138)	-.05 (N=545)

TABLE II-17 Continued
1977:NEIGHBORHOOD RACIAL COMPOSITION
Page 2

Attitudes	Zero-Order	Minority	Mixed	White
V. Perception of Citizen Support				
1. Police perception of citizens' rating of police	-.03 (N=875)	-.02 (N=200)	-.08 (N=133)	-.01 (N=535)
2. People respect police	-.00 (N=894)	.01 (N=204)	-.11* (N=138)	.04 (N=544)
3. Citizen abuse of police likely	-.06 (N=895)	-.09 (N=204)	-.03 (N=137)	-.07 (N=546)
4. Citizens willing to press charges	-.03 (N=890)	-.01 (N=205)	-.04 (N=137)	-.01 (N=540)
5. Citizens report victimizations	-.00 (N=878)	-.03 (N=201)	.09 (N=134)	-.00 (N=535)
VI. Perception of Organizational Climate				
1. Promotion system fair	-.10 (N=882)	-.13* (N=201)	-.22* (N=136)	-.06 (N=537)
2. Prosecutors cooperate with police	-.01 (N=876)	.01 (N=198)	-.08 (N=134)	-.01 (N=536)
3. Local courts support police	-.06 (N=875)	.00 (N=199)	-.17* (N=135)	-.06 (N=533)
4. Department rates high compared to others in area	.00 (N=860)	-.03 (N=196)	-.02 (N=131)	.02 (N=527)
5. Opportunity to influence department policies	-.08 (N=894)	-.09 (N=204)	-.16* (N=138)	-.06 (N=544)
6. Brass know what is going on on street	-.09 (N=888)	-.05 (N=201)	-.20* (N=138)	-.09 (N=541)
7. Supervisors fit rules to the situation	.04 (N=892)	.03 (N=202)	-.10* (N=138)	.08 (N=544)
8. Immediate supervisors let officers use discretion	-.04 (N=894)	-.07 (N=204)	-.00 (N=137)	-.04 (N=546)
9. Good working relations exist within department	-.07 (N=892)	-.08 (N=201)	-.15* (N=137)	-.03 (N=546)
10. Department morale high	-.03 (N=892)	-.03 (N=203)	-.05 (N=137)	-.03 (N=544)

TABLE II-17 Continued
1977:NEIGHBORHOOD RACIAL COMPOSITION
Page 3

Attitudes	Zero-Order	Minority	Mixed	White
VII. Social Services				
1. Referral to social services police job	-.04 (N=892)	-.07 (N=203)	.07 (N=138)	-.06 (N=543)
2. Social services not police job	-.03 (N=892)	-.02 (N=203)	.07 (N=138)	-.06 (N=543)

Note: The analysis includes samples of officers from twenty-four departments across three metropolitan areas.

a. Education is categorized as follows: (0 years to 12 years = 1) (13 years = 2) (14 years = 3) (15 years = 4) (16 years or more = 5)
b. Attitudes are likert items ranging from 1 = strongly disagree to 4 = strongly agree, or from 1 = very poor to 5 = outstanding.
c. The measure is Kendall's Tau c.
d. Includes only officers in study departments with a neighborhood focus.
* A non-negligible relationship. ($p < .10$ and $tau > .10$)

Aggregate Multi-Variate Analysis (Neighborhoods) - At the aggregate neighborhood level the percent of patrol rank officers in a department with some college is regressed on the aggregate attitudes of officers whose work assignment includes one of the study neighborhoods, controlling for the effects of department size, racial composition and mean income of the neighborhood (Table II-19). Regression allows us to measure the effect that an increase in the proportion of educated officers in a department has on the percent who respond either positively or negatively to the attitudinal stimuli. Once again, inferences regarding causation can be made only for those variables where there is statistical significance (the chance or error is less than five percent). For example, holding the effects of department size, racial composition and mean income of the study neighborhoods constant, a percentage change in the proportion of college educated officers serving a study neighborhood will result in approximately half a percentage point decrease in the percent who strongly agree that referral to social services is part of the police function. However, with respect to the vast majority of attitudes surveyed, education has no bearing, except for the percentage of officers reporting high morale in the department and the percentage who believe all officers have an opportunity to influence departmental policies: both vary inversely

TABLE II-18

REGRESSION ANALYSIS OF AGGREGATE 1977 PATROL OFFICER ATTITUDES WITH AGGREGATE 1977 PATROL OFFICER EDUCATION

Dependent Variables	Independent Variables: % Patrol Rank With Some College	Department Size	Neighborhood $\bar{X}$ Income	Neighborhood Racial Composition (% White)	R^2	n
Police Management Percent Strongly Agree...						
Police need precise guidelines	.02[a] (.02)[b]	.05 (.13)	.33 (2.78)	-.19 (1.09)	.06 (.89)	n=60
Police do best job by following orders	-.21 (2.34)	-.26 (3.31)	.04 (.07)	-.31 (3.06)	.14 (2.25)	n=60
Effective police need discretion	-.05 (.11)	-.19 (1.84)	.29 (2.31)	-.27 (2.24)	.10 (1.56)	n=60
Military good model for police	-.12 (.72)	-.27 (3.59)	-.02 (.01)	-.24 (1.83)	.11 (1.60)	n=60
Some college should be required for new officers	-.01 (.00)	-.08 (.26)	-.28 (2.05)	.21 (1.24)	.05 (.66)	n=60
College for promotion	.08 (.33)	-.10 (.44)	-.09 (.20)	-.09 (.21)	.03 (.38)	n=60
Higher salaries key to better policing	-.06 (.22)	.40 (8.47)*	.06 (.10)	-.17 (.94)	.19 (3.26)*	n=60
Labor Issues Percent Strongly Agree...						
Police have right to organize	-.00 (.00)	.06 (.15)	-.34 (3.07)	.20 (1.21)	.08 (1.18)	n=60
Civil Rights Percent Strongly Agree...						
Fewer restrictions on use of force would reduce crime	.02 (.01)	.03 (.04)	-.20 (1.06)	.03 (.02)	.04 (.57)	n=60
"Probable cause" requirements reduce effectiveness	-.04 (.09)	.10 (.46)	-.20 (1.05)	.16 (.71)	.05 (.68)	n=60

TABLE II-18 Continued
Page 2

Dependent Variables	Independent Variable: % Patrol Rank With Some College	Department Size	Neighborhood $\bar{X}$ Income	Neighborhood Racial Composition (% White)	R^2	n
Citizen Involvement Percent Strongly Agree...						
Citizen watch groups effective	-.06 (.17)	-.31 (5.11)*	.27 (2.14)	-.19 (1.25)	.17 (2.78)*	n=60
Only other police should judge citizen complaints	-.24 (2.69)	-.11 (.54)	-.01 (.00)	-.07 (.16)	.07 (1.03)	n=60
Auxiliary police big help	-.11 (.74)	-.41 (9.68)*	-.18 (.98)	-.27 (2.62)	.23 (4.07)*	n=60
Local politicians too influential	-.24 (3.07)	.10 (.54)	-.20 (1.15)	.10 (.29)	.13 (1.97)	n=60
Social Services Percent Strongly Agree...						
Referral to social services police job	-.52 (17.17)*	-.06 (.25)	.19 (1.19)	-.43 (7.25)*	.29 (5.67)*	n=60
Social services not police job	.08 (.44)	.53 (17.04)*	.03 (.03)	.05 (.08)	.28 (5.24)*	n=60
Perceptions of Citizen Support Percent Strongly Agree...						
Most people respect police	-.01 (.01)	-.28 (3.67)	.08 (.15)	-.13 (.51)	.08 (1.22)	n=60
Citizen abuse of police likely	.14 (1.04)	.03 (.06)	-.24 (1.58)	-.11 (.36)	.12 (1.95)	n=60
Police perception of citizens' ratings of police	.03 (.06)	-.13 (.95)	.50 (8.03)*	-.11 (.46)	.25 (4.62)*	n=60
Police perception of public official rating	.01 (.01)	-.26 (4.13)*	.50 (8.36)*	-.34 (4.47)*	.27 (4.99)*	n=60

Dependent Variables	Independent Variables: % Patrol Rank With Some College	Department Size	Neighborhood $\bar{X}$ Income	Neighborhood Racial Composition (% White)	R^2	n
Perception of Organizational Climate Percent Strongly Agree...						
Department morale high	-.33 (5.78)*	-.16 (1.41)	.21 (1.26)	-.36 (4.19)*	.16 (2.53)*	n=60
Good work relations exist within department	-.23 (2.45)	.02 (.01)	-.01 (.00)	-.05 (.06)	.05 (.76)	n=60
Immediate supervisors let officers use discretion	-.08 (.31)	-.19 (1.68)	-.15 (.62)	.02 (.01)	.05 (.73)	n=60
Brass know what is going on on street	-.23 (2.83)	-.18 (1.64)	-.05 (.06)	-.27 (2.41)	.14 (2.19)	n=60
Promotion system fair	.00 (.00)	-.17 (1.36)	-.04 (.04)	-.26 (2.08)	.08 (1.17)	n=60
Prosecutors cooperate with police	.07 (.23)	.30 (4.15)*	-.00 (.00)	.27 (2.28)	.11 (1.71)	n=60
Local courts support police	.07 (.21)	.18 (1.43)	-.10 (.24)	.18 (.99)	.05 (.66)	n=60
Department ranks high compared with others in area	-.06 (.14)	.02 (.01)	-.13 (.46)	-.06 (.09)	.04 (.55)	n=60
Opportunity to influence	-.38 (7.54)*	.04 (.10)	.15 (.65)	-.20 (1.28)	.13 (1.98)	n=60
Supervisors fit rules to the situation	-.12 (.73)	-.20 (1.93)	.01 (.00)	-.19 (1.10)	.07 (.99)	n=60

a. Standardized coefficient (Beta Weight)
b. F statistic
* Significant at .05 or better

with the percentage of study neighborhood officers who have some college.

The Effects of Education on Dimensions of Encounters

Individual Bi-Variate Analysis (Encounters) - Table II-19 contains the zero-order measures of association between the patrol officer's level of education and the five dimensions of police-citizen encounters, where the unit of analysis is the encounter. Education is not related to any of the dimensions -- citizen anger, police labeling, force, verbal abuse and help -- when a standard of correlation coefficients of ±.10 or greater is set for non-negligible relationships. The introduction of controls for service conditions including the characteristics of citizens in the encounter, officer/department characteristics, and the socio-economic characteristics of the neighborhood generally does not change the zero-order relationships. Two exceptions should be noted, however. Where officers strongly agree that they have discretion (which some expect to enhance the effects of education, see Bittner, 1970; Sherman et al., 1978) there are non-negligible, positive relationships between education level and police verbal abuse and help. That is, for officers who strongly agree that supervisors allow them substantial discretion, those officers with higher educational attainment are more likely to be observed in encounters involving police verbal abuse and police provision

TABLE II-19

CHARACTERISTICS OF ENCOUNTERS BY EDUCATIONAL ATTAINMENT

Education[a]		Citizen Anger	Police Label	Police Force	Police Verbal Abuse	Police Help
zero-order	(n=5,444)	.02[b]	.01	.00	.01	.02
Controlling for Characteristics of Citizen Participants:						
Sex: All male	(n=2,766)	.02	.01	.00	-.00	.01
Some female	(n=2,678)	.01	.01	.01	.03	.02
Race: All white	(n=3,584)	.02	.01	.01	.00	.03
Some non-white	(n=1,860)	.01	.01	-.01	.02	.00
Age: no juveniles	(n=4,583)	.02	.01	.00	.01	.02
juveniles	(n=861)	.03	.04	.01	.05	.01
Controlling for Officer/ Department Characteristics:						
Race: non-white	(n=1,152)	-.02	-.01	-.03	-.03	.01
white	(n=4,279)	.03	.01	.01	.02	.02
Perceive Officer Discretion High:						
strongly agree	(n=238)	.09	.02	.04	.11*	.12*
agree	(n=1,366)	.01	.01	.01	-.01	.04
disagree	(n=2,464)	.01	.00	-.01	.03	-.01
strongly disagree	(n=1,341)	.03	.01	.01	-.00	.03
Perceive Opportunity to Influence:						
strongly agree	(n=233)	.09	-.01	-.04	.01	.03
agree	(n=2,687)	.01	.01	.01	-.00	.01
disagree	(n=2,063)	.01	.01	.00	.03	.03
strongly disagree	(n=437)	.02	.00	.00	-.01	-.00

TABLE II-19 Continued
Page 2

Education		Citizen Anger	Police Label	Police Force	Police Verbal Abuse	Police Help
Size of Department:						
small						
medium		--To be included in subsequent draft--				
large						
Controlling for Neighborhood Characteristics:						
Racial Composition:						
minority						
mixed		--To be included in subsequent draft--				
white						
Income:						
low	(n=1,694)	.03	.01	.01	.01	.01
moderate	(n=1,880)	.02	.01	.01	.03	.06
middle	(n=1,302)	-.00	.01	-.00	-.00	-.03
upper	(n=554)	.02	.01	-.01	.02	.03

a. Education is categorized in the following manner: 12 years and less = 1, 13 years = 2, 14 or 15 years = 3, 16 years and more = 4.
b. The statistic is Kendall's tau_c.
* Indicates a non-negligible relationship.

of special help. One relationship is in the reform predicted direction, while the other is not. Nevertheless, the findings presented in Table II-18 reveal a pattern of no relationship between officer education and dimensions of encounters. Again, these few significant relationships raise the issue of possible unintended consequences of police education. It should be noted, as well, that department and neighborhood characteristics are also not systematically related to aggregate officer attitudes.

Aggregate Multi-Variate Analysis (Encounters) - Regression analysis of the proportion of patrol officers with some college in a department on the five dimensions of observed encounters (aggregated by neighborhood) controlling for department and neighborhood characteristics is found in Table II-20. There is a pattern of patrol officer education having no impact on the aggregate characteristics of encounters observed in that neighborhood. Other variables, such as racial composition of the neighborhood, are substantially more relevant to the dimensions of encounters.

The Effects of Education on Police Performance

Table II-21 presents regression analysis of aggregate patrol education on aggregate citizen evaluations controlling for department and neighborhood characteristics. Again, there is

TABLE II-20

REGRESSION ANALYSIS OF AGGREGATE CHARACTERISTICS OF ENCOUNTERS WITH AGGREGATE PATROL OFFICER EDUCATION

Dependent Variables	Independent Variables: % Patrol Rank with some College	Department Size	Racial Composition of Neighborhood (% non-white)	$\bar{X}$ Income of Neighborhood	R^2	n=
Citizen anger	.13[a]	.09	-.48	-.18	.46	n=60
	(1.28)	(.66)	(11.80)*	(1.43)	(11.37)*	
Police label	.21	.10	-.26	-.29	.34	n=60
	(2.93)	(.63)	(2.97)	(3.12)	(7.19)*	
Police force	.19	.17	-.31	-.38	.54	n=60
	(3.57)	(2.76)	(5.90)*	(7.75)*	(16.41)*	
Police verbal abuse	.14	.19	-.51	.01	.41	n=60
	(1.47)	(2.79)	(12.40)*	(.00)	(9.41)*	
Police help	.03	.07	-.41	.31	.11	n=60
	(.05)	(.24)	(5.18)*	(2.63)	(1.72)	

a. standardized coefficient (beta weight)
b. F statistic
* significant at .05 or better

a pervasive pattern of no relationship between the proportion of officers with some college in a department serving a study neighborhood and citizen evaluations of various aspects of police services in that neighborhood. Coefficients for department size and/or neighborhood racial composition, however, tend to be significant. Thus, the overall impact of the proportion of patrol officers with some college on police performance in the study neighborhood appears to be negligible.

Summary of Findings

The findings from the three metropolitan area 1977 study largely substantiate the 1972 findings from the St. Louis area. Except for attitudes related to police management or perceptions of the organizational climate, the relationships expected by proponents of police education between the educational attainment of individual patrol officers and the attitudes were not found. Similarly, no measurable pattern of association is evident with respect to the level of education of an officer involved in an encounter and the frequency of citizen anger, police use of force, police labeling, police verbal abuse and special police help in encounters. Consistent findings obtain at the aggregate neighborhood level of analysis. The proportion of patrol officers with some college experience in a department is, for the most part, unrelated to the attitudes of officers whose work assignment includes a study neighborhood

TABLE II-21

REGRESSION ANALYSIS OF AGGREGATE CITIZEN EVALUATIONS WITH AGGREGATE PATROL OFFICER EDUCATION

Dependent Variables	Independent Variables: % Patrol Rank Personnel with some College	Department Size	Racial Composition of Neighborhood (% non-white)	$\bar{X}$ Income Level of Neighborhood	R^2
% rate police outstanding	.13[a] (1.35)[b]	-.34 (9.48)*	.11 (.62)	.37 (6.12)*	.46 (11.75)*
% think police respond rapidly	.06 (.22)	-.38 (9.99)*	-.03 (.04)	.34 (4.30)	.35 (7.48)
% strongly agree police honest	-.12 (.89)	-.22 (2.86)	.50 (9.49)*	-.28 (2.54)	.27 (4.97)*
% strongly agree police courteous	-.12 (.93)	-.23 (3.08)	.50 (9.31)*	-.28 (2.59)	.27 (4.89)*
% strongly agree police treat all equal	-.06 (.22)	-.23 (2.96)	.45 (6.99)*	-.44 (5.79)*	.20 (3.43)*
% say service inequitable	-.17 (3.65)	.36 (16.29)*	-.45 (15.77)*	-.20 (2.79)	.65 (25.53)*
% say police responsive	.03 (.14)	-.20 (4.96)*	.46 (17.59)*	.32 (7.41)*	.66 (26.59)*

a. Standardized coefficient (beta weight)
b. F statistic
* Significant at .05 or better

or the two aggregate measures of police performance: citizen evaluations and dimensions of encounters. Thus, the cross-sectional findings of the comparative studies in 1972 and 1977 raise significant questions about the causal assumptions of publicly financed or mandated college education for police officers.

2.3 MEASURING CHANGE

A substantial methodological weakness is associated with the use of cross-sectional data to address the phenomenon of change. Clearly, policies encouraging increased educational attainment among police officers presume some "change" at the individual and/or organizational level during or subsequent to education experiences. Findings from cross-sectional studies can appropriately only speculate that a policy or intervention at one point in time (or over time) did (or did not) result in a "change" on some variable at an immediately preceding (or subsequent) point in time.

The problem of drawing causal inference is a recurring one in all of the published research in which the relationship between education and police attitudes is examined. Due to the cross-sectional character of the data, no satisfactory method is available to establish whether education affects attitudes (as suggested by proponents of education for police) or attitudes determine which officers seek education. For example, Niederhoffer's "cynicism score" is comprised of items that reflect criticism of the department or the policing process, at a single point in time. As a result, it is not possible to ascertain whether education tends to produce a critical perspective or whether those who are critical pursue

college education with the expectation that it will in some way be helpful to policing or to themselves. (Niederhoffer, 1967) In addition, the current state-of-the-art about exposure to education and changes in attitudes and behavior is non-specific about when the expected consequences of education occur (during initial exposure, after substantial exposure or after the exposure period altogether) as well as the duration of effects (i.e. Do the effects of education dissipate after the exposure period?). The longitudinal analysis presented in the following section attempts to address this methodological issue.

2.4 LONGITUDINAL ANALYSIS (1972-1977)

The following analysis relies exclusively upon the data pertaining to departments in the St. Louis area which were studied in both 1972 and 1977. The analysis is presented in two parts. The first part attempts to assess whether or not there has been any change in attitudes of officers in the twenty-four St. Louis departments from 1972 to 1977.[2] The question for analysis is simply, has any measurable change occurred during the five year period. The distributions of responses to attitude stimuli in 1972 are compared to the distributions of responses in 1977 to assess whether the five year period produced any attitudinal shifts across departments. In addition, the zero-order association between educational attainment and the attitudinal responses are calculated and compared for both time periods (including only officers in departments where over time data exists and only those items which are identical or comparable in 1972 and 1977 surveys).

The second part uses a two-wave panel design. Data on education level, attitudes and performance of the same set of officers at two or more points in time, enables one to draw stronger causal inferences. It is possible to ascertain whether education at time one is more closely associated with attitudes and/or behaviors at time two than are attitudes

and behaviors at time one with education at time two. Further, a study of a large sample of officers at more than one point in time (before, during or after the exposure period) provides an opportunity to examine the potential time-lagged effects of education on attitudes and performance, or vice-versa.

CHANGES IN ATTITUDES OF OFFICERS

Changes in the Distribution of Attitudinal Responses

Officers have more education in 1977 than their counterparts in 1972. In 1977, 52% of the surveyed officers had completed two or more years of college compared to 12.1% in 1972. The picture on attitudes is mixed (see Table II-22). Generally attitudes related to civil rights, labor issues and perceptions of organizational climate have changed over the five year period as well as some attitudes towards police management. However, attitudes related to community support show no change.

The shifts in responses to attitude stimuli over the period during which officer education increased are not necessarily in the direction presumed by police reformers and are often somewhat contradictory. For example, in 1977 officers are more likely to agree on the need for precise guidelines and less likely to think police do the best job when they follow their superiors' orders than officers in 1972. But this may mean that officers increasingly see guidelines as substitutes for supervision. Similarly officers in 1977 are less likely

TABLE II-22

A COMPARISON OF PATROL OFFICER ATTITUDES IN 1972 AND 1977

	1972	1977	Significant t score (prob)
Police Management			
Police need precise guidelines:			
strongly agree	85 (18%)	97 (23.8%)	2.12 (.001)
agree	181 (38%)	206 (50.6%)	
total agree	266 (56%)	303 (74.4%)	5.69 (.001)
disagree	163 (34%)	79 (19.4%)	
strongly disagree	46 (10%)	25 (6.1%)	
N=	407 (100%)	475 (100%)	
Police do best job by following orders:			
strongly agree	36 (8%)	17 (4.2%)	-2.32 (.05)
agree	258 (55%)	210 (51.9%)	
total agree	294 (63%)	227 (56.1%)	-2.08 (.05)
disagree	159 (34%)	155 (38.3%)	
strongly disagree	18 (4%)	23 (5.7%)	
N=	471 (100%)	405 (100%)	
Higher salaries key to better policing:			
strongly agree	110 (23%)	106 (26.2%)	
agree	166 (35%)	140 (34.7%)	
disagree	184 (38%)	139 (34.4%)	
strongly disagree	18 (4%)	19 (4.7%)	
N=	478 (100%)	404 (100%)	
Effective police need discretion:			
strongly agree	59 (22%)	87 (21.4%)	
agree	227 (48%)	214 (52.7%)	
disagree	147 (31%)	96 (23.6%)	
strongly disagree	41 (9%)	9 (2.2%)	
N=	474 (100%)	406 (100%)	
Military good model for policing:			
yes (agree)	291 (64%)	239 (59%)	
no (disagree)	163 (36%)	166 (41%)	
N=	451 (100%)	405 (100%)	

TABLE II-22 Continued
Page 2

	1972	1977	Significant t score (prob)
Police Management (Cont.)			
Favor lateral entry policy:			
strongly favor	79 (17%)	17 (7.8%)	
favor	54 (12%)	41 (18.9%)	
oppose	125 (27%)	82 (37.8%)	
strongly oppose	210 (45%)	77 (35.5%)	
N=	468 (100%)	217[a] (100%)	
Labor Issues			
Police have right to organize:			
strongly agree	199 (42%)	211 (52.0%)	-2.96 (.01)
agree	215 (45%)	165 (40.6%)	
total agree	414 (87%)	376 (92.6%)	-2.71 (.01)
disagree	50 (11%)	24 (5.9%)	
strongly disagree	10 (2%)	6 (1.5%)	
N=	474 (100%)	406 (100%)	
Police alone in salary matters:			
strongly agree	167 (35%)	73 (33.2%)	
agree	186 (39%)	101 (45.9%)	-1.72 (.10)
disagree	113 (24%)	45 (20.5%)	
strongly disagree	9 (2%)	1 (0.5%)	
N=	475 (100%)	220[a] (100%)	
Civil Rights			
"Probable cause" requirements reduce effectiveness			
strongly agree	81 (17%)	48 (11.8%)	-2.18 (.05)
agree	170 (36%)	143 (35.1%)	
total agree	251 (53%)	191 (46.9%)	1.81 (.10)
disagree	182 (38%)	177 (43.5%)	-1.66 (.10)
strongly disagree	43 (9%)	39 (9.6%)	
N=	476 (100%)	407 (100%)	
Fewer restrictions on the use of force would reduce crime:			
strongly agree	68 (14%)	61 (15.1%)	
agree	142 (30%)	147 (36.3%)	-1.98 (.05)
total agree	210 (44%)	208 (51.4%)	-2.19 (.05)
disagree	221 (46%)	171 (42.2%)	
strongly disagree	46 (10%)	25 (6.4%)	
N=	477 (100%)	404 (100%)	

	1972	1977	Significant t score (prob)
Organization and Community Climate			
Local politicians too influential:*			
strongly agree	155 (33%)	151 (37.6%)	
agree	179 (38%)	135 (33.6%)	
disagree	115 (25%)	105 (26.1%)	
strongly disagree	20 (4%)	11 (2.7%)	
N=	469 (100%)	402 (100%)	
Police perception of citizen rating of police:			
outstanding	107 (23%)	101 (22.8%)	
good	227 (49%)	222 (50.0%)	
adequate	104 (22%)	83 (18.7%)	
inadequate	13 (3%)	24 (5.4%)	
very poor	12 (3%)	13 (2.9%)	
N=	463 (100%)	443 (100%)	
Promotion system fair:			
yes (agree)	217 (49%)	94 (23.4%)	-7.70 (.001)
no (disagree)	226 (51%)	307 (76.6%)	
N=	443 (100%)	401 (100%)	
Prosecutors cooperate with police:			
outstanding	51 (11%)	39 (8.7%)	
good	143 (31%)	178 (39.9%)	2.80 (.01)
total good	194 (42%)	217 (48.6%)	1.99 (.05)
adequate	121 (26%)	152 (34.1%)	
inadequate	91 (20%)	49 (11.0%)	-3.73 (.001)
very poor	52 (11%)	28 (6.3%)	-2.51 (.02)
N=	458 (100%)	446 (100%)	
Local courts support police:			
outstanding	65 (14.5%)	24 (5.4%)	-4.53 (.001)
good	216 (48.3%)	133 (30.1%)	-5.56 (.001)
total good	281 (62.8%)	157 (35.5%)	-8.14 (.001)
adequate	112 (25.0%)	166 (37.6%)	
inadequate	39 (8.7%)	78 (17.6%)	
very poor	15 (3.4%)	41 (9.3%)	
N=	447 (100%)	442 (100%)	

TABLE II-22 Continued
Page 4

	1972	1977	Significant t score (prob)
Organization and Community Climate (Cont.)			
Opportunity to influence department policies:			
yes (agree)	191 (41%)	100 (24.6%)	-5.13 (.001)
no (disagree)	277 (59%)	306 (75.4%)	
N=	468 (100%)	406 (100%)	

a. In 1977 only officers interviewed during Part II of the study were asked this question. Thus, for this item the 1972 and 1977 comparison samples are not restricted to officers in the same departments.

* 1972 - The police here could be a lot more effective if the politicians were not so influential.
1977 - Local politicians have too much influence over the department.

than their 1972 counterparts to agree that "probable cause" requirements prior to a search reduce police effectiveness while at the same time more officers in 1977 than in 1972 agree that to be effective in controlling crime police need fewer restrictions on the use of force. This, however, may reflect a perception on the part of the police that legal constraints imposed by the Warren Court are now less strictly construed. The most striking changes in officer attitudes over the five years center around perceptions of organizational issues. Officers in 1977 were not as satisfied with the equity of the promotion system nor were they as likely to agree that all members of the department have the opportunity to influence departmental policies as officers surveyed in 1972. There appears to be a significant difference in the way police in 1972 and police in 1977 perceive support from other criminal justice agencies. Overall, the police surveyed in 1977 appeared to rate the prosecutor's office support relatively high (compared to 1972) but the cooperation from the local courts was thought to be quite low (again relative to 1972).

In sum, it appears that during a period when the education level of officers was rising substantially, many attitudes were unaffected. This finding parallels a study in the Dallas Police Department (Kelling and Wycoff, 1977). Some of the attitudes which did not change (such as the appropriateness

for police of the military model of organization and resistance to external political control) were ones which advocates of education for police specifically hoped would change. Other patterns which did change (such as attitudes toward use of force in policing and perceptions of participation in departmental decision-making) moved in the opposite direction from what proponents of police education as a reform expected.

Changes in the Individual Bi-Variate Relationship between Education and Attitudinal Responses

Table II-23 presents a comparison of 1972 and 1977 measures of association between individual patrol officer attitudes and their education. Only those officers from St. Louis departments who were surveyed in both 1972 and 1977 are included in this analysis.

TWO-WAVE PANEL DESIGN

The availability of longitudinal data on police officer education and attitudes provides us with an excellent opportunity to examine the effects of increased officer education for a particular cohort of officers. In addition we can analyze the policy model which suggests that increased education of police officers will produce an attitudinal change which will affect patrol related behavior. Even when education and attitudes covary, causation is highly problematic. It is not clear whether increased education produces certain attitudinal

TABLE II-23

A COMPARISON OF INDIVIDUAL 1972 AND 1977 PATROL OFFICER ATTITUDES BY EDUCATION[a]

(Includes only St. Louis Departments Surveyed in Both 1972 and 1977)

Attitudes[b]	1972	1977
I. Police Management		
1. Military good model for policing	-.05[c] (N=444)	-.18* (N=405)
2. Police need precise guidelines	-.09 (N=465)	.02 (N=407)
3. Higher salaries key to better policing	-.01 (N=468)	-.00 (N=404)
4. Police do best job by following orders	.01 (N=461)	-.12* (N=405)
5. Effective police need discretion	-.01 (N=465)	.01 (N=406)
6. Some college should be required for new officers	(To be included in subsequent draft)	.29* (N=407)
7. Favor policy of lateral entry	.15* (N=459)	.24* (N=174)[d]
II. Labor Issues		
1. Police have right to organize	-.02 (N=464)	.07 (N=406)
2. Police alone in salary matters	-.08 (N=465)	.16* (N=176)[d]
III. Civil Rights		
1. Effective police need fewer restrictions on use of force	-.11* (N=467)	-.05 (N=405)
2. "Probable cause" requirements reduce effectiveness	-.12* (N=466)	-.03 (N=407)
IV. Citizen Involvement		
1. Only other police should judge citizen complaints	-.04 (N=389)	-.06 (N=407)
2. Local politicians too influential	-.07 (N=459)	-.04 (N=402)
V. Perceptions of Citizen Support		
1. Police perception of citizens' rating of police	-.02 (N=454)	-.03 (N=400)

TABLE II-23 Continued
Page 2

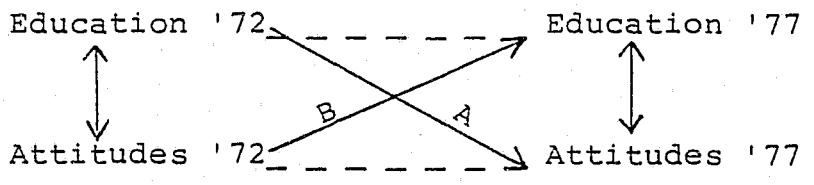
Attitudes	1972	1977
VI. Perceptions of Organizational Environment		
1. Promotion fair	-.03 (N-437)	-.04 (N=401)
2. Prosecutors cooperate with police	-.06 (N=450)	-.09 (N=402)
3. Local courts support police	-.06 (N=440)	-.13* (N=398)
4. Opportunity to influence department policies	.05 (N=458)	-.11* (N=406)

a. The education variable is categorized as follows: (1 = less than 12 years; 2 = one year college; 3 = two years college; 4 = three years college; 5 = four or more years coolege).
b. The attitudes are likert type items ranging from 1 = strongly disagree to 4 = strongly agree, or 1 = very poor to 5 = outstanding.
c. The measure is Kendall's tau.
d. In 1972 only officers interviewed during Part II of the study (November) were asked this question. Thus, for this item the 1972 and 1977 comparison samples are not restricted to officers in the same department.
* A non-negligible relationship. ($p \leq .10$ and $tau \geq .10$)

shifts or whether those who seek education already have the views which education is thought to produce. In an effort to disentangle the direction of change (i.e. whether education leads to changes in attitudes or whether officers with certain attitudes are more likely to seek education) we used a model for the measurement of change suggested by Borhnstedt (1969).

The change model proposed by Borhnstedt allows us to look at education and attitudes at two different points in time in order to evaluate the effect of one variable (education) as a function of a second variable (attitudes). Because the model assumes an asymmetric causal relationship between two variables, it allows us to more clearly determine cause and effect and, thus, has significant advantages over analysis based on the "gain scores" of the cohort. Using the model we can examine the effects of education on current attitudes while removing the effect that education in 1972 has on education in 1977 (i.e. the major problem in comparing gains). Similarly we can measure the effects of attitudes on education while removing the effects that attitudes in 1972 have on attitudes in 1977. Finally, we can compare the strength of the effects of education on attitudes (A in Figure 1) and the effects of attitudes on education (B in Figure 1) to determine the stronger relationship.

Figure 1.



The strength of the relationship is determined by the magnitude of the regression coefficient when either education or attitudes is predicted. Since standardized coefficients tend to fluctuate as a function of the standard deviation, Borhnstedt suggests that unstandardized coefficients which are relatively stable over subsamples rather than standardized coefficients be employed in the analysis. Several other variables such as tenure in police service were introduced into the equations as controls. The results of the analysis can be found in Table II-24. An example of the model follows.

	'77 attitude: effective police need discretion	=	'72 attitude: effective police need discretion	'72 education	'77 education	'77 rank	tenure
A.			(.05)*	(.002)*	(-.01)	(-.14)*	(.00)

	'77 education	=	'72 attitude: effective police need discretion	'72 education	'77 attitude: effective police need discretion	'77 rank	tenure
B.			(.01)	(.03)*	(.33)*	(.50)*	(-.04)*

In the example above, the regression coefficient associated with education in 1972 used to predict the response in 1977 to the statement that effective police need discretion (equation A) was stronger than the regression coefficient associated with the attitude response in 1972 used to predict education in 1977 (equation B) controlling for education in 1972. Thus, we can conclude that education is a cause of the attitude response in 1977. However, if the coefficient associated with education in 1972 used to predict the response in 1977 had been weaker than the coefficient associated the the '72 response used to predict '77 education we would conclude that an officer's attitude towards the need for police discretion affects educational attainment in 1977. As is true with all regression coefficients, causation can only be suggested when the coefficients reach statistical significance.

The problem we faced with the Bohrnstedt model involved transforming our multiple choice attitudinal variables into variables that could easily be employed in a regression model. It was not possible to assign each of our four categories (strongly agree, agree, disagree and strongly disagree) a numeric value ranging from one to four as that would imply that the difference between agree and disagree was similar to the difference between strongly agree and agree. Since we had no reason to expect that this was the case, we dichotomized the

attitudinal variables (officers either agreed or disagreed with the statements which were designed to measure their attitudes to various work related situations).

We encountered a further problem: what to do with what were, in effect, dummy dichotomous dependent variables. Typically, the use of dummy dependent variables leads to a condition which makes the ordinary least squares assumption of homoscedasticity (equal variance among error terms) untenable. Hanushek and Jackson (1977) suggest the use of a probit or logit model to deal with the effects of dummy dependent variables. However, a number of studies (see, e.g. Gunderson, 1974) which have used both probit (or logit) models as well as ordinary least squares have concluded that the estimations obtained using the two models (OLS and probit) are similar. Since, for this analysis we are less concerned with precise prediction and more with the relative strength of the coefficients, we concluded that ordinary least squares was adequate for our needs.

The data found in Table II-24 tend to confirm our suspicion that the proposed relationship between education and attitudinal responses is less than certain even when controls for time-lagged effects are introduced. Since the lack of significant coefficients indicates that there is no relationship between the variables in question there are very few instances when

TABLE II-24

TWO WAVE REGRESSION ANALYSIS[a]

	Attitude[b] '72	Education '72[c]	Attitude '77	Education '77[d]	Rank '77	Tenure
Police need precise guidelines (n=285)						
attitude '77	.12*	-.00		-.01	.11*	.00
education '77	-.05	.03*	-.13		.62*	-.03*
Police do best job when follow orders (n=282)						
attitude '77	.25*	-.00		.05*	-.37*	.00
education '77	-.00	.03*	.23*		.62*	-.04*
Effective police need discretion (n=158)						
attitude '77	.05*	.002*		-.01	-.14*	.00
education '77	.01	.03*	-.17		.67*	-.04*
Higher salaries key to better police (n=286)						
attitude '77	.27*	-.00		.12*	.18*	.01*
education '77	-.02	.03*	.33*		.50*	-.04*
Military model good for policing (n=265)						
attitude '77	.21*	.00		-.03	.21*	.00
education '77	.15	.03*	-.25		.67*	-.04*
Police have right to organize (n=284)						
attitude '77	.05	-.00		.01	-.17*	-.00
education '77	-.14	.03*	-.25		.61*	-.04*
Fewer restrictions on use of force would reduce crime (n=286)						
attitude '77	.12*	-.00		-.04*	-.05	-.00
education '77	-.11	.03*	.33*		.55*	-.04*
"Probable cause" reduces effectiveness (n=284)						
attitude '77	.35*	-.00		-.03	-.06	-.00
education '77	.11	.03*	-.29		.57*	-.04*
Only other police can judge citizen complaints (n=242)						
attitude '77	.15*	.00		-.03	-.12	-.00
education '77	-.06	.03*	-.20		.51*	-.05*

[a]Each attitudinal stimuli is associated with a pair of regression equations. The first includes the unstandardized regression coefficients calculated to predict the attitude response in 1977. The second equation includes the unstandardized coefficients calculated to predict education in 1977. In each case the attitude used in the analysis is the numbered statement directly above each pair of equations. Only unstandardized regression coefficients are included. Asterisks are included for coefficients that are statistically significant ($p \leq .10$).

[b]Attitudinal responses have been dichotomized (agree/disagree).

[c]Education is categorized by college credits.

[d]Education is categorized by years.

TABLE II-24 Continued
Page 2

	Attitude '72	Education '72	Attitude '77	Education '77	Rank '77	Tenure
Rate local courts (n=273)						
attitude '77	.20*	-.00		.01	-.04	.01*
education '77	-.18	.03*	.10		.60*	-.05*
All can influence (n=272)						
attitude '77	.29*	.00		.00	.27*	-.00
education '77	.31*	.03*	.01		.54*	-.04*
Perceptions of crime (n=273)						
attitude '77	.24*	.00		.07*	.20*	.01*
education '77	-.10	.03*	.18*		.51*	-.04*
Promotion system fair (n=268)						
attitude '77	.24*	-.00		.04*	.19*	.01*
education '77	.11	.03*	.39*		.46*	-.03*
Some college necessary for promotion (n=281)						
attitude '77	.22*	-.00		.10*	-.04	.00
education '77	.28*	.03*	.83*		.51*	-.02*
New officers need college (n=283)						
attitude '77	.25*	-.00		.07*	.01	.01*
education '77	.26	.03*	.57*		.50*	-.04*

any claim of cause and effect can be made. There are however, three exceptions. The data indicate that the levels of officers' educational attainment affect their responses to the statement "patrol officers on the street are more effective if they are able to decide on their own when to enforce particular laws." Thus we can make the claim that higher education in 1972 helps to predict officers' 1977 responses to attitudinal stimuli concerning the need for discretion. However, we found that in the case of other attitudinal stimuli ("some college should be required for promotion" and "all members of the department have an opportunity to influence the policies of the department"), officer's 1972 attitudinal responses helped to predict their levels of educational attainment in 1977. Therefore, for two of the three attitudinal variables which are known to be in some way associated with education, the policy model which suggests that education affects officers' attitudes does <u>not</u> hold true. For those three stimuli, attitudes appear to be a cause of increased education rather than the reverse.

2.5 CONCLUDING OBSERVATIONS

This report represents a relatively small but important step in the direction of a full assessment of the impact of college education of officers on the provision of police services in America. While public policy initiatives in general and reforms in particular are typically launched in a sea of exaggerated claims, the effort to convert policing into an occupation requiring college education as a minimum employment standard has been notable for its hyperbolic promises. Although some refinements occasionally appear in the reform literature, the reform policy has been fairly straightforward: require or at least reward police officers' attainment of additional education beyond high school. We have tested the policy model that shows additional increments of education producing changes in the attitudes or orientations of officers which, in turn, alter the quality of policing provided to communities. Our test includes officers in more than three dozen diverse departments, distributed across three metropolitan areas, serving a considerable variety of neighborhoods. In some of the analysis, we were able to examine the effects of education over time in departments and on individual police officers. As the preceding discussion shows, there is precious little empirical support for the expected

relationships between educational attainment, officer attitudes and performance. Policies of requiring or rewarding additional amounts of education are, thus, called into question.

This report does not establish that college education more broadly construed has no impact on policing. Additional increments of different kinds of education than currently experienced by officers, perhaps at a different stage in an officer's career than in the common practice today might make a difference. In different organizational structures or with a different police mission, education might make a difference. Improved measures of education, attitudes and performance naturally are desirable, as is more extensive longitudinal data. However, we must note again that as the quality of measures used in studies of the impact of police education has increased, the evidence of "no effect" has become more pervasive.

The findings presented in this report set the stage for a more exploratory examination of the role of college education in policing. We concur with such scholars as Goldstein (1977) and Sherman, et al. (1978) in their contention that the public investment in the reform, and the continuing need to improve the quality of police services provided to communities, justify additional careful research. In the meantime, support of policy makers for efforts to increase the quantity or

quality of the education of police should be based on a willingness to experiment rather than any firm belief that education is an answer to the problems of policing in America.

Notes to Part II

[1]The policy model originally articulated by proponents of college education for policing was directed towards the improvement of patrol related police activities. Thus, only patrol officer data from 1972 and 1977 are included in this report.

[2]The analysis is restricted to an examination of changes in attitudes because comparable performance data for 1972 and 1977 is not available. Although citizens were surveyed about their evaluations of police serving their neighborhoods in both 1972 and 1977, the boundaries identified for sampling purposes for only a few of the study neighborhoods are identical and in several of these cases neighborhood characteristics such as racial composition and mean income have changed so dramatically in five years that there is little basis for comparison.

References

Advisory Commission on Intergovernmental Relations 1971 — Police Reform, Report M-65. Washington, D.C.: U.S. Government Printing Office.

American Bar Association, Advisory Committee on the Police Function 1972 — Standards Relating to the Urban Police Function. New York: American Bar Association.

Bittner, E. 1970 — The Functions of the Police in Modern Society, DHEW Publication No. (HSM) 72-9103. Washington, D.C.: U.S. Government Printing Office.

Boggs, S., and J. Galliher 1975 — "Evaluating the Police: A Comparison of Black Street and Household Respondents." Social Problems 22:393-403.

Bohrnstedt, G.W. 1969 — "Some Observations on the Measurement of Change." In E.F. Borgatta and G.W. Bohrnstedt, eds., Sociological Methodology 1969. San Francisco: Jossey-Bass.

Bowen, H.R. 1977 — Investment in Learning. San Francisco: Jossey Bass.

Clark, R. 1970 — Crime in America. New York: Simon and Schuster.

Committee for Economic Development 1972 — Reducing Crime and Assuring Justice. New York: Committee for Economic Development.

Germann, A.C. 1967 — "Education and Professional Law Enforcement." Journal of Criminal Law, Criminology and Police Science 58 (December).

Goldstein, H. 1977 — Policing a Free Society. Cambridge, Mass.: Ballinger Publishers.

Gunderson, M. 1974 — "Retention of Trainees." Journal of Econometrics 2:79-93.

References

Hanushek, E., and J. Jackson 1977 — Statistical Methods for Social Scientists. New York: Academic Press.

Jacobs, J., and S. Magdovitz 1977 — "At LEEP's End?: A Review of the Law Enforcement Education Program." Journal of Police Science and Administration 5: 1-17.

Kelling, G., and M.A. Wycoff 1978 — The Dallas Experience: Organizational Reform. Washington, D.C.: Police Foundation.

Lefkowitz, J. 1977 — "Industrial-Organizational Psychology and the Police." American Psychologist 32 (May):346-364.

National Advisory Commission on Civil Disorders 1968 — Supplemental Studies. Washington, D.C.: U.S. Government Printing Office.

National Advisory Commission on Criminal Justice Standards and Goals 1973 — Police. Washington, D.C.: U.S. Government Printing Office.

Niederhoffer, A. 1967 — Behind the Shield: The Police in Urban Society. Garden City, N.Y.: Doubleday and Company, Inc.

Ostrom, E., R.B. Parks, and D.C. Smith 1973 — "A Multi-Strata, Similar Systems Design for Measuring Police Performance." A paper presented at the Annual Meeting of the Midwest Political Science Association held at Chicago, May 2-5.

President's Commission on Law Enforcement and Administration of Justice 1967 — The Challenge of Crime in a Free Society. Washington, D.C.: Government Printing Office.

Saunders, C.B. 1970 — Upgrading the American Police. Washington, D.C.: The Brookings Institution.

References

Sherman, L., and The National Advisory Commission on Higher Education for Police Officers 1978 — The Quality of Police Education. San Francisco: Jossey-Bass.

Skolnick, J. 1966 — Justice Without Trial. New York: John Wiley and Sons.

Smith, D.C. 1976 — "Police Professionalization and Performance: An Analysis of Public Policy from the Perspective of Police as Producers and Citizens as Consumers of Police Services." Unpublished doctoral dissertation, Indiana Univ., Bloomington.

Smith, D.C. 1978 — Empirical Studies of Higher Education and Police Performance. Washington, D.C.: Police Foundation.

Smith, D.C., and E. Ostrom 1974 — "The Effects of Training and Education on Police Attitudes and Performance: A Preliminary Analysis." In H. Jacob, ed., The Potential for Reform of Criminal Justice. Beverly Hills, Calif.: Sage Publications.

Task Force on the Police, President's Commission on Law Enforcement and the Administration of Justice 1967 — Task Force Report: The Police. Washington, D.C.: U.S. Government Printing Office.