

THE EFFECTS OF POLICE SYSTEMS AND THEIR
ENVIRONMENTS ON POLICE HOMICIDES:
AN EXPLORATORY ANALYSIS

by

Helen Elizabeth Taylor Greene

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Advisory Committee:

Dr. Charles Wellford, Chairman/Advisor
Dr. Lawrence Sherman
Dr. Craig Uchida
Dr. Robert Hill

Maryland
LD
3231
M70d
Greene,
H. E. T.
Folio

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APPROVAL SHEET

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Name of Candidate: Helen Elizabeth Taylor-Greene
Doctor of Philosophy, 1988

Dissertation
and Abstract Approved:

Charles F. Wellford
Charles F. Wellford
Professor
Institute of Criminal Justice
and Criminology

Date Approved:

August 8, 1988

ABSTRACT

Title of Dissertation: THE EFFECTS OF POLICE SYSTEMS
AND THEIR ENVIRONMENTS ON POLICE HOMICIDES:
AN EXPLORATORY ANALYSIS

Helen Elizabeth Taylor Greene, Doctor of Philosophy, 1988

Dissertation directed by: Dr. Charles Wellford,
Director, Institute of Criminal Justice and Criminology

The purpose of this study was to examine the effects of police systems and their environments on police homicides. Data from five sources, the Crime Control Institute, International Association of Chiefs of Police, Joint Center for Political Studies, Police Executive Research Forum, and the United States Bureau of the Census were used to create the database which included information on police systems, their environments and reported police homicides.

This study provided an exploratory analysis of the effect, if any, of the following on police homicides:

- (1) police administrative review and investigation policies,
- (2) firearms training standards,
- (3) police system resources
- (4) demographic community characteristics,
- (5) political community characteristics, and
- (6) community crime characteristics.

The most significant findings of the research were the following:

(1) In a multivariate analysis of police homicides, the civilian homicide rate was the best predictor of police homicides.

(2) There was no significant association between restrictiveness of review and investigation policies (Control), moral, legal and ethical aspects of firearms training, financial resources or education of sworn personnel and police homicides.

(3) Race as a system environment variable was correlated with other environment variables at the zero order level but not significant in the multivariate analyses.

(4) Civilian Homicides, Race, Black Political Empowerment and Family Ratio were moderately associated with police homicides at the zero order level.

(5) Demographic characteristics had little, if any, effect on police homicides.

(6) Interjurisdictional variation existed not only in police homicides but also in system management, resources and environments.

These findings suggest that police system environmental factors are the best predictors of police homicides. While police departments should continue to strengthen the internal management of police homicides through policies and training, they should include other

approaches to controlling and preventing police homicides.

One approach should be the development of a model program to educate officers and civilians on police use of deadly force. These programs should focus on (1) attitudes and fears of police officers towards Black citizens and vice versa (2) human relations training and (3) the role of community violence in police violence.

The systematic collection and dissemination of police homicide data is essential to future police use of force research. The data should include fatal and nonfatal shootings and be easily accessible.

Future research should examine race as an organizational factor. Analyses of the effect, if any, of racial attitudes of police officers and racial composition of police departments on police homicides are needed.

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Helen Taylor Greene

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CHAPTER I

INTRODUCTION

The functions of the police in our society include the prevention of crime, protection of life and property, and the maintenance of order. When police departments were first established in the larger American cities, officers did not carry firearms. After the Civil War, when firearms were more readily available, revolvers became an accepted and necessary part of an officer's equipment. Today, the capacity to use deadly force is a pivotal feature of police work. Yet, an officer is expected to shoot only when necessary while minimizing the risk of death (National Advisory Commission on Criminal Justice Standards and Goals, 1973).

The authority to use deadly force is guided by several legal standards imbedded in federal and state statutes and police shooting policies. Until very recently, most police agencies relied upon the common law doctrine as their legal standard. According to this doctrine, an officer is entitled to use force in self defense, to prevent the commission of a crime, to make an arrest, to prevent escape from custody and to protect property (Matulia, 1982).

For most of this century, police use of deadly force was accepted as an infrequent yet often necessary outcome of violent police-citizen encounters. Historically,

felony crimes were capital offenses. Therefore, it made little difference if the suspected felon was killed in the process of capture since he had already forfeited his life. However, deadly force could not be used against a fleeing misdemeanor under any circumstances (Boutwell, 1977). As the incidence of crime increased, a common response by legislatures was to upgrade misdemeanors to felony offenses. Thus, the felony-murder distinction became less clear. In spite of changes in the classification of offenses, the common law doctrine continued to be the guiding standard for the police use of deadly force.¹ When police practices became the focal point of national attention in the 1960's, two Presidential Commissions established that police shootings of civilians precipitated violence, urban riots, and the erosion of both confidence and respect for the police (President's Commission on Law Enforcement and the Administration of Justice, 1967; President's Commission on Civil Disorders, 1968). As Chapman (1967, p. 225) noted,

"The manner in which the police officer uses his weapon may be critical to the effectiveness of his police organization since the police mission is dependent, at least in part, upon the cooperation of a majority of the citizenry."

¹ In Tennessee vs. Garner, 471 U.S. , 85 L.Ed. IIIdI, 105 S.Ct.1694 (1985), the Supreme Court held that Tennessee's statute, based upon the common law doctrine was unconstitutional in that it authorized the use of deadly force against an apparently unarmed, nondangerous suspect.

The Problem

For the past two decades, police homicides have been a controversial issue in law enforcement due to: (1) disproportionality by race of shooting victims, and (2) interjurisdictional variations in shooting rates.

Racial disparities in the police use of deadly force have been documented in numerous studies. Takagi (1974) found that black men have been killed by police at a rate of some nine to ten times higher than white men. Meyer (1980) found that 50% of suspects shot fatally by Los Angeles police officers between 1974 and 1978 and 62% of those shot in 1979 were black. In New York City a rather high association was found between race and the likelihood of being shot at by the police (Fyfe, 1978). Matulia (1982) also found Blacks to be overrepresented as recipients of police use of deadly force in urban police departments (See Table 1). The data reveal an unmistakable and consistent racially linked pattern of disproportional involvement of minorities as victims of deadly force (National Organization of Black Law Enforcement Executives (NOBLE), 1982).

Several explanations are offered for racial disparities in police use of deadly force including: (1) the disproportionately high arrest rate of minorities for crimes of violence, (2) victim precipitation in violent police-suspect interactions, (3) the differential

TABLE 1
JUSTIFIABLE HOMICIDE BY POLICE
BY RACE OF VICTIM

<u>Year</u>	<u>Number</u>			<u>Number</u>		
	<u>White</u>	<u>Black</u>	<u>Other</u>	<u>White</u>	<u>Black</u>	<u>Other</u>
1979	103	151	3	40.1	58.8	1.2
1978	78	112	1	40.8	58.6	0.5
1977	89	123	3	41.4	57.2	1.4
1976	90	149	4	37.0	61.3	1.6
1975	137	218	2	38.4	61.1	0.6
Total	497	753	13	39.4	59.4	1.0

Source: Unpublished FBI Uniform Crime records of 54 cities.
Matulia, A Balance of Forces, 1982

administration of law enforcement towards minority citizenry, and (4) police misconduct (Goldkamp, 1976). However, the meaning and implications of racial disparities is still unclear.

Rates of reported police homicides vary considerably among major American cities (See Table 2). Most studies of interjurisdictional variation in police killings utilize ratios of the number of citizens killed per either (1) 100,000 population, or (2) 100, or 1,000 police during a given period of time.² There are several shortcomings involved in the use of these rates. Sherman and Langworthy (1979), and Sherman and Cohn (1986), found the national incidence of police homicides to be substantially underreported and concluded that procedures for measuring homicide by police officers should be improved. Furthermore, rates are subject to internal and external influences including organizational variables, community characteristics, statutory and administrative use of force guidelines, situational variables and officer-civilian characteristics (Geller, 1982). Thus, interpreting geographical disparities in police homicide rates is difficult.

While the exact incidence of police homicides is unknown and the number reported is relatively low

² Several authors (Matulia, 1982; Mendez, 1983; and Sherman and Cohn, 1986) have employed other rates to measure police homicides.

TABLE 2

CITIZENS KILLED BY POLICE PER
100,000 POPULATION AND PER
100 POLICE OFFICERS*

CITY	<u>PER 100,000 POPULATION</u>				<u>PER 100 OFFICERS</u>			
	<u>1975-1979</u>		<u>1980-1984</u>		<u>1975-1979</u>		<u>1980-1984</u>	
	Mean	Rate	Mean	Rate	Mean	Rate	Mean	Rate
Akron, OH	.246	48	.084	50	.126	47	.047	50
Albuquerque, NM	.349	44	.286	39	.206	35	.170	33
Atlanta, GA	.876	15	.911	6	.307	21	.310	15
Austin, TX	.125	51	.599	19	.089	56	.373	9
Baltimore, MD	1.051	9	.328	34	.256	26	.084	45
Birmingham, AL	1.766	3	.775	9	.765	2	.300	12.5
Boston, MA	.223	50	--	--	.060	54	--	--
Buffalo, NY	.256	48	--	--	.088	51	.039	51
Charlotte, NC	.207	52	.496	22	.105	49	.259	21
Chicago, IL	.741	18	.691	15	.173	40	.168	34
Cincinnati, OH	.492	31	.366	32	.205	36	.142	38
Cleveland, OH	1.037	11	.669	16	.317	18	.204	26.5
Columbus, OH	.363	43	.746	13	.215	32	.380	8
Dallas, TX	.823	17	1.069	3	.350	13	.502	4
Denver, CO	.456	35	.820	8	.160	42	.306	16
Detroit, MI	1.628	4	.747	12	.405	10	.220	25
El Paso, TX	.400	37	.089	49	.245	28	.060	49
Ft. Worth, TX	.324	46	.447	30	.176	39	.249	23
Honolulu, HI	.111	56	.025	52	.054	55	.013	53
Houston, TX	1.105	8	--	--	.582	6	.330	12.5

TABLE 2 (con't)

CITIZENS KILLED BY POLICE PER
100,000 POPULATION AND PER 100 POLICE OFFICERS*

CITY	PER 100,000 POPULATION				PER 100 OFFICERS			
	1975-1979		1980-1984		1975-1979		1980-1984	
	Mean	Rate	Mean	Rate	Mean	Rate	Mean	Rate
Indianapolis, IN	.624	22	.488	27	.393	11	.274	19
Jacksonville, FL	1.167	7	1.139	2	.647	3	.717	1
Jersey City, NJ	--	--	.267	42	--	--	.064	48
Kansas City, MO	.904	13	.489	25	.346	15	.192	28
Long Beach, CA	1.170	6	1.032	5	.639	4	.627	2
Los Angeles, CA	.896	14	.621	17	.343	16	.280	18
Louisville, KY	.607	23	.603	18	.266	24	.254	22
Memphis, TN	.598	24	.760	11	.311	19	.415	7
Miami, FL	.505	29	1.043	4	.258	24	.432	6
Milwaukee, WI	.364	42	.249	44	.144	45	.077	47
Minneapolis, MN	.384	39	.213	46.5	.181	38	.114	42
Nashville, TN	.698	20	.742	14	.299	23	.337	11
Newark, NJ	.370	41	--	--	.085	52	--	--
New Orleans, LA	2.132	1	1.294	1	.766	1	.538	3
New York, NY	.479	32	.488	27	.140	46	.144	35.5
Norfolk, VA	.496	30	.292	36	.234	30	.130	40
Oakland, CA	1.311	5	.572	20	.672	5	.328	14
Oklahoma Cty, OK	.851	16	.843	7	.483	7	.481	5
Omaha, NE	.379	40	.308	35	.252	27	.180	30
Philadelphia, PA	.041	12	.452	29	.210	34	.104	44
Phoenix, AZ	.528	26	.271	40.5	.224	31	.134	39

TABLE 2 (con't)

CITIZENS KILLED BY POLICE PER
100,000 POPULATION AND PER 100 POLICE OFFICERS*

CITY	<u>per 100,000 POPULATION</u>				<u>PER 100 OFFICERS</u>			
	<u>1975-1979</u>		<u>1980-1984</u>		<u>1975-1979</u>		<u>1980-1984</u>	
	Mean	Rate	Mean	Rate	Mean	Rate	Mean	Rate
Pittsburgh, PA	.135	54	--	--	.043	56	--	--
Portland, OR	.208	51	.054	51	.118	48	.029	52
Rochester, NY	.464	34	.493	24	.189	37	--	--
Sacramento, CA	.077	57	.147	48	.041	57	.079	49
St. Louis, MO	1.773	2	--	--	.449	8	--	--
St. Paul, MN	.147	53	.000	53	.073	53	.000	54
San Antonio, TX	.057	28	.261	43	.348	14	.191	29
San Diego, CA	.470	33	.392	31	.321	17	.267	20
San Francisco, CA	.394	38	.288	38	.159	43	.109	43
San Jose, CA	.313	47	.271	40.5	.240	29	.204	26.5
Seattle, WA	.448	36	.358	33	.214	33	.178	31
Tampa, FL	.653	21	.488	27	.306	22	.226	24
Toledo, OH	.334	45	.226	45	.148	44	.146	37
Tucson, AZ	.724	19	.290	37	.421	9	.177	32
Tulsa, OK	.585	25	.535	21	.308	20	.234	17
Virginia Bch, VA	--	--	.213	46.5	--	--	.149	35.5
Washington, D.C.	1.049	10	.716	10	.169	41	.218	41
Wichita, KS	.524	27	.494	23	.359	12	.338	10

*SOURCE: Sherman and Cohn (1986) Citizens Killed By Big City Police (1970-1984)

(See Table 3), the control of police homicides is essential. Law enforcement officers and departments have been found liable for wrongful deaths in the civil courts³ citizens have engaged in protests and civil disturbances⁴ and police community relations have deteriorated⁵ whenever seemingly unjustified shootings are found to be within statutory and/or departmental guidelines. Ultimately, the responsibility of controlling the use of deadly force rests with the police chief

3 There have been a number of civil cases evolving from police misuse of deadly force. Prior v. Woods (1981) was a notorious case which resulted in a \$5.7 million award, one of the largest police homicide settlements to date (Incardi, 1987). In July, 1986, a Superior Court jury in Compton, California awarded \$1.4 million to a family whose father was shot and killed by Los Angeles Sheriff's Deputies in December, 1980 (Long Beach Press Telegram, August 16, 1986). In 1986 the city of Los Angeles settled cases worth a record \$2.3 million involving police malpractice (Los Angeles Herald Examiner, October 23, 1986).

4 For three days in May, 1980, Blacks in Miami engaged in violence which left 15 persons dead and caused extensive property damage after four white patrolmen were acquitted in the 1979 killing of Arthur McDuffie. On February 19, 20 and 25 violence erupted in the College Hill section of Tampa, Florida following the death of Melvin Hair on February 18th by a Tampa police officer.

5 Police community relations in Tampa began to deteriorate after four Black males were killed by the police over a six month period. One resident commented, "It seems like they're trying to provoke us into a war". On the wall of an upholstery shop graffiti reads "White racist pigs." "Violence must go." Palm Beach Post, April 12, 1987).

TABLE 3
Justifiable Homicides by the Police
1970-83
57 U.S. CITIES*

YEAR	HOMICIDES	PERCENT CHANGE
1970	291	
1971	388	+33.3
1972	314	-19.1
1973	317	+ 0.9
1974	356	+12.3
1975	360	+ 1.1
1976	268	-25.6
1977	262	- 2.2
1978	249	- 5.0
1979	289	+16.1
1980	254	-12.1
1981	217	-14.6
1982	212	- 2.3
1983	232	+ 9.4

*Source: IACP Survey of 57 U.S. Cities.
Unpublished FBI Uniform Crime Records.
(Matulia, 1985)

executive who must promulgate and enforce clear and concise policy directives to police officers and managers.

Research has established that more restrictive standards guiding the police use of deadly force are one way to control police shootings (Chapman, 1963, 1967; Cincinnati Police Department, 1964; Columbus Police Department, 1973; Uelman, 1973; Milton, et al., 1977; Fyfe, 1978, 1979, 1980a, 1980b, 1982a, 1982b; Reiss, 1980; Sherman, 1980b, 1983; Matulia, 1982; National Organization of Black Law Enforcement Executives (NOBLE), 1982. Yet, the effect of restrictive review and investigation policies on police homicides has received limited attention (Fyfe, 1978; Uchida, Sherman, Fyfe, 1981), and thus remains unknown.

Though there have been numerous studies of the relationship between community crime characteristics and police homicides, the effect, if any, of other community factors on the incidence and control of police homicides have received limited attention.⁶

Purpose of the Study

This study was undertaken to improve our understanding of homicides by the police. The primary

⁶ Some demographic characteristics were examined by Kania and Mackey (1977) and Jacobs and Britt (1979) (See Chapter II).

of this research was to examine the impact of police systems and their environments on police homicides. It was designed to describe, explore, and analyze the effects of a police department's management, resources and environment⁷ on police homicides. Secondary data from five sources was used to create a comprehensive database which included information on police systems, their environments and reported police homicides. The following questions guided the analysis:

(1) What is the effect, if any, of police administrative review and investigation policies on police homicides?

(2) What is the effect, if any, of firearms training standards on police homicides?

(3) What is the effect, if any, of police department resources on police homicides?

(4) What is the effect, if any, of demographic community characteristics on police homicides?

(5) What is the effect, if any, of community political characteristics on police homicides?

(6) What is the effect, if any, of community crime characteristics on police homicides?

⁷ Managerial factors include administrative shooting policies and firearms training standards. Department resources include the level of expenditures and education of sworn personnel. The police department's environment includes demographic, political and community crime characteristics.

Theoretical Framework

Theoretical explanations of the police use of deadly force in general, and police homicides specifically, have included the individual, situational and organizational approaches (Friedrich, 1980), conflict theory (Takagi, 1974; Jacobs and Britt, 1979), social control theory (Reiss, 1980), and the societal matrix theory (Kania and Mackey, 1977).

The individual approach views police use of deadly force in terms of officer characteristics. The situational approach attempts to explain police use of force in the context of the shooting event. With this approach both victim and officer characteristics are examined. The organizational approach views the authority of the police to use deadly force as a product of: (1) the formal and/or informal organizational structure, (2) managerial control, and (3) police organizational style (Friedrich, 1980).

Historically, organizational theory has focused on the social structure of complex organizations. Weber (1922, 1946) emphasized the importance of bureaucracy and legal authority in modern societies. He described bureaucracies as being characterized by an extensive division of labor, a separate administrative apparatus, a hierarchy of authority, a system of rules and regulations, and specialized responsibilities which are

includes a belief in the supremacy of a body of legal norms assigned to trained experts. Legal authority, which is inherent in bureaucracies. According to Waegel, (1984), a formal bureaucratic set of procedures exists to evaluate, document and explain police violence.

Conflict theory views the police use of deadly force as an outcome of the inequitable distribution of wealth, prestige and political influence. The police are seen as employees of the power holding classes and are sanctioned to use violence against those who represent a challenge to the elite (Kania and Mackey, 1977). According to this theoretical perspective, there is a close connection between economic inequality and police violence - those with fewer resources will be less able to protect themselves from police violence (Jacobs and Britt, 1979).

Kania and Mackey (1977) identified community characteristics (the societal matrices) as important factors in explaining police homicides. These community characteristics included nutrition, reproduction, quality of life, safety, recreation, mobility and education.

Though it has not previously been utilized, systems theory provides a more holistic framework for explaining and understanding police homicides. According to this approach⁸ system is best understood in the context of its management, resources, components, objectives and

⁸ The terms theory and approach are used interchangeably.

environment (Churchman, 1979). Management is responsible for the generation and evaluation of plans for the system. Resources refer to the means the system uses to do its job. Components are the parts or subsystems whose missions are critical to the objectives of the system. Objectives refer to the stated goals of the system. An open system has a boundary or zone separating its internal parts from its environment across which input-output exchanges are made (Hall, 1971). The environment is what lies outside of the system, is beyond its control, yet, determines in part how the system performs.

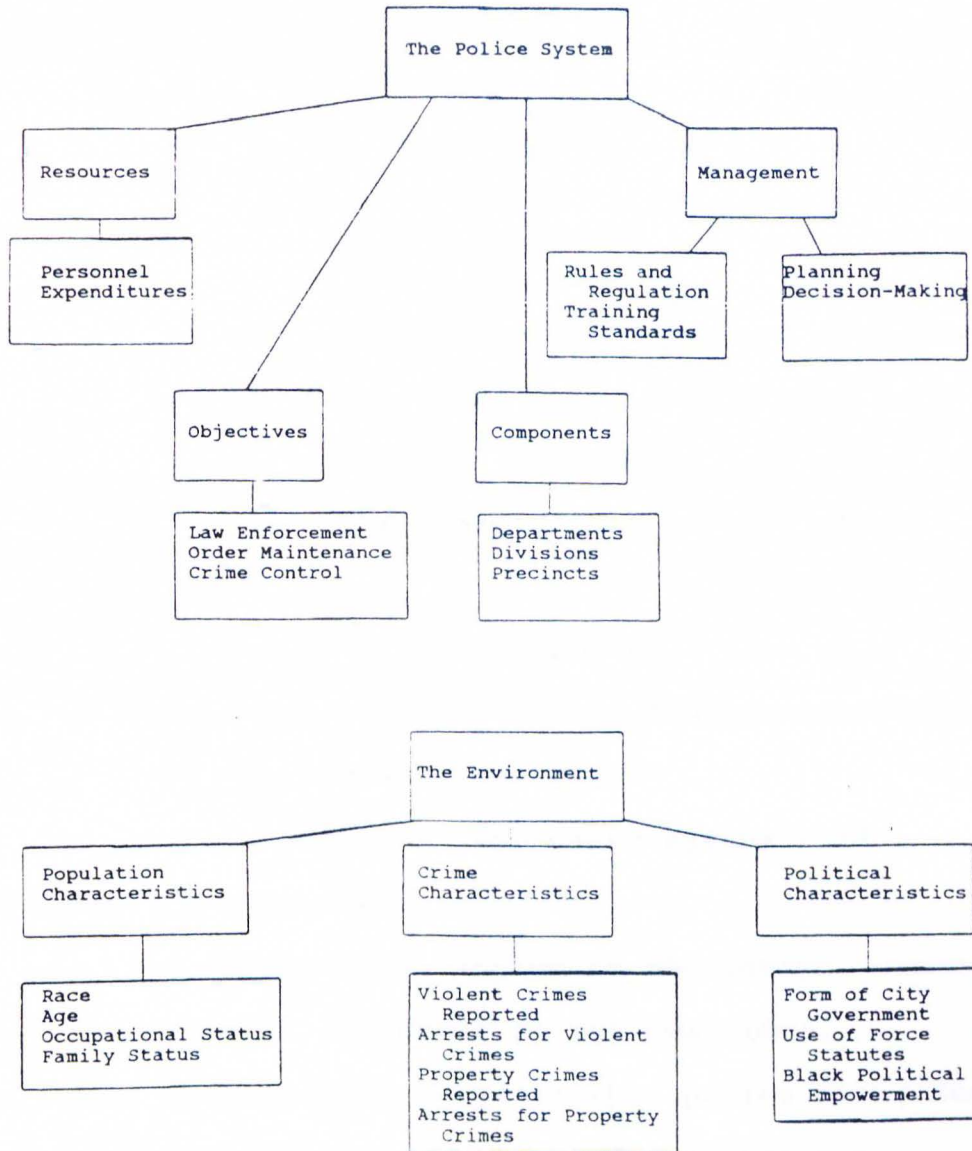
Police departments can be conceptualized as systems as illustrated in Figure 1. According to Figure 1, the police system relies upon its managers (the chief executive, assistant chief(s), and senior deputies) for planning and decision making. Planning is a process which involves the development of courses of action. Decision making is the art of making choices for the purpose of controlling, maintaining, and changing the police system. Resources refer to the expenditures and personnel which are used to achieve the objective. According to Churchman (1979, p. 39),

"Resources are the general reservoir out of which the specific actions of the system can be shaped."

Police organizations are often divided into departments, divisions, and precincts. While they are

FIGURE 1

THE POLICE SYSTEM AND ITS ENVIRONMENT



referred to as components of the system, they are secondary to their "missions or "activities". More importantly components provide information on system operations.

The major objectives of police systems are: law enforcement, order maintenance and crime control. The control and prevention of police homicides are secondary to the major objectives.

The following propositions were derived from the systems theoretical framework:

1. The police system's management, resources and environment are the three major factors that effect police homicides.

2. The management of the police system is responsible for implementing clear, comprehensive and concisely written shooting policies.

3. The resources of the police system will influence its management.

4. The environment, including population, crime and political factors, influence police homicides.

These propositions suggests that police homicides may be better understood when police department (internal) and environmental (external) factors are considered. Systems theory provides the best framework for exploring these propositions.

Organization

The remainder of the dissertation is outlined below. In Chapter II the literature review is presented. It includes previous studies of (1) fatal and nonfatal police shootings, (2) legal standards guiding the police use of deadly force, (3) departmental administrative shooting policies, (4) police organizational characteristics and (5) community characteristics. A summary table of prior studies appears at the end of the chapter.

In Chapter III, the research methodology is described. A description of the data, research hypotheses, operational definitions of the key variables and statistical procedures are presented.

Chapter IV presents and summarizes the findings of the research. The findings of the univariate, bivariate and multivariate analyses are described.

Chapter V includes a summary of the research, limitations, conclusions and policy implications of the study.

CHAPTER II

REVIEW OF THE LITERATURE

Historically, the police use of deadly force literature has focused primarily on police homicides (Robin, 1963; Harding, 1970; Knoohuizen, Fahey and Palmer, 1972; Harding and Fahey, 1973; Takagi, 1974; Jenkins and Faison, 1974; Kobler, 1975; Public Interest Law Center of Philadelphia (PILCOP), 1975; Sherman and Langworthy, 1979; Matulia, 1982).⁹ While there have been studies which included both fatal and nonfatal police shootings (Boston Police Department, 1974; Milton, et al., 1977; Fyfe, 1978, 1980a, 1980b, 1982; Uchida, et al., 1981), the limited availability of nonfatal shooting data has necessitated more research on police homicides.

Previous studies of police shootings have attempted to either count, describe, explain or shed light on controlling shooting incidents (Geller, 1982). Most studies utilize a case study approach (Robin, 1963; Knoohuizen et al., 1972; Harding and Fahey, 1973; Boston Police Department, 1974; Jenkins and Faison, 1974; PILCOP, 1975; Fyfe, 1978, 1980a, 1980b, 1981a; Meyer, 1980; Geller and Karales, 1981a, 1981b; Uchida et al.,

⁹ According to Fyfe (1978), studies which focus only upon fatal shooting are severely limited since deadly force does not always kill.

1981), and many are methodologically weak.¹⁰

Three major issues were identified in the empirical literature: (1) police departmental deadly force policies and practices (Chapman, 1963, 1967; Cincinnati Police Department, 1964, Columbus Police Department, 1973); Uleman, 1973; Milton et al., 1977; Fyfe, 1978, 1980b, Reiss, 1980; Sherman 1980b, 1983, Matulia, 1982; National Organization of Black Law Enforcement Executives (NOBLE), 1982, (2) interjurisdictional variations in shooting rates (Uelman, 1973; Kania and Mackey, 1977; Milton, et al., 1977; Jacobs and Britt, 1979; Fyfe, 1978, 1980a, 1982; Meyer, 1980; Matulia, 1982), and (3) the over-representation of Blacks as shooting victims (Robin, 1963; Harding and Fahey, 1973; Jenkins and Faison, 1974; Takagi, 1975; Goldkamp, 1976; Fyfe, 1978, 1981b, 1982; Meyer, 1980; Matulia, 1982).

Here the empirical literature is classified and discussed as follows: (1) studies of police shootings;¹¹ (2) legal standards guiding police use of deadly force;

¹⁰ Methodological weaknesses include the use of the case study approach, reliance on police records, and the selection of inappropriate statistical analyses. These weaknesses are discussed in greater detail later in this chapter.

¹¹ This literature review included studies of both fatal and nonfatal shootings.

(3) federal initiatives; (4) studies of administrative shooting policies; (5) police organizational characteristics; and (6) the effect of demographic, political and crime characteristics on police shootings.

Previous Studies of Police Shootings

The empirical analysis of shooting events is a recent phenomenon in the study of law enforcement in our country. The courts wrestled with the issue of police shootings long before it was addressed in the empirical literature. Gremel (1954) cited judicial cases dating back to 1888 in which the importance of officers knowing when they could lawfully use their weapons was a major issue. Interestingly, one of the earliest studies of police shootings was an analysis of police officers as victims of shootings (Bristow, 1963). Bristow found that in the 110 cases he examined, the majority of officers were shot by suspects in buildings (51%) or in vehicles. While there have been other studies of police officers as victims of shootings (Takagi, 1974; Geller and Karales, 1981; Margarita, 1980; Matulia, 1982), most of the empirical literature has focused upon police officers as perpetrators of shooting events. In this section an overview of previous empirical studies of police shootings is presented.

The first cross-city comparative analysis of police firearms discharges found in the empirical literature was

conducted by Catherine H. Milton, Jeanne W. Halleck, James Lardner and Gary L. Abrecht (1977). These authors studied police firearms discharges in which a bullet wounded or killed someone in police departments servicing Birmingham, Alabama; Detroit, Michigan; Oakland, California; Portland, Oregon; Kansas City, Missouri; Indianapolis, Indiana and Washington, D. C. In each city, the researchers examined the records of shootings by police officers over a period of time ranging from a year and a half in Detroit to three years in Kansas City, Portland, and Oakland. Shootings by both on and off-duty officers, as well as personal disputes between officers were included in the analysis of 320 shooting incidents reported in 1973 and 1974. Of the 320 shooting incidents analyzed, close to two-thirds were nonfatal. The authors found that the majority of shooting incidents resulted in injuries to black males, almost three-fourths of the shooting victims were under age 30, and over half of the subjects were armed and seemingly involved in criminal incidents (Milton, et al., 1977).

The researchers also examined the correlation between shooting rates in individual cities and police department size, population size and reported crime rates. Variations in shooting rates were found in cities of similar sizes, and in cities with similar officer to population ratios. No consistent relationship was found

between changes in the number and rate of shootings and changes in index crime rates.

While the Milton et al., study is significant to the body of knowledge on the police use of deadly force it has several limitations. The use of police records is a methodological quagmire for most research on police shootings. The authors noted (1977, p. 7),

"The research was dependent upon the cooperation of local police officials willing to allow researchers to review police records and statistics."

Yet, neither the accuracy of these records nor the extent of nonreporting was addressed. Another limitation of the study was a bias in the selection of cities included in the study. The authors observed, (1977, p. 7),

"Selection of cities for case studies ultimately did not involve a particularly complicated formula but had the general goal of encompassing a wide range of settings, styles of administration and police policies."

While criteria for inclusion in the study were given, the authors summarize the selection process with the following statement (Milton, et al., 1977, p. 8),

"In the end, the departments chosen were a highly varied group. The seven cities represented a cross-section of urban America by geography, by population makeup, by style of department administration, and by their rates of police shootings of civilians."

James J. Fyfe (1978) analyzed all reported firearms discharges and serious assaults by police officers in New York City between 1971-1975. Fyfe's dissertation was the

first comprehensive examination of police shootings in New York City. In addition to describing firearms discharges, Fyfe (1) developed officer and opponent¹² typologies, and (2) analyzed the effects of direct and indirect organizational interventions upon police shootings. Fyfe used the data originally collected for his dissertation in several other studies. He analyzed the relationship between (1) officer's race and police shooting victims (1981b, 1981d), (2) geographic correlates and police shootings (1980b), (3) administrative policies and police shootings (1982a), and (4) off-duty police shootings (1980a). Like Milton, et. al., Fyfe (1978) also found the variable of race to be linked to the likelihood of being a police shooting opponent. According to Fyfe (1978, p. 191-192),

"Blacks are the mode among New York's police shooting opponents because they are also the mode among the lower socioeconomic groups which most frequently participate in the types of activity likely to precipitate extreme police-citizen violence."

More surprisingly however, was Fyfe's finding that there is a relationship between NYPD officer race and police shootings. Fyfe (1978) found: (1) minority

¹² Fyfe uses the term opponent to refer to the victim(s) of police fatal shooting.

officers' shooting disproportion¹³ to be the greatest where minority opponents were involved; (2) that the disproportionate shooting of on-duty black and hispanic police officers and detectives was due to their disproportionate assignment to units and areas in which the likelihood of police shooting was greatest; and, (3) minority officer disproportionality was greatest among off-duty shooters.

An important contribution of Fyfe's dissertation to the body of knowledge was his development of two shooting typologies. In the hazard based shooting typology eleven shooting types were created which classified degree of officer injury as a measure of hazard to police. Fyfe, also dichotomized police shootings into "elective" and "nonelective" shootings. Elective shootings were those in which an officer elected to shoot or not to shoot at little or no risk to himself. A nonelective shooting was one in which an officer shot in order to avoid death or serious injury to himself or others.

Fyfe (1982b) used his shooting typologies in a comparative analysis of police shootings in Memphis and New York City. He concluded (1982b, p. 717),

"...[t]he variation in shooting rates between

¹³ Fyfe uses this phrase to describe overrepresentation of minority officers in shooting incidents. He found police shootings to be more likely in lower-income areas of New York City.

Memphis and New York is largely attributable to the great frequency with which Memphis officers engaged in police shootings of fleeing property crime suspects..."

Like the Milton, et al., study, most of Fyfe's research is limited by the use of police records. As Fyfe (1982a, p. 716) so adeptly states,

"Because the data analyzed in this study are based upon direct observations of such incidents, it is possible that any differences found are attributable to differential police reporting practices rather than to differential police shooting practices."

Furthermore, Fyfe himself was a police officer with the NYPD which may have brought a subjective bias to his research.¹⁴

Perhaps the major limitation of Fyfe's research is his reliance upon chi-square as a measure of association.¹⁵ The use of chi-square to test research hypotheses of a total population (all firearm discharges in New York City) is questionable in that Chi-square is usually used to test statistical hypotheses based upon a random sample (Loether and McTavish, 1974). His empirical studies are further limited by a heavy reliance on crosstabulations to explain bivariate relationships.

¹⁴ It is difficult to analyze the direction of Fyfe's bias in light of his progressive philosophy towards police use of deadly force.

¹⁵ Fyfe uses other methods of analysis in his articles including time series analysis, orthogonal least squares and Cramer's V as a measure of association.

While crosstabulations are of substantive interest, they cannot, without exceedingly large random samples, effectively untangle complexes of potentially spurious bivariate relationships (Friederich, 1980). Thus, the external validity of Fyfe's findings are questionable.

Meyer (1980) described the involvement of minorities in Los Angeles Police Department (LAPD) shooting incidents. He also found disproportionality by race among shooting victims. Fifty-five percent of the 584 suspects shot at between 1974, and 1978, were black, 22% were hispanic and 22% were white (Meyer, 1980). He also found (1980, p. 160),

"...[A] higher percentage of blacks than others are involved in shootings following suspects' disobeying orders to halt or suspects' appearing to reach for weapons when there was no assault and no display, threat, or use of weapon immediately preceding the shooting. These kinds of shootings were less often found out of policy in the review process when the suspect was black than when he was hispanic or white."

According to Meyer (1980, p. 155),

"In almost all instances, the suspect's act precipitating a shooting incident is the final act that caused the officer to fire..."

Yet he states (1980, p. 160),

"A greater proportion of blacks than of hispanics or whites shot at by the LAPD were ultimately determined to have been unarmed."

In another analysis of police shootings in metropolitan Los Operation Rollout. This program, located in the Los

Angeles County District Attorneys (LADA) office, was responsible for investigating all police shooting incidents in Los Angeles County.¹⁶ Uchida et al. evaluated the cases investigated by LADA from 1977 to 1981. Using Fyfe's elective and nonelective shooting typology, the authors found that fewer elective shootings occurred after Operation Roll Out was implemented than before.

The first comprehensive interjurisdictional study of police shootings was conducted under the auspices of the International Association of Chiefs of Police (IACP). According to the author, Kenneth J. Matulia (1982, p. 3),

"The focus of this research is on the actions of police organizations and how they may affect the justifiable homicide rates of their police agency."

In 1979, the U.S. Department of Justice, National Institute of Justice (NIJ) funded the IACP to study the circumstances surrounding justifiable homicides by the police in the 57 largest United States cities between 1970-1979.¹⁷ The IACP study was the first of its

¹⁶ Twenty-eight out of 52 law enforcement agencies participated in Operation Roll Out.

¹⁷ The IACP study was part of an effort by the federal government to research the police use of deadly force. NIJ also provided funding to the National Council of LaRaza, the National Urban League and the University of California to research this issue.

magnitude. It included both fatal and non-fatal, and on and off-duty shooting events.¹⁸ In spite of its historical significance, the report was critized by practitioners, researchers and academicians. James Fyfe (1981a, p.4), in a review of the report¹⁹ for NIJ stated,

"...It is designed to put to rest many of the questions asked about deadly force. It continually minimizes the dimensions of deadly force as a social problem and plays down the role police chiefs might play in reducing deadly force."

The purpose of the study was to identify the factors surrounding the use of deadly force in law enforcement, determine how these factors interrelate, and where appropriate, develop model policy guidelines as well as training and procedural techniques which could possibly reduce such deaths while protecting the safety of police officers (Matulia, 1982). The IACP report is significant to the body of knowledge because it gave empirical support to the multiplicity of factors associated with (1) interjurisdictional variation in police use of deadly

¹⁸ Although data was collected on fatal and nonfatal shooting events, the author included only fatal shootings referred to as "justifiable homicides", in the published report.

¹⁹ The report was made available by KOBA Associates with permission of Dr. Fyfe.

force, (2) the review and investigation of shooting events, and (3) reporting procedures to follow a shooting. Here, the significant findings and methodological weakness of the report will be presented.

Significant Findings of the IACP Study

The most significant finding of the study was the interjurisdictional variation in shooting rates among the cities studied (See Table 4). Yet, this finding is downplayed throughout the report. Fyfe (1981a, p. 9), succinctly notes,

"Certainly the most stunning data presented in the report are the various measures of fatal shootings against indices of risk. These rates vary dramatically among the cities studied, even when controlling for hazard, and even among cities within the same state, where statutory justifications for shooting are constant."

According to Fyfe (1981a, p. 1), serious policy questions concerning (1) the effects of internal departmental policies on police shooting rates and (2) the disproportionate number of Blacks and other minorities who are shot and are shooters was not addressed by the study. He noted (1981, pp. 1-2),

"I do not feel that what the study treats as its major findings are generally valid, significant or supported by the research...it is generally quite subjective and defensive...(and) difficult to follow."

Like previous studies, the IACP report found Black over-representation as victims of justifiable homicides.

TABLE 4

INTERJURISDICTIONAL VARIATION IN RATES OF JUSTIFIABLE HOMICIDE
1975 - 1979

CITY	Rate Per 100 <u>Officers</u>	Rate Per 100 <u>Homicides</u>	Rate Per 100 <u>Robberies</u>	Rate Per 1,000 <u>Violent Crimes</u>	Rate Per Civilian <u>Homicides</u>	Rate Per 100,000 <u>Population</u>
AKRON	.13	.25	.94	.44	1.00	.24
ALBUQUERQUE	.21	.29	1.26	.41	2.50	.35
AUSTIN	.09	.12	.72	.30	.29	.12
BALTIMORE	.26	.40	1.05	.57	2.26	1.06
BIRMINGHAM	.75	.60	4.28	1.63	1.25	1.74
BOSTON	.06	.16	.22	.13	1.40	.23
BUFFALO	.09	.19	.51	.29	.71	.25
CHARLOTTE	.10	.11	.84	.28	1.50	.20
CHICAGO	.17	.28	1.33	.75	.31	.74
CINCINNATI	.20	.33	1.27	.57	3.30	.49
CLEVELAND	.32	.25	1.03	.67	.70	1.04
COLUMBUS	.20	.31	.96	.56	.67	.37
DALLAS	.35	.29	1.90	.77	1.30	.83
DENVER	.16	.28	.94	.46	3.67	.46
DETROIT	.40	.39	1.29	.84	1.13	1.63
EL PASO	.25	.61	1.98	.94	1.34	.40
FT. WORTH	.18	.14	.95	.47	.75	.32
HONOLULU	.05	.17	.64	.43	.80	.11
HOUSTON	.58	.38	2.38	1.60	1.86	1.10
INDIANAPOLIS	.40	.51	1.81	1.02	4.20	.67
JACKSONVILLE	.65	.76	4.05	1.38	7.75	1.16
KANSAS CITY	.35	.39	1.70	.74	3.00	.90
LONG BCH	.64	.61	1.99	1.16	2.86	1.18
LOS ANGELES	.35	.40	1.52	.70	1.39	.89

TABLE 4 (con't)

LOUISVILLE	.27	.30	1.34	.83	2.00	.60
MEMPHIS	.31	.36	1.39	.75	1.11	.60
MIAMI	.25	.18	.66	.30	1.13	.51
MINNEAPOLIS	.18	.42	.82	.43	3.50	.38
NASHVILLE	.41	.36	1.69	.97	1.36	.70
NEWARK	.08	.11	.28	.17	1.50	.37
NEW ORLEANS	.77	.63	3.17	1.81	2.07	2.13
NEW YORK	.14	.22	.44	.27	1.12	.48
NORFOLK	.24	.28	1.52	.60	1.75	.50
OAKLAND	.67	.44	1.47	.77	2.44	1.32
OKLAHOMA CITY	.49	.51	3.37	1.05	.70	.86
OMAHA	.25	.47	1.51	.68	2.33	.38
PHILADELPHIA	.21	.46	2.07	1.24	2.24	.94
PHOENIX	.22	.48	1.92	.75	1.50	.52
PORTLAND	.12	.20	.44	.19	.80	.21
ROCHESTER	.19	.37	1.08	.58	1.50	.46
SACRAMENTO	.04	.04	.15	.07	.13	.08
ST. LOUIS	.45	.42	1.71	.91	3.07	1.77
ST. PAUL	.07	.25	.42	.20	2.00	.15
SAN ANTONIO	.35	.28	2.64	1.07	4.00	.50
SAN DIEGO	.33	.56	1.54	.85	2.11	.48
SAN FRANCISCO	.16	.20	.42	.26	.89	.39
SAN JOSE	.24	.44	1.67	.68	1.80	.31
SEATTLE	.22	.50	1.06	.50	2.20	.44
TAMPA	.30	.41	1.53	.53	1.29	.66
TOLEDO	.15	.24	.59	.36	1.25	.27
TUCSON	.42	.90	3.56	1.28	1.57	.72
TULSA	.31	.55	3.67	1.01	2.00	.59
WASHINGTON	.17	.37	1.00	.68	3.00	1.05
WICHITA	.36	.40	2.27	1.11	3.50	.52

Between 1975 and 1979, 59.6 percent of the justifiable homicide victims were Black (Matulia, 1982, p. 60). Disproportionality by race is attributed primarily to "black criminality" by the author and the study sheds no light on this issue.

Twenty-one factors were found to be associated with high justifiable homicide rates (Matulia, 1982, p. 139): population, number of police officers, homicide by civilians, justifiable homicides by civilians, robberies, violent crime, a high number of officers assigned to each supervisor, the use of semi-automatic weapons by SWAT units, in service SWAT unit training, the absence of policy for the management of stake-out units, the absence of policy for the management of decoy units, patrol command response to the scene of deadly force incidents, police chief response to the scene of deadly force incidents, district attorney response to the scene of deadly force incidents, in-service crisis intervention training, pre-service exertion firearms training, in-service exertion firearms training, the awarding of incentives for firearm marksmanship, in-service officer survival training, on-duty weapons larger than .38 caliber, and the issuance of shotguns to officers. Other significant hypotheses and findings of the IACP study are presented in Table 5.

Methodological Issues

The research design for this project included an

TABLE 5*

HYPOTHESES AND FINDINGS DOWNPLAYED IN THE IACP STUDY

HYPOTHESES

3. The fewer the number of First-line supervisors in proportion to line officers, the higher the JHR will be.
7. The existence and control of a SWAT unit will have a decreasing effect on the justifiable homicide rate.
11. Departments with comprehensive internal records of firearm discharge will experience fewer incidents of justifiable homicide by the police.
12. Where an indictment has been found or civil retribution ordered for a use of deadly force incident, that department's justifiable homicide rate will reflect a significant downturn.
14. As the bureaucratic involvement in firearm use investigations increases, the propensity to use deadly force will decrease.
25. Departments which emphasize simulator, stress, and physical exertion firearms incidents as opposed to departments which emphasize the more traditional bulls-eye and position-shooting training.

FINDINGS

In those agencies which have a supervisor/officer ratio of less than 1:10, the mean JHR is .24 while the agencies with a ratio of more than 1:10 experienced a mean JHR of .33. Further, a department by department comparison of the supervisor/officer ratio to the JHR reflects a significant (.39) correlation which means that as the ratio increases the JHR also increases. This strong correlation infers that department with sufficient numbers of street supervisors providing tactical guidance and manpower support will have a lower incidence of use of deadly force.

Both the T-test and the regression analysis indicate that the presence of a SWAT unit tends to decrease the shooting incidents and JHR.

The complexities and numbers of files, records and other controls did not allow us sufficient specificity for applying statistical tests to this hypothesis. Our findings do seem to suggest that a comprehensive system of policy, procedure and records does seem to be associated with fewer incidents of use of deadly force.

The regression analysis identified the number of indictments which the departments had experienced as very important in explaining the volume of firearm discharges...this variable tended to reduce the number of incidents involving firearm discharges.

The administrative presence is indeed reflected in the JHR: the response of patrol division commander is coupled with a high JHR; the District Attorney involvement, both in reviewing deadly force incidents and in pursuit of criminal charges, is associated with a high JHR; a police chief review of incidents seems to be related to a lower JHR.

The T-test results do indicate a relationship between the justifiable homicide rate and stress/exertion firearm training. The relationship is, however, contrary to our hypothesis.

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analysis of both primary and secondary data including (1) a mail survey to the 57 chiefs of police, (2) statistical data generated by the Federal Bureau of Investigation (FBI) Uniform Crime Reports (UCR) section on crime and justifiable homicides, and (3) a policy content analysis of departmental use of force directives, procedures and training bulletins.

The reliability and validity of the findings are questionable due to underreporting, the use of secondary data, the use of raw numbers in statistical computations and the construction of its justifiable homicide rates.

The validity of the Federal Bureau of Investigation's (FBI) Uniform Crime Reporting System (UCRS) data has received considerable attention in the research literature. By using UCRS data, the IACP study suffers from the same limitations as the FBI Uniform Crime Reports.²⁰

The construction of homicide rates is a critical methodological issue in empirical studies of police use of deadly force (Geller, 1982). Matulia (1982) constructed six justifiable homicide rates (JHR's) with data from the annual FBI publication, Crime in the United States. The rates were ratios of police homicides to: population, number of police officers, police homicides, civilian

²⁰ See the introduction to the annual publication, Crime in the United States, for a discussion of these limitations.

homicides, robbery and violent crime. Noting that each rate has limitations, Matulia used the rate of police homicides to number of police officers to test most of the research hypotheses. There was considerable variation among the cities studied regardless of the rate employed (See Table 4).

The IACP study utilized several statistical techniques to test significance including the t-test, correlation coefficients, time series analysis and multiple regression. The t-test is inappropriately used since carrying out all t-tests between pairs of means is not a very satisfactory way to present the data. According to Hays (1973, p. 543), comparisons tested by the t-test cannot be regarded as independent and the various tests are redundant and overlapping. Fyfe (1981a, p.16), notes,

"The tests of hypotheses assume that each bivariate relationship is independent of anything else."

Multiple regression was under-utilized in the study. Although it was used to identify variables important in explaining firearm discharges (Matulia, 1982, p. 90), it could have also been used to explore disproportionality by race and variations in crime characteristics and shooting policies.

In summary, the IACP study, in spite of its methodological weaknesses, has provided a valuable source of data for the study of police homicides. For the first

time in the short history of the empirical study of police homicides, a database with recorded police homicides from more than fifty metropolitan areas was made available for future research.

Sherman and Cohn (1986) utilized a portion of the IACP database²¹ in their study of police homicides in "Big Cities" between 1970-1984. The authors reported a 51 percent reduction in the number of citizens killed by the police between 1970 and 1984. While in 1970, 353 police homicides were reported in 1984, only 172 were reported. The decline was attributed to changing police policies and practices which were thought to be influenced by black political pressure, civil litigation and training.

Most of the cities included in the Sherman and Cohn study showed reductions in the absolute number of citizens killed²² during the fifteen-year period. However, some cities reported increases in the rate of citizens killed when adjusting for the number of homicides, police officers or size of the population. Sherman and Cohn also found considerable interjurisdictional variation in police homicides.

²¹ The data on justifiable homicides reported in response to the IACP survey and FBI justifiable homicide reports were used by Sherman and Cohn for the period 1975-79.

²² Oklahoma City, OK; Omaha, NB, and Jacksonville, FL., showed increases.

A major problem in this and other studies is data discrepancies found in data sources utilized in the study (See Table 6). The authors attribute these discrepancies police agency variations in counting and reporting methods. They recommended a national system of reporting police killings to be established within the Department of Justice.²³

Legal Standards Guiding The Use of Deadly Force

The use of deadly force by law enforcement officers is guided by federal and state statutes, the courts and departmental guidelines. With over 14,000 police agencies in the United States some variation in shooting policies is to be expected. There are three legal standards which guide police use of deadly force in the states.²⁴ The Common Law Doctrine, the Modified Common Law Doctrine and the Model Penal Code. Each is discussed here followed by an overview of the federal role in deadly force policy implementation.

Historically, the majority of states have relied on the common law standard which allows an officer to use any

²³ Sherman and Langworthy (1979) and Matulia (1982, 1985) also recommended such a system.

²⁴ Eight states and the District of Columbia have no statutes guiding the police use of deadly force and rely on the courts to establish when and to what extent force may be used by police. Sherman, (1980b) and Matulia (1982, 1985) provide a useful overview of the role of the courts in establishing standards for the police use of deadly force.

TABLE 6

DATA DISCREPANCIES

BETWEEN REPORTED POLICE HOMICIDES
(1975-1979) *

<u>CITY</u>	1975		1976		1977		1978		1979	
	FBI	IACP	FBI	IACP	FBI	IACP	FBI	IACP	FBI	IACP
AKRON	0	0	0	0	2	2	8	0	1	1
ALBUQUERQUE	1	1	2	2	0	0	2	2	0	0
AUSTIN	0	--	1	--	0	--	1	--	0	--
BALTIMORE	16	16	7	7	6	6	9	9	5	5
BIRMINGHAM	8	8	7	5	3	3	3	4	4	4
BOSTON	5	9	0	0	0	1	1	1	1	5
BUFFALO	0	--	2	--	1	--	0	--	2	--
CHARLOTTE	1	1	1	1	0	0	0	0	1	1
CHICAGO	34	--	15	15	31	25	15	14	19	19
CINCINNATI	2	2	0	0	2	2	2	2	4	4
CLEVELAND	9	9	4	3	6	5	4	5	9	7
COLUMBUS	0	0	2	2	0	0	4	4	4	4
DALLAS	9	9	4	4	4	4	9	9	9	10
DENVER	7	--	3	--	1	--	0	--	0	--
DETROIT	28	24	25	24	19	17	17	17	17	16
EL PASO	1	--	1	--	3	--	0	--	3	--
FT. WORTH	2	--	0	--	1	--	2	--	1	--
HONOLULU	0	1	2	0	1	1	0	0	1	1
HOUSTON	17	--	17	--	18	--	10	--	20	--

TABLE 6 (con't)

DATA DISCREPANCIES

BETWEEN REPORTED POLICE HOMICIDES
(1975-1979) *

CITY	1975		1976		1977		1978		1979	
	FBI	IACP	FBI	IACP	FBI	IACP	FBI	IACP	FBI	IACP
INDIANAPOLIS	7	8	6	5	5	5	2	2	1	2
JACKSONVILLE	10	--	4	--	8	--	6	--	3	--
KANSAS CITY	3	3	5	5	5	5	6	6	2	3
LONG BEACH	3	4	5	4	2	9	3	6	7	9
LOS ANGELES	30	--	29	29	31	30	20	20	14	14
LOUISVILLE	5	--	2	--	0	--	2	--	1	--
MEMPHIS	6	8	7	4	1	9	4	3	2	2
MIAMI	0	1	1	0	1	1	1	1	6	5
MINNEAPOLIS	0	--	2	--	1	--	0	--	4	--
NASHVILLE	2	2	4	4	2	2	3	3	4	4
NEWARK	0	--	1	--	3	--	1	--	1	--
NEW ORLEANS	18	17	9	8	7	7	8	9	18	23
NEW YORK	42	42	27	26	30	29	40	39	36	36
NORFOLK	1	--	3	--	1	1	2	2	0	1
OAKLAND	7	--	2	--	2	--	3	--	8	--
OKLA. CITY	3	3	3	2	0	0	3	3	7	7
OMAHA	2	--	1	--	1	--	0	--	2	--
PHILADELPHIA	20	--	11	--	21	--	18	--	15	--
PHOENIX	5	5	3	3	5	5	4	5	1	1

TABLE 6 (con't)

DATA DISCREPANCIES

BETWEEN REPORTED POLICE HOMICIDES
(1975-1979)*

<u>CITY</u>	1975		1976		1977		1978		1979	
	FBI	IACP	FBI	IACP	FBI	IACP	FBI	IACP	FBI	IACP
PORTLAND	1	1	1	1	0	0	0	0	2	3
ROCHESTER	2	3	1	3	0	0	0	1	3	2
SACRAMENTO	0	0	0	0	0	0	1	1	0	0
ST. LOUIS	8	6	6	6	6	7	15	15	11	11
ST. PAUL	1	1	0	0	1	1	0	0	0	0
SAN ANTONIO	6	6	7	7	3	3	1	1	3	3
SAN DIEGO	0	--	3	5	5	5	3	2	8	8
SAN FRAN	1	--	4	--	2	--	2	2	4	4
SAN JOSE	4	4	1	1	1	1	1	0	2	3
SEATTLE	4	4	2	3	2	2	2	2	1	1
TAMPA	3	--	2	2	0	0	1	1	3	3
TOLEDO	3	--	0	--	1	--	1	--	0	--
TUCSON	1	1	3	3	3	3	2	2	2	2
TULSA	1	1	1	1	3	3	3	3	2	2
WASHINGTON	8	--	9	--	6	--	6	--	7	--
WICHITA	0	--	2	--	1	1	2	2	2	2

*SOURCE: Matulia (1982) A Balance of Forces

force necessary to affect the arrest of a felon who either flees or otherwise forcibly resists arrest. The common law doctrine has British antecedents although the British Crown Courts and Parliament have laid it to rest (Sherman, 1980b). At earlier periods in English and American History, almost all felony crimes were capital crimes. Thus, it made little difference if the suspected felon was killed in the process of capture since he had forfeited his life by committing the felony. The use of deadly force was seen as merely speeding up the process (Boutwell, 1982). However, deadly force could not be used against a fleeing misdemeanor under any circumstances.

As the number of crimes classified as felonies increased, the use of deadly force to arrest fleeing felons became more prevalent. In most American jurisdictions, the social and legal context of felonies bears little resemblance to that of the early common law (Sherman, 1980b). Felonies today include numerous crimes not involving force or violence and the felony-misdemeanor distinction is less clear. Nevertheless, many states still rely on the common law fleeing felon rule to justify the use of deadly force by police.

Recently the Supreme Court struck down a Tennessee statute permitting the use of deadly force to prevent the escape of an apparently unarmed suspected felon. In Tennessee v. Garner, the Court held that the use of

deadly force to prevent the escape of all felony suspects, whatever the circumstances, was constitutionally unreasonable (Inciardi: 1987). As a result of Garner, those states who still rely on the common law standard will have to revise their statutes (See Table 7).

The Modified Common Law Approach unlike the common law doctrine specifies the felonies for which deadly force may be used. Nineteen states (Matulia, 1985) have modified the common law approach by enacting statutes which allow deadly force to be used to effect the arrest of a person who has committed a "forcible felony", threatens to endanger human life or attempts to escape by use of a deadly weapon (See Table 7).

According to Milton, et al., (1977, p. 41), in 1962, the American Law Institute announced its view that a statutory reform of the common law rule was necessary. The model penal code, a more restricted version of the modified common law approach views the use of deadly force as justified, when the arrest is for a felony and the officer believes,

1. The crime for which the arrest is made involved conduct including the use or threatened use of deadly force, or

2. There is a substantial risk that the person to be arrested will cause death or serious bodily harm if apprehension is delayed. (Model Penal Code,

TABLE 7

USE OF DEADLY FORCE STANDARDS IN THE 50 STATES*

<u>MODIFIED COMMON LAW STATES</u>	<u>CODE STATES</u>	<u>COMMON LAW STATES**</u>
ALABAMA	ALASKA	DISTRICT OF COLUMBIA
ARKANSAS	ARIZONA	MARYLAND
CALIFORNIA	COLORADO	MASSACHUSETTS
CONNECTICUT	DELAWARE	MICHIGAN
FLORIDA	GEORGIA	MONTANA
IDAHO	HAWAII	OHIO
INDIANA	ILLINOIS	SOUTH CAROLINA
KANSAS	IOWA	VIRGINIA
MISSISSIPPI	KENTUCKY	WEST VIRGINIA
MISSOURI	LOUISIANA	WYOMING
NEVADA	MAINE	
NEW MEXICO	MINNESOTA	
OKLAHOMA	NEBRASKA	
RHODE ISLAND	NEW HAMPSHIRE	
SOUTH DAKOTA	NEW JERSEY	
TENNESSEE	NEW YORK	
WASHINGTON	NORTH CAROLINA	
OREGON	NORTH DAKOTA	
WISCONSIN	PENNSYLVANIA	
	TEXAS	
	UTAH	
	VERMONT	

*SOURCE: This table was constructed from A Balances of Forces, Second Edition.

**PRIOR TO 1985

Sec. 3.07(b), 1962).

Twenty-two states have model penal code statutes (See Table 7).²⁵

In his analysis of police homicide and the Constitution, Sherman (1980b, p. 112) found the common doctrine, the model penal code and the modified common law doctrine to be unconstitutional in that they,

"...deny police homicide victims fifth and fourteenth amendment rights to due process, allow the punishment of death to be imposed in a cruel and unusual fashion, and appear to deny equal protection to blacks."

Although there is no national use of deadly force standard or policy, the federal government has been instrumental in sensitizing Americans to the issues surrounding police use of deadly force for the past two decades. These federal initiatives are described in the next section.

The Federal Role in Use of Deadly Force Policies

The concept of federalism embodies the autonomy of state and local governments from the federal government. Yet, the federal government has played an important role in the development of use of deadly force policies by recommending policy guidelines and standards, sponsoring workshops and conferences and providing funding for research.

²⁵ New Hampshire and Hawaii have verbatim Model Penal Code Statutes (See Table 7).

The 1960's was a tumultuous period in the history of both our country and law enforcement. Out of necessity, the federal government took a leadership role in determining the roots of our nation's social unrest. In 1965 President Lyndon B. Johnson appointed a Commission on Law Enforcement and the Administration of Justice to study the crime problem confronting America one of the major findings of the Commission was the police role in precipitating citizen violence through there use/misuse of excessive force. The Commission's Task Force Report on the Police noted (1967, p. 189),

"It is surprising and alarming that few police departments provide their officers with careful instruction on the circumstances under which the use of firearms is permissable."

Noting the importance of formulating written firearms policies which clearly limit their use, the Task Force recommended the following guidelines to control firearms use (p. 189-190),

1. Deadly force should be restricted to the apprehension of perpetrators who, in the course of their crime threatened the use of deadly force, or if the officer believes there is a substantial risk that the person whose arrest is sought will cause death or serious bodily harm if his apprehension is delayed. The use of firearms should be flatly prohibited in the apprehension of misdemeanants,

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since the value of human life far outweighs the gravity of a misdemeanor.

2. Deadly force should never be used on mere suspicion that a crime, no matter how serious, was committed or that the person being pursued committed the crime. An officer should either have witnessed the crime or should have sufficient information to know, as a virtual certainty, that the suspect committed an offense for which the use of deadly force is permissible.

3. Officers should not be permitted to fire at felony suspects when lesser force could be used; when the officer believes that the suspect can be apprehended reasonably soon thereafter without the use of deadly force; or when there is any substantial danger to innocent bystanders. Although the requirement of using lesser force, when possible, is a legal rule, the other limitations are based on sound public policy. To risk the life of innocent persons for the purpose of apprehending a felon cannot be justified.

4. Officers should never use warning shots for any purpose. Warning shots endanger the lives of bystanders, and in addition, may prompt a suspect to return the fire. Further, officers should never fire

from a moving vehicle.

5. Officers should be allowed to use any necessary force, including deadly force, to protect themselves or other persons from death or serious injury. In such cases, it is immaterial whether the attacker has committed a serious felony, a misdemeanor, or any crime at all.

6. In order to enforce firearms use policies, department regulations should require a detailed written report on all discharges of firearms. All cases should be thoroughly investigated to determine whether the use of firearms was justified under the circumstances.

A year later, the Report of the National Advisory Commission on Civil Disorders (1968, p. 330) noted three serious problems involved in the use of deadly weapons,

(1) The risk of killing or wounding innocent persons;

(2) No justification for using deadly force against crimes like looting;

(3) The use of excessive force may be inflammatory and lead to even worse disorder.

Although primarily concerned with the role of the police in civil disorders, the Commission recommended that nonlethal weapons be used before the use of deadly weapons and called for federal support to test and

evaluate nonlethal weapons. Five years later the National Advisory Commission on Criminal Justice Standards and Goals recommended that (1973, p. 18),

"Every police agency should define situations in which force is permitted, establish a range of alternatives to its use and restrict it to the minimum amount necessary to achieve lawful police objectives."

During the 1970's several federal agencies began to investigate police abuse including the Department of Justice Community Relations Office and the United States Civil Rights Commission. Pressured by the National Organization of Black Law Enforcement Executives (NOBLE) and the National Minority Advisory Commission (NMAC), the National Institute of Law Enforcement and Criminal Justice (NILECJ)²⁶ convened two workshops in 1978 to assist in identifying issues and setting the direction for research on police use of deadly force (Triplett, 1979). Shortly thereafter, the NMAC prepared a position paper on the police use of deadly force which sparked considerable controversy. In December, 1978, (NILECJ) issued a use of deadly force research solicitation, and awarded four police use of deadly force research projects in 1979.

²⁶ NILECJ was the predecessor of the National Institute of Justice. It was an agency in the Law Enforcement Assistance Administration (LEEA).

These federal initiatives have increased awareness of the police use of deadly force. While the federal policy recommendations are important, local law enforcement agencies continue to be a primary factor in the implementation and enforcement of deadly force policies. In the following section the literature on the administrative policies of police agencies is reviewed.

Police Department Firearms Policies Guiding the Use of Deadly Force and the Review and Investigation Process.

"It is a reasonably safe prediction that departments soon will have to become actively involved in developing rules or guidelines to govern a wide variety of police behavior or face the prospect that the courts will insist that such rules be made."

Milton, et al., 1977, p. 44.

Police administrative shooting policies have recently become a focal point in the empirical research on police use of deadly force. This section reviews the research literature available on departmental policies guiding (1) the use of deadly force and (2) post-shooting review and investigation procedures.

As a result of the traditional decentralization of governmental organization and authority in the United States, there are several thousand police agencies across the nation. There is no current descriptive analysis of departmental use of deadly force standards available

(NOBLE (1982) identified some departmental standards (See Table 8)).²⁷

The legal standards guiding the states (common law doctrine, modified common law, and the model penal code), also guide the use of deadly force at the departmental level. In addition to these standards, some local law enforcement agencies have a defense of life standard, a very conservative firearms policy which is best described as (Brown, 1979, p. 25),

"...[A] firearm use policy that states in no uncertain terms that no officer shall discharge his or her firearm except to defend his or her life or the life of another person and only after all other means have been exhausted."

According to NOBLE, a few agencies have adopted a written defense of life standard and several others operate under a defacto defense-of-life standard (See Table 8).

Matulia (1982, p. 160) found fifty one of the 53 responding police agencies in his study to have,

"...[A] policy which clearly permitted officers to use deadly force to defend their life or the life of a third party."

The defense-of-life standard according to Sherman, (1980b) is both constitutional and practical because it (1) does not constitute punishment, (2) does not violate due process, (3) is easier to implement and (4) does not

²⁷ Matulia (1982) collected and tabulated (but did not describe) data on departmental orders, policies and procedures which standards relates to the police use of deadly force.

TABLE 8

POLICE DEPARTMENTAL STANDARDS
GUIDING THE USE OF DEADLY FORCE*

<u>COMMON LAW STANDARD</u>	<u>MODIFIED COMMON LAW RULE</u>	<u>MODEL PENAL CODE</u>	<u>THE DEFENSE OF LIFE RULE</u>
ST. LOUIS W. HARTFORD	BUFFALO SEATTLE CHICAGO	BOSTON WASHINGTON, DC LOS ANGELES OAKLAND SAN FRANCISCO MINNEAPOLIS KANSAS CITY KNOXVILLE CHARLOTTE DURHAM NEW HAVEN	HOUSTON GAINESVILLE**

*ADAPTED FROM STOP OR I'LL SHOOT: THE USE OF DEADLY FORCE BY LAW ENFORCEMENT OFFICERS (NATIONAL ORGANIZATION OF LAW ENFORCEMENT EXECUTIVES, 1982).

**Gainesville was not included in the study but does have a defense of life standard.

specify forcible felonies.

In the next section the empirical studies of policies guiding the use of deadly force are reviewed.

Empirical Studies of Police Policies Guiding the Use of
Deadly Force

"Any policy that is developed to control the police use of deadly force must be developed to explicitly recognize that the use of deadly force must not only be legally authorized but also socially and morally warranted and in keeping with the idea of rational and human social control in a democratic society."

Lee P. Brown, January. 1979, p.25

Less than twenty years ago, few police departments had clear policies guiding the use of deadly force although the need for such policies had been established (Chapman, 1967). As early as 1963 Chapman and Crockett reported on a survey of police firearms policies. Fifty four percent of the agencies furnishing information had no written use of firearms policies.

A nationwide survey was conducted by the Cincinnati, Ohio Police Division (CIPD) in 1964 to assess police regulations governing the use of firearms in the 51 cities with over 250,000 population. This descriptive analysis of firearms policies found considerable variation in the departmental rules, regulations and procedures governing firearms use in the 45 agencies that responded to the survey. Three police departments (Minneapolis, MN, New Orleans, LA, and Toledo, OH) had no written policies, and none had a defense-of-life policy. The authors identified two approaches to establishing

rules governing the use of firearms, the general and specific approach. The general approach, used in 25 of the reporting cities, emphasized that firearms be used only in extreme cases. This approach covered the use of firearms in cases involving (a) self defense, (b) defense of another person and (c) the arrest of a criminal who had committed a felony. The specified approach, used by 17 departments, required specific details of every circumstance under which firearms could be used. Chapman (1967, p. 224, as quoted in Fyfe) described broad variation in firearms policies as a reflection of,

"...a failure on the part of police administrators to provide adequate guidance for officers faced with situations where they must decide instantaneously whether or not to use their firearms in discharging official responsibilities."

During the 1970's a few police departments began to impose more stringent limitations on their officers than those required by state law. Several agencies were sued civilly which provided an impetus to many to promulgate clear and concise policies.

In 1972, the New York City Police Department established departmental shooting guidelines and review procedures similar to those recommended by the 1967 President's Commission Report (Fyfe, 1978). According to Fyfe, (1978) the major firearms policy provisions of the new policy declared that firearms should be used as a last resort when arresting, preventing or terminating a felony or for the defense of oneself or another. Firing warning

shots, discharges to summon assistance (with exceptions), and firing at a moving vehicle (with exceptions) were prohibited by the new policy.

Uelman (1973) was one of the first to examine the relationship between administrative policies guiding the use of deadly force and police shootings. In a comparative study of use of deadly force policy formulation, promulgation and enforcement in fifty police agencies in Los Angeles County, Uelman found (1973, p. 7),

"...vast disparity in the guidelines offered to police in different departments....the policies adopted with respect to fleeing felons and fleeing juveniles were surprisingly diverse."

Noting that the wide disparity in policy is due primarily to an equally wide diversity in the personal philosophies of the fifty chiefs of police, Uelman (1973, p. 15) concluded that police policy is simply a manifestation of basic, underlying attitudes in a police agency.

To determine variations in the restrictiveness of use of deadly force policies Uelman devised five hypothetical situations and asked each police chief or administrator whether they would be within his department's policy if an officer discharged his gun. Based on their responses, five categories of restrictiveness of policies were identified (1973, p. 10-11):

Category I - Those departments which do not restrict the breadth of the (California) Penal Code

provisions (least restrictive).

Category II - Juvenile Restrictions

Category III - Felony Restrictions

Category IV - Both Felony and Juvenile
Restrictions

Category V - Self Defense or Defense of Others
(most restrictive)

A strong correlation was found between the restrictiveness of policy and the number of shooting incidents reported (Uelman, 1973, p.48).

At least eight of the 50 departments studied did not have a written policy. These agencies relied on training programs and oral communications to convey departmental policy to their officers. Many of the police administrators believed that a policy in written form could be used against the department to impose civil tort liability.

According to Milton et al., (1977), by the late seventies, a clear trend toward the adoption of department firearms use policies had emerged in spite of police chiefs who (a) ignored the need for controlling the use of deadly force and (b) were hesitant to enact shooting policies more restrictive than state statutes. Noting that (Milton, et al., 1977, p. 46),

"It is not a simple matter however, to categorize firearms policies as restrictive or permissive."

The authors found all (seven) of the departments studied to have formal yet varying firearms policies. They observed (Milton, et al., 1977, p. 48),

"A common feature of many firearms policies is that they appear to be more restrictive than they really are."

The structure and language of many of the firearms policies reviewed were characterized as being poorly organized, badly worded, too complex and too philosophical.

More recently, in the Tennessee v. Garner, Memphis v. Garner decisions, the Supreme Court was incorrect in stating that most police departments had already enacted restrictive policies on the use of deadly force. According to Matulia (1982, p. 157), (which the Supreme Court cited as a reference in its decision),

"While most urban police agencies do have written policies governing the use of deadly force, they are often camouflaged in superfluous verbiage...(which)...leads to a wide range of discretion on the part of our nation's police officers."

Furthermore, deadly force policies in agencies serving smaller jurisdictions have not been adequately researched to determine whether or not they currently rely on common-law statutes.

Empirical Studies of Policies Guiding the Review and Investigation Process

The empirical literature suggests that the adoption of restrictive policies by a police agency is usually followed by decreases in the number of police shootings (Sherman, 1980c, 1983, Geller, 1982, Fyfe, 1978, 1982a, 1982b, Meyer, 1980). After studying 50 Los Angeles County Police departments, Uelman concluded that departments with least restrictive policies reported twice as many incidents per 1,000 felony arrests as departments with the most restrictive policies. In his case study of firearm discharges in New York City, Fyfe (1978) found that a more restrictive policy reduced the number of shooting incidents without any increase in crime or injuries to police officers.

However, a reduction in the number of police shootings may not be attributed solely to the invocation of restrictive use of force policies (Sherman, 1983). Review and investigation procedures are also critical factors (Fyfe, 1978, 1978, 1979, Uchida et al., 1981). The broad nature of legal restrictions on police shooting discretion and the difficulties of enforcing them have led many to argue that police agencies should formulate narrower administrative guidelines and internal procedures for the review of shootings (President's Commission, 1967; American Bar Association, 1973; Fyfe, 1978a; 1978b; Matulia, 1982, 1985).

Two decades ago, Chapman (1967) noted that in order to enforce use policies, a department's firearms policy must include procedures to follow a firearms discharge as well as a review mechanism. In the 1960's only 12 of the 42 agencies responding to the Cincinnati survey required written reports and only four required any type of investigation (CIPD, 1964).²⁸

Another national survey on police firearm policy was conducted in 1973 by the Columbus Police Division (COPD). Thirty cities with populations of over 250,000 were surveyed and 27 responded. The report only highlighted information from 16 of the responding agencies. Nevertheless, it did provide useful historical information on review and investigation policies. By 1973, according to the COPD study, all 27 agencies responding to the survey required officer reports and some type of investigation following firearm discharges. Uelman (1973) found virtually every department in his study required every incident, in which a firearm was discharged by an officer, be reported to a superior

²⁸ It is unknown whether or not the other agencies required reports and investigations since such information was not specifically requested.

used the departments internal affairs unit. Matulia (1982, 1985), reported that the review and investigation of police shootings included both departmental and/or external review.³¹

Some agencies have created firearms review boards. While the police firearms review board is a relatively new concept (Milton et al., 1977), two agencies, Oakland, CA., and St. Louis, MO., had a review mechanism in their firearms policy as early as 1964 (COPD, 1964). By 1973, 8 agencies reported utilizing a Board of Inquiry. In the Milton et al., study only three cities utilized a firearms review board (Oakland, CA, Washington, D.C., and Indianapolis, IN) and two cities (Detroit, MI and Portland, OR) named a board of inquiry or investigation committee when a shooting was fatal or raised a policy question. While the review board concept was found to have several clear virtues, it did not guarantee a thorough and evenhanded investigation, and differed from city to city in both size and composition.

Fyfe's dissertation and subsequent research examined the impact of the New York City Police Department's (NYPD) Firearms Discharge Review Board (FDRB) on the frequency, nature, and consequences of police shootings in New York City.

³¹ External review includes review by the District Attorney, Mayor's Office, state and/or federal agencies.

In August, 1972, the NYPD promulgated Temporary Operating Procedure 237 (T.O.P. 237), which not only narrowed officer shooting discretion but also established a FDRB, to investigate and adjudicate all officer firearms discharges. Fyfe (1978) found that shooting incidents declined steadily after T.O.P. 237 became effective.

Uchida et al., (1981) reported that the implementation of Operation Roll-Out, a post shooting investigation program, coincided with a long term decline in police shootings in Los Angeles County. However, the authors were unable to determine how much of the decline, if any, was due to Operation Roll-Out. Matulia (1982) was also unable to determine the relationship between the post shooting investigation process and the justifiable homicide rate.

The empirical literature clearly indicates a trend towards the enactment of more restrictive use of force policies. Yet, prior studies do not report a similar trend in post-shooting review and investigation policies. While most agencies do have some type of post-shooting review process (See Table 9), its effect, if any, on police homicides is still unclear.

In the next section, the literature on police organizations, and environments is reviewed.

TABLE 9

REVIEW OF POLICE USE OF DEADLY FORCE INCIDENTS

<u>Agency</u>	<u>Dept. Command Staff</u>	<u>Internal Affairs Unit</u>	<u>Police Chief</u>	<u>Mayor or Manager</u>	<u>Dept. Review Board</u>	<u>Civilian Review Board</u>	<u>District Attorney</u>	<u>Police Union</u>	<u>Other</u>
Akron	yes	no	yes	yes	yes	no	no	no	no
Albuquerque	yes	yes	yes	no	yes	no	yes	no	no
Austin	yes	no	yes	no	no	no	yes	no	yes
Baltimore	yes	yes	yes	no	no	no	yes	no	yes
Birmingham	no	yes	no	no	yes	no	no	no	no
Boston	no	yes	yes	no	yes	no	no	no	no
Buffalo	yes	yes	yes	no	no	no	yes	no	no
Charlotte	no	yes	yes	no	yes	no	no	no	no
Chicago	yes	no	yes	no	no	no	yes	no	yes
Cincinnati	no	yes	yes	no	no	no	yes	no	yes
Cleveland	yes	no	no	no	no	no	yes	no	yes
Columbus	no	yes	yes	no	yes	no	yes	no	yes
Dallas	no	yes	yes	no	no	no	yes	no	no
Denver	yes	yes	yes	no	no	no	yes	no	yes
Detroit	no	no	yes	no	yes	no	yes	no	yes
El Paso	no	yes	no	no	no	no	no	no	yes
Fort Worth	no	yes	yes	no	no	no	no	no	yes
Honolulu	yes	yes	yes	no	yes	no	yes	no	no
Houston	yes	yes	yes	no	yes	no	yes	no	yes
Indianapolis	no	no	yes	no	yes	no	yes	no	no
Jacksonville	yes	yes	yes	no	yes	no	yes	no	no
Kansas City	no	yes	yes	no	yes	no	yes	no	yes
Long Beach	no	no	no	no	yes	no	yes	no	no

TABLE 9 (con't)

REVIEW OF POLICE USE OF DEADLY FORCE INCIDENTS

<u>Agency</u>	<u>Dept. Command Staff</u>	<u>Internal Affairs Unit</u>	<u>Police or Chief</u>	<u>Mayor or Manager</u>	<u>Dept. Review Board</u>	<u>Civilian Review Board</u>	<u>District Attorney</u>	<u>Police Union</u>	<u>Other</u>
Los Angeles	yes	no	yes	no	yes	no	yes	no	yes
Louisville	yes	yes	yes	no	no	no	yes	no	no
Memphis	yes	no	yes	no	no	no	no	no	yes
Miami	no	yes	yes	no	yes	no	yes	no	no
Minneapolis	yes	no	no	no	yes	no	yes	no	no
Nashville	no	no	yes	no	no	no	no	no	no
Newark	no	yes	no	no	no	no	no	no	no
New Orleans	yes	yes	no	no	no	no	yes	no	no
New York	no	no	no	no	yes	no	no	no	no
Norfolk	yes	yes	yes	no	no	no	yes	no	no
Oakland	yes	no	no	no	yes	no	yes	no	no
Oklahoma City	yes	no	yes	no	yes	no	yes	no	no
Omaha	yes	yes	yes	yes	no	no	no	no	yes
Philadelphia	no	no	no	no	yes	no	no	no	no
Phoenix	yes	yes	yes	no	yes	no	yes	no	no
Portland	yes	no	yes	yes	yes	no	yes	no	no
Rochester	yes	yes	yes	no	no	no	yes	no	no
Sacramento	yes	yes	yes	no	no	no	yes	no	no
St. Louis	no	yes	yes	no	no	no	yes	no	yes
St. Paul	no	no	no	no	yes	no	no	no	no
San Antonio	no	yes	yes	no	no	no	yes	no	no
San Diego	yes	yes	yes	no	yes	no	yes	no	no
San Francisco	yes	no	yes	no	yes	no	yes	no	no

TABLE 9 (con't)

REVIEW OF POLICE USE OF DEADLY FORCE INCIDENTS

<u>Agency</u>	<u>Dept. Command Staff</u>	<u>Internal Affairs Unit</u>	<u>Police Chief</u>	<u>Mayor or Manager</u>	<u>Dept. Review Board</u>	<u>Civilian Review Board</u>	<u>District Attorney</u>	<u>Police Union</u>	<u>Other</u>
San Jose	yes	yes	yes	no	no	no	yes	no	yes
Seattle	no	no	yes	no	yes	no	yes	no	no
Tampa	yes	no	yes	yes	yes	no	yes	no	no
Toledo	yes	yes	yes	no	yes	no	no	no	yes
Tucson	yes	yes	yes	no	yes	no	yes	no	no
Tulsa	no	no	yes	no	yes	no	yes	no	no
Washington	no	yes	yes	no	yes	no	no	no	no
Wichita	yes	yes	yes	yes	no	no	yes	no	yes

*SOURCE: Matulia (1982)

Organizational Characteristics of Police Systems

"It is noteworthy that organizations tend to focus upon changing the behavior of persons rather than upon changing the behavior of the organization."

Albert J. Reiss, Jr., 1980, p. 131

The organization of a police department has an important influence on both the work of the department and police performance (Johnson, Misner, Brown, 1981, p. 51). Although the organization of the police department has received considerable attention in the literature (Smith, 1963; Wilson, 1968; Smith, 1967; President's Commission, 1967; Eastman and Eastman, 1971; Wilson and McLaren, 1972; National Advisory Commission on Criminal Justice, 1973), the impact of organizational characteristics on the police use of deadly force has only been addressed by a few authors (Wilson, 1968; Westley, 1970; Toch, Grant, Galvin, 1975; Sherman and Langworthy, 1979, Fyfe, 1978, 1982b; Manning, 1980). Researchers have studied police use of force in the context of (1) style of the police organization (Wilson, 1968); (2) specific arrangements within the organization (Toch, et al., 1975); and (3) the informal structure and occupational subculture in the organization (Westley, 1970).

Sherman and Langworthy (1979) predicted that geographic decentralization would be negatively related

to police homicide while administrative intensity, span of control, differentiation and self-regulation (rough measures of bureaucratization) would be positively related to the police homicide rate. Fyfe (1982b) attributed variations in shootings in Memphis and New York to varying internal police organizational influences including administrative philosophies, adequacy of training, restrictiveness of police shooting policies and intensity of shooting incident review.

The role of the police chief in deadly force policy implementation has received considerable attention in the research literature (Chapman, 1967; Wilson, 1968; Uelman, 1973; Milton et al., 1977; Fyfe, 1980; Matulia, 1982; Sherman, 1983). Although the chief is not an organizational characteristic, he is indeed an important factor. The fundamental basis for the success of a police enterprise is to be found in the ideas and efforts of the police chief executive (Leonard and More, 1971).

It has long been claimed that the uneven development of American police organization appears to be caused by the lack of trained and intelligent leadership (The President's Commission on Law Enforcement and Administration of Justice, 1967, p. 44). In 1931, the Wickersham Commission reported,

"Not infrequently the chief is wholly incompetent to discharge the onerous duties of his position. He may lack experience, executive ability, character, integrity, or the confidence of his force, or all of them put together."

Since the Wickersham Commission Report, considerable progress has been made in upgrading the level of police leadership in our country. Yet, the President's Commission (1967, p. 44) still identified a need for infusing police departments throughout the nation with well trained, educated and able administrators. Leadership is the most important single factor in the success or failure of police operations (Leonard and More, 1971).

In their role in the management and organization of their departments, police chiefs are responsible for administrative policies (Police Chief Executive Committee of the IACP, 1975). Chapman (1967) noted that some police administrators disclaimed the need for written rules and regulations governing the use of firearms on the premise that an oral policy is sufficient. Uelman (1973, p. 15) reported that the major determinants of the levels of police shooting in the California agencies he studied were the "personal philosophies of the police chiefs and the administrative controls they devised."

According to Fyfe, (1980b), the chief can direct officer shootings (through internal policies). Sherman (1983) noted that when Patrick V. Murphy was appointed Commissioner of the New York City Police Department he brought with him a legacy of restricting gun use.³² Other police chief executives including

³² Murphy went on to influence use of force policies nationwide in his leadership of the police foundation.

including Lee Brown, Joseph McNamara, Hubert Williams, Anthony Bouza, and Robert DiGrazia had a similar influence in their respective agencies.

Although the association between police system resources and police homicides has not been addressed in the research literature, environmental factors have received considerable attention. These studies are described in the following section.

Police System Environmental Characteristics

For some time, variation in police behavior (including police use of deadly force) has been attributed to environmental factors including population density (Milton et al., 1977; Sherman and Langworthy, 1979; Matulia, 1982), socioeconomic status (Wilson, 1968; Bayley and Mendelson, 1968) homogeneity (Wilson, 1968), stratification (Black, 1976), racial composition (Werthman and Piliavin, 1967; Black, 1976, Bayley and Mendelson, 1968), age of population (Smith, 1986), and community crime characteristics (Uelman, 1973; Kania and Mackey, 1977; Milton et al., 1977; Jacobs and Britt, 1979; Sherman and Langworthy, 1979; Fyfe, 1978, 1980b, 1981b; Geller, 1982; Matulia, 1982).

There is no consensus on the role of population density in explaining police use of deadly force. Sherman and Langworthy (1979) found no significant relationship between population density and police

homicides while Matulia (1982, p. 40) found population to be a predictor of the volume of police homicides.

It has always been suspected that police behavior in general, and patrol functions specifically vary from one community to another. One of the earliest case studies of police behavior found that residence in a neighborhood was the most general indicator used by police to select a sample of potential law violators (Werthman and Piliavin, 1967). In their study on black juvenile gang members and the police in Oakland and San Fransisco, Werthman and Piliavin (1967, p. 76), concluded,

"Many local patrolmen tend to consider all residents of "bad" neighborhoods rather weakly committed to whatever moral order they make it their business to enforce, and this transforms most of the people who use the streets in these neighborhoods into good candidates for suspicion....many patrolmen believe that some entire neighborhoods are morally inferior to others, they do not enforce their standards with the same severity in all parts of "poor" neighborhoods."

Bayley and Mendelson (1968) revealed some interesting findings in their study of policemen and the public in Denver, Colorado. Their research produced a great deal of evidence that (1) officers are more apprehensive and suspicious in contacts with minority people than with dominants, and (2) police do carry certain predispositions into their contacts with minority people that can produce a double standard in enforcement behavior. Recognizing that police officers hold the stereotypes and prejudices of the community as a whole, Bayley and Mendelsohn (1968, p. 144) concluded that the

police, like the society they are a part of, are prejudiced. The authors also found that to officers, class status carried with it an implied threat of appeal over the officer's head. The officer's surveyed associated belligerency with (1) high class rank, (2) professional standing, and (3) Negroes. Officers also considered the possibility of being sued to be almost three times as likely in the minority neighborhoods as anywhere else.

In his classic study of police patrol in eight communities, James Q. Wilson (1968) concluded that police behavior varies from community to community primarily because of the police administrator, form of city government and political groups seeking to change police conduct toward them. He states (1968, p.143),

"The quality of law enforcement depends not simply on how the police make judgments, but also on the socioeconomic composition of the community, the law enforcement standards set, implicitly or explicitly, by the political systems, and the special interests and concerns of the police chief."

Kania and Mackey (1977) were the first to study police use of deadly force in the context of a societal matrix. In an attempt to examine the relationship between police violence and community characteristics the authors created indices of both police violence and the societal matrix. Seven domains of human activity including nutrition, reproduction, quality of life, safety, recreation, mobility and education comprised the

societal matrix. In a reanalysis of the Kania and Mackey dataset, Jacobs and Britt (1979) examined the relationship between economic inequality and (1) the amount of deadly force used by the police³³ and (2) the rate of police caused homicides.³⁴

Sherman and Langworthy (1979) examined the relationship between several community characteristics including population density, gun density, the unemployment rate, violent index crime rate, homicide rate, violent arrest rate, police per 1,000 population and two sets of their measures of police homicide rates. They found a modest degree of success of their theoretical predictions.

More recently, in a secondary analysis of data on 60 neighborhoods, Smith (1986) found varying police actions in different contexts. Arrest was less likely to occur in higher status neighborhoods and police were more likely to act in a coercive manner toward suspects encountered in non-white and racially mixed neighborhoods.

There are numerous studies which examine the

³³ Multiple regression techniques were used to test this relationship while controlling for violent behavior, percentage of Blacks in the state, and the percentage of state residents who lived in large areas.

³⁴ A Gini index was used to measure economic inequality.

relationship between race and the police use of deadly force (Robin, 1963; Takagi, 1974; Knoohuizen et al., 1972; Geller and Karales, 1981a, 1981b; Public Interest Law Center, 1975; Jenkins and Faison, 1974; Milton, et al., 1977; Fyfe, 1978, 1980a, 1981a, 1981b, 1981d; Meyer, 1980; Matulia, 1982; Mendez, 1983). These studies have focused primarily on race of the shooting victim and/or shooting officer.

Jacobs and Britt (1979) examined race as a community characteristic and found a strong relationship between the percentage of Blacks in the population and the number of killings by police. They also found an association between the index of violence and police homicides.

Research on community crime characteristics and police homicides is described in the following section.

Community Crime Characteristics

The relationship between community crime characteristics and the use of deadly force is a common theme in the literature (Uleman, 1973; Kania and Mackey, 1977; Milton et al., 1977; Jacobs and Britt, 1979; Sherman and Langworthy, 1979; Fyfe, 1978b, 1980b, 1981b; Geller, 1982; Matulia, 1982).

Uelman (1973) compared arrest rates to the restrictiveness of deadly force policies. He found that cities with higher arrest rates were just as likely to have restrictive police policies on the use of deadly force as were cities with the lowest arrest rates.

Kania and Mackey (1977) found the strongest relationship to exist between police caused homicides and safety (operationalized as the level of public violence and homicide). They stated (p. 46),

"...[T]he police officer develops an intimate knowledge of the real behavior of the community in which he serves... the police officer working within a given community does more than just observe its patterns of behavior. He develops his on-the-job demeanor in direct response to what he observes. When he works in a community in which the resort to violence is a common, appropriate, or functional response to conflict and tension, the police officer will be more inclined to use violence in pursuit of more end."

Like many other studies, the Kania and Mackey research was criticized for being methodologically weak. Jacobs and Britt (1979) noted that the authors should

have determined if the presence of minorities was related to the number of police homicides. Other methodological weaknesses were the (1) use of states as the unit of analysis and (2) questionable accuracy of the Uniform Crime Reports (Fyfe, 1980b). Although the Kania and Mackey study had numerous methodological flaws, their attempt to explain police caused homicides in the context of the community characteristics was significant to the body of knowledge.

When Jacob and Britt (1979) reanalyzed the Kania and Mackey dataset they found relationships between police homicides and (1) The percentage of Blacks, (2) the index of violence and (3) income inequality (in that order). While noting the impact of increases in population and violence on police killings, the authors concluded that "unequal" states were more likely to have the largest number of police caused homicides. The authors point out (1979, p. 410),

"...[T]he degree of inequality in the distribution of economic resources and economic power still predicts the use of lethal force by the police."

Horvath (1987) noted that features of the general population (such as percentage of blacks in the population) are not as important as arrest data in interpreting disproportionality by race. Yet, as Takagi (1974) noted, the (police) death rate of blacks is far out of proportion to the arrest situations that might

justify it.

Summary

The review of the literature demonstrated the multiplicity of factors which contribute to fatal and nonfatal police shootings (See Table 10). The following conclusions can be drawn from the literature:

(1) Police homicides are difficult to count and record.

In the past the basic sources of data on police homicides were death certificates, police department internal affairs records and newspaper stories (Sherman and Langworthy, 1979. More recently, the FBI has made unpublished reports of police homicides available to researchers. However, discrepancies between data reported to the FBI and that obtained directly from police agencies makes it difficult to accurately determine the incidence of police homicides. In spite of this methodological constraint, the FB data has been utilized since it is the only national compilation available.

(2) There is considerable interjurisdictional variation in police homicide rates.

Wide variation in civilians shot and killed by the police has been an important research issue. In order to explain this, various rates which take into consideration population, police and crime factors have often been employed.

TABLE 10
SUMMARY OF PREVIOUS RESEARCH ON FATAL AND NONFATAL POLICE SHOOTINGS
AND ADMINISTRATIVE SHOOTING POLICIES

AUTHOR(S)	TYPE OF STUDY	VARIABLES	CONCLUSION(S)
Milton et al.	Descriptive Case Studies (7)	Police Shootings Police Org. Characteristics Administrative Policies	Police departments differ widely in their policies, review procedures and rates of shooting. Most shootings are called "justified" and most victims are Black or other minorities.
Fyfe (1978a)	Case Study (New York City) Correlational Analysis	Shooting Incidents Shooting Policies Officer-Victim Characteristics	Police shootings are closely associated with rates of violent crimes. Blacks and Hispanics are disproportionately represented as victims of police shootings.
(1978b)	"	"	Black and Hispanic officers are more likely to have their guns than whites.
(1978c)	"	Shooting Incidents Shooting Policies	A reduction in police shootings occurred after NYC's direct intervention on the firearms discretion of its police officers.
Jacobs & Britt (1979)	Correlational Analysis	Police Homicides Income Inequality	

TABLE 10 (con't)

Sherman & Langworthy (1979)	Correlational Analysis	Police Homicides Community Characteristics Police Organizational Structure	The incidence of police homicide is underreported. Available data sources are in disagreement over the number of police homicides. Our present procedures for measuring homicide by police officers should be improved. In spite of discrepancies in the available police homicide data sources they all indicate interjurisdictional variation in police homicides.
Fyfe (1980a)	Regression Analysis Microanalysis	Shooting Incidents Shooting Policies	There is a high correlation between police shootings and community violence.
(1980b)	Descriptive Case Study (NYC)	Off Duty Shooting Incidents	Between 1971 and 1975, 681 NYC police fired their firearms while off duty. The assumption that off duty police contribute to the public good should be tested.
Meyer (1980)	Descriptive Case Study (Los Angeles)	Police Homicides Race	A larger number of Blacks were killed by Los Angeles Police between 1974 and 1978. A greater proportion of Black victims were unarmed.

TABLE 10 (con't)

Fyfe (1981b)	Descriptive	Police Shootings Race	There is a relationship between officer race and police shootings due in part to racially varying patterns of assignment, socialization and residence.
(1981c)			
Kuykendall (1981)	Descriptive	Police Homicides Police Arrests Police Officers Killed	There was a decrease in the use of deadly force between 1964-1974.
Uchida (1981)	Evaluation	Police Shootings Shooting Review Process	Police shootings decreased and community perceptions of the police improved under Operation Rollout. Post-shooting investigations were more independent and objective.
Fyfe (1982)	Descriptive	NYC Police Shootings Memphis Police Shootings	Memphis police use their guns considerable more often than their NYC counterparts. Variations in shooting events are a reflection of shooting guidelines. Blacks are disproportionately represented among shooting victims. Elective shootings are higher in Memphis than in New York City.

TABLE 10 (con't)

Geller (1982)	Literature Review	Empirical Research on Police Shootings Control Strategies	The value of empirical research on police involved shootings will vary depending on the researcher. The empirical literature provides police administrators with information to assist in understanding and controlling the use of deadly force.
Matulia (1982, 1985)		Police Homicides Administrative Policies Population Crime Characteristics	Many factors influence police homicides. There is disproportionately by race of homicide victims.
Noble (1982)	Descriptive	Use of Deadly Force	The establishment, implementation and enforcement of policies will not in themselves guarantee a reduction in the number of citizens wounded or killed by law enforcement officers.
Waegel (1984)	Descriptive	Police Shootings	Police dispense justice and justify their use of deadly force in spite of formal rules, standards and guidelines.

TABLE 10 (con't)

<p>Sherman & Cohn (1986)</p>	<p>Descriptive</p>	<p>Police Homicides</p>	<p>Police homicides have dropped in half over the past fifteen years.</p>
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(3) The police organization plays an important role in formulating and implementing shooting policies.

Though there was resistance on the part of police departments to implement shooting policies, such policies are important to controlling police use of deadly force. These policies seem to reduce injuries and deaths by the police. Most urban police departments have enacted use of deadly force policies and review and investigation procedures to follow police homicides. Yet, there is still considerable variation in the departmental policies guiding the review and investigation of shooting events.

(4) Demographic characteristics of the community affect the police use of deadly force.

Environmental characteristics are important in understanding police homicides. Previous researchers have found correlations between income inequality, foodstamp and welfare receipt and police homicides. Divorce, unemployment and suicide have also been hypothesized to be related to police killings.

(5) Fatal and nonfatal shootings are associated with the amount of violent crime in a community.

A community's culture of violence seems to be the best available explanation for police use of deadly force. Crime and arrest rates for Index Crimes, violent crimes and gun density were positively associated with police homicides in prior studies.

There are many issues which need further empirical

study. For example, it has not been clearly established whether or not restrictive review and investigation policies deter police homicides. The earlier national studies (CIPD, 1964; COPD, 1973; Milton, et al., 1977) only provided descriptive information and more recent studies (Uleman, et al., 1981; Matulia, 1982) were inconclusive.

Since comprehensive data on police organizational variables are not usually available, these factor have received limited attention. The effect, if any, of firearms training, departmental expenditures and personnel on police homicides remains unknown. Finally, other system environmental factors including political and demographic characteristics warrant more empirical analyses.

Chapter III presents the research methodology utilized in this study.

CHAPTER III

RESEARCH METHODOLOGY

The purpose of this chapter is to describe the research hypotheses, operationalization of the variables, sources of the data, and statistical procedures utilized in this study.

As previously stated the primary objective of this research was to examine the impact of police systems and their environments on police homicides. The systems approach provided a more holistic framework for analyzing police homicides. According to this perspective, a system is best understood in the context of its management, resources, components, objectives and environment (Churchman, 1979). The police system and its environment were previously presented in Figure 1 (p. 16). Due to data constraints,³⁵ this approach has not been used in prior studies.

The myriad of factors which contribute to the incidence of police homicides and the systems approach suggest the following propositions:³⁶

³⁵ Data constraints include (1) unavailability of police homicide data and (2) the case study approach. The fact that most available datasets do not include both organizational and environmental factors is also a constraint.

³⁶ Some of these propositions are guided by the literature and some are intuitive.

1. The police system's management, resources and environment are the major factors that effect police homicides.

2. The management of the police system is responsible for implementing clear, comprehensive and concisely written shooting policies which guide both the use of deadly force and the review of police homicides.

3. The environment, including population, crime and political factors influence the police system.

While it has been established that internal and external factors influence police homicides, there is little empirical support for these propositions. This study was primarily exploratory and sought to determine the effect, if any of the following on police homicides:

(1) police administrative review and investigation policies;

(2) firearms training standards;

(3) police system resources (expenditures and education of sworn personnel);

(4) demographic community characteristics;

(5) political characteristics;

(6) community crime characteristics.

The research hypotheses for the study are presented below.

Research Hypotheses

Eight research hypotheses guided this study of police system resources, management and environments. These hypotheses were derived from the empirical literature.

Hypothesis 1

Restrictive review and investigation shooting polices are negatively correlated with police homicides.

The management of the police system is responsible for enacting policies guiding the review and investigation of police homicides. Though the effect of review policies on police homicides has not been clearly established, when more restrictive policies are implemented they seem to exert a controlling effect on both fatal and non fatal shootings (Fyfe, 1978, Uchida, et al., 1981). If, as the review of the literature indicates, most urban law enforcement agencies have enacted restrictive use of deadly force policies and there is still considerable interjurisdictional variation in homicide events, other explanatory factors must be examined. One critical factor which has been identified in the empirical literature, but not thoroughly researched, is the police system's policy for the review and investigation of police homicide events.

The management of the police system is responsible for enacting policies guiding the review and investigation of police homicides. Though the effect of review policies on police homicides has not been clearly established, when more restrictive policies are implemented they seem to exert a controlling effect on both fatal and nonfatal shootings (Fyfe, 1978, Uchida, et al., 1981). Therefore, police systems with more restrictive review and investigation policies should have fewer police homicides.

Hypothesis 2

Nonshooting firearms training is negatively correlated with police homicides.

Firearms training has been the hallmark of police training (Matuila, 1982) and is another critical system management factor. Officers are usually given more hours of how to shoot training which emphasizes marksmanship and officer survival. Fyfe (1982c) recommended that police firearms training programs should include legal, administrative and moral questions concerning use of the gun. Since previous studies have not examined the role of nonshooting training in reducing police killings, this hypothesis was included. It was hypothesized that as

officers became sensitized to the legal, moral and ethical aspects of police killings the number of police homicides would decrease.

Very little is known about the effect of (1) system expenditures or (2) level of education of sworn personnel on police homicides. Police systems with more financial resources and more educated officers may be more sensitive to managing police homicides. These relationships were explored as stated in Hypotheses 3 and 4.

Hypothesis 3

The level of expenditures of a police system is positively related to the restrictiveness of review and investigation policies and firearms training standards.

Hypothesis 4

The level of education of a police system's sworn personnel is positively related to the restrictiveness of review and investigation policies and firearms training standards.

According to the literature, environmental factors affect police homicides (Kania and Mackey, 1977; Milton, et al., 1977; Jacobs and Britt, 1979; Sherman and Langworthy, 1979). A relationship between race, community crime characteristics and police violence has been documented by many researchers.³⁷ Previous research

³⁷ See Chapter II

has not clearly established what effect other demographic characteristics including age of the population, community educational levels, and the number of female headed households have on police homicides.

Hypothesis 5-7 were included to examine these factors.

Hypothesis 5

There is a negative association between age, community education levels and police homicides.

Hypothesis 6

There is a positive association between the number of female headed households in the population and police homicides.

Another important environmental factor which has received very limited attention in the study of police homicides is Black political empowerment³⁸ which has increased significantly during the past twenty years.

Hypothesis 7

There is a negative association between Black political empowerment and police homicides.

The above hypotheses address bivariate associations between police systems, their environment and police homicides. However, these factors may be better understood when analyzed simultaneously.

³⁸ Sherman and Cohn (1986) attributed decreases in reported police homicides to an increase in the number of black elected officials in metropolitan areas.

Hypothesis 8

The environment of a police system has a stronger positive association with police homicides than system management or resources.

Previous research has established that system environment factors are the strongest predictors of police homicides. Therefore, when police system management, resources and environments are analyzed together, environmental factors should outweigh system management and resources in explaining police homicides.

These hypotheses were tested by creating twelve variables which operationalized the following constructs: police homicides, police system management (administrative policies), system resources (expenditures and educational levels, and system environments (community characteristics) (See Table 11).

Operational Definitions of the Key Variables

(1) Police Homicides

The variable used to operationalize police homicides is a ratio of the average number of citizens killed by the police between 1981 and 1984 per 100,000 population to the average population between 1981-1984.

(2) Police System Management

Police system management of police homicide events is operationalized by creating two variables: Control and the Firearm Training Standard (FTS). The variable Control is

TABLE 11

VARIABLES INCLUDED IN THE STUDY

<u>VARIABLES</u>	<u>OPERATIONALIZATION</u>	<u>DATA SOURCE</u>
Dependent Variables:		
Police Homicide Rate (PHR) (PHR)	A ratio of the average number of police homicides reported between 1981-1984 to the average population between 1981-1984 per 100,000 100,000 population	Crime Control Institute (CCI)
Independent Variables:		
System Management Variables		
Variables:		
Restrictiveness of Review & Investigation Policies (Control)	A score on a weighted scale of police system review and investigation policies and procedures	International Assoc. of Chiefs of Police (IACP)
Firearms Training Standard (FTS)	A ratio of the number of hours devoted to legal, ethical, or policy aspects of nonshooting firearms training to the number of hours devoted to shooting firearms training	IACP Survey, Appendix B, Question 26, P. 175.
System Resources Variables:		
Expenditure Rate (EXR)	The ratio of the total number of sworn officers (1979) to the total expenditures (FY 79)	IACP Survey

TABLE 11 CONT'D

VARIABLES INCLUDED IN THE STUDY

<u>VARIABLES</u>	<u>OPERATIONALIZATION</u>	<u>DATA SOURCE</u>
System Resource Variables Cont'd:		
Education Standard (EDST)	A ratio of officers who have completed high school to those who have completed some college courses	PERF, The General Administrative Survey, (See Appendix C)
System Environment Variables:		
Race	A ratio of the number of blacks to whites in the population	U.S. Bureau of the Census: Census of the population (See Appendix D)
Civilian Homicide Rate (CHR)	A ratio of the average number of civilian homicides reported between 1981-1984 to the average population between 1981-1984 per 100,000 population	CCI
Black Political Empowerment (BPE)	A ratio of the number of black elected officials to the total number of elected officials	Joint Center for Political Studies, U.S. Bureau of the Census: Census of Government
Age	Average age of the population	U.S. Bureau of the Census

TABLE 11 CONT'D

VARIABLES INCLUDED IN THE STUDY

<u>VARIABLES</u>	<u>OPERATIONALIZATION</u>	<u>DATA SOURCE</u>
Education	A ratio of the percentage of high school graduates to the percentage of college graduates	U.S. Bureau of the Census
Family Rate (FR)	A Ratio of the number of married families to female head of households	"
Occupational Rate (OCR)	A Ratio of the number of white collar workers to blue collar workers	"

a score on a weighted scale which measures both internal and external involvement in the review and investigation of police homicides.³⁹ The firearm training standard is defined as a ratio of number of hours devoted to nonshooting training to number of hours devoted to shooting training. It is used to measure variation in departmental management of firearms training in police systems.

(3) Police System Resources

Two variables were used to operationalize system resources: the expenditure rate, and the educational level. The expenditure rate is defined as the ratio of the number of sworn officers to the level of expenditures and is used to measure police systems' financial resources. The educational level is a ratio of officers who have completed high school to those who have had some college level education. It provides a measure of police systems' human resources.

(4) The Police System Environment

As previously stated, police homicides are influenced by police systems environments. Seven variables were created to measure environmental factors: race, age, family status, education, occupation, Black political empowerment (BPE) and the civilian homicide rate. Race is the ratio of Blacks to whites in the

³⁹ Creation of the control variable is described in more detail in Appendix D.

population. Age is the average age of the male population. Family status is the ratio of the number of married families to the number of female headed households. Education is a ratio of the number of high school graduates to college graduates in the population. The occupation rate is a ratio of the percentage of 'white collar' workers to 'blue collar' workers in the community. Black political empowerment is a ratio of black elected officials to total number of elected officials in each city.

The community homicide rate is a ratio of average number of citizens killed by civilians between 1981 and 1984 per 100,000 population to average population between 1981 and 1984.

Since there is no comprehensive database which would have facilitated the analysis of the study variables simultaneously, one was created. It included data on 54 metropolitan police systems serving communities with 250,000 population or more. Each dataset and the data utilized in the present study is described below.

Sources of the Data

Data from the following sources were utilized to create a comprehensive database:

- (1) Crime Control Institute
- (2) International Association of Chief of Police (IACP)
- (3) General Administrative Survey of Police Practices

(4) United States Department of Commerce, Bureau of the Census, and

(5) Joint Center for Political Studies.

Each dataset is described below.

1. The Crime Control Institute Data

Sherman and Cohn (1986) collected data on city population, number of police officers, number of civilian and police homicides and number of police officers killed from various sources.⁴⁰ The annual data on city population, number of police officers and number of civilian homicides in each city was taken for the Federal Bureau of Investigation's Uniform Crime Reports. The police homicide data for the years 1980-1984, come from a telephone and mail survey conducted in 1985.

The following data from this dataset will be utilized in this study:

(a) The number of citizens killed by the police (1981-1984).

(b) The number of police officers in each police department (1981-1984).

⁴⁰ These data are analyzed in, Citizens Killed by Big City Police, 1970-1984. (See Chapter II, p. 41).

(c) The population of each city served by the police departments (1981-1984).

(d) The number of citizens killed by civilians (1981-1984).

(e) The number of citizens killed by police (1981-1984).

2. The International Association of Chiefs of Police (IACP) Data

This data set includes information collected from police departments serving cities with populations of 250,000 or more. The research design for the original project included analyses of three major sets of data including: (1) a mail survey, (2) policy statements, and (3) FBI data on crime and police homicides.⁴¹ The following information from the IACP dataset is included in the present study (See Matulia, 1982):

(a) Total hours of annual firearms training.

(b) Who reviews police use of deadly force incidents.

(c) Who investigates firearms discharges.

⁴¹ The survey was administered in July, 1980. This study is described in more detail in Chapter II. In this study, all police homicides were defined as "justifiable homicides."

(3) The General Administrative Survey of Municipal Police Departments Data⁴²

This dataset describes the administrative and operational characteristics of police departments of similar size (See Appendix A). It provides the following data for this study:

(a) Level of expenditures

(b) Educational level of sworn personnel

The data is used to explore the relationship between police system resources (expenditures and educational levels) and police homicides.

(4) The United States Department of Commerce Bureau of The Census Data

Data from the 1980 Census of the Population and the 1977 Survey of Popularly Elected Officials (See Appendix B) are utilized to describe and analyze demographic and political characteristics of the police systems environments. The following data is included from the 1980 Census of the Population:⁴³

⁴² This was the most recent data available on police expenditures and educational characteristics. The data is used to explore the relationship between police system resources (expenditures and educational levels) on police homicides.

⁴³ This data was compiled manually from Volume 1, Characteristics of the Population and Volume 1, Chapter C, General Social and Economic Characteristics.

- (a) Total number of persons by race.
- (b) Age of the population.
- (c) Type of family and marital status.
- (d) Educational characteristics of the population.
- (e) Occupational characteristics of employed persons 16 years of age and over.

The number of popularly elected officials is included from the Census Bureau's 1977 Survey of Popularly Elected Officials.⁴⁴

(5) The Joint Center For Political Studies Data

Annually, the Joint Center for Political Studies compiles data on the number of Black elected officials (See Appendix C). 1977 data was used to match the Census Bureau's 1977 Survey of Popularly Elected Officials data.⁴⁵

Creation of the Database

Data files were either made available or created for each dataset.⁴⁶ An SPSSX system file containing all the data described above was created utilizing the match files procedure.

The method used to analyze the data is described in the next section.

⁴⁴ This is the most recent survey data available.

⁴⁵ The 1977 data is used to match the Census Bureau's 1977 Survey of Popularly Elected Officials data. It is for exploratory purposes only.

⁴⁶ CCI and IACP data tapes were made available. The other sources of data were compiled manually.

Analysis of the Data

Univariate, bivariate and multivariate analyses were used to evaluate the data. SPSSX analytical procedures were used. Bivariate correlation analysis provides a single number, the Pearson correlation coefficient, which summarizes the strength of a linear relationship between two interval level variables (Norusis, 1986). It was used to (1) explore the relationships between police systems and police homicides and (2) determine which variables would be included in the regression analyses (See Table 12).

Multiple regression analysis seeks to identify and estimate the magnitude and statistical significance of the variance of the dependent variable that is shared with several independent variables (Pedhazur, 1973). It was used in this study to explore the collective effects of police systems on police homicides. The Backward Selection regression procedure⁴⁷ was used to test the regression models.

Two issues related to the use of multiple regression analysis in this study must be addressed, (1) multicollinearity and (2) missing data. Multicollinearity refers to intercorrelation of the study variables. In nonexperimental research, the independent variables are

⁴⁷ This procedure enters all independent variables simultaneously and removes them sequentially based upon partial correlation coefficients.

Table 12

Pearson's Correlation Coefficients
for the Study Variables

	Control	FTS	EXR	EDST	BPE	AGE	COMEDUC	FR	OCR	RACE	CHR	PHR
Control	1.000 (54)											
FTS	-.0567 (49) P=	1.000 (49)										
EXR	.1983 (49) P=	.4818 (45) P=	1.000 (49)									
EDST	-.0241 (75) P=	.2178 (23) P=	.1047 (26) P=	1.000 (26)								
BPE	-.1821 (54) P=	-.1764 (49) P=	-.0803 (49) P=	-.2390 (26) P=	1.000 (54)							
AGE	.2220 (54) P=	.0755 (49) P=	.3479 (49) P=	-.0847 (26) P=	.0790 (54) P=	1.000 (54)						
COMEDUC	-.053 (54) P=	.0435 (49) P=	.1469 (49) P=	.0937 (26) P=	.0856 (54) P=	.1707 (54) P=	1.000 (54)					
FR	.3408 (54) P=	.0728 (49) P=	-.0604 (19) P=	.1860 (26) P=	-.3549 (54) P=	-.0941 (54) P=	-.0713 (54) P=	1.000 (54)				
OCR	-.1722 (51) P=	.2574 (49) P=	-.0604 (49) P=	.3169 (26) P=	-.1271 (53) P=	.1574 (53) P=	-.1748 (53) P=	-.0306 (53) P=	1.000 (53)			
RACE	-.3219 (54) P=	-.1814 (49) P=	-.1915 (49) P=	-.2562 (26) P=	.7729 (54) P=	-.1103 (54) P=	.1356 (54) P=	.7067 (54) P=	-.0480 (53) P=	1.000 (54)		
CHR	-.2150 (54) P=	-.0754 (49) P=	-.0532 (49) P=	-.2352 (26) P=	.6477 (54) P=	.1722 (54) P=	.1696 (54) P=	.6188 (54) P=	.0466 (53) P=	.6529 (54) P=	1.000 (54)	
PHR	-.1152 (51) P=	-.0894 (47) P=	.1164 (46) P=	-.1203 (26) P=	.3950 (51) P=	.0440 (51) P=	-.0393 (51) P=	-.2808 (51) P=	.1122 (50) P=	.3930 (51) P=	.3227 (51) P=	1.000 (51)
	P= 210	P= 275	P= 221	P= 279	P= 002	P= 379	P= 392	P= 023	P= 219	P= 002	P= 010	P=

Control = Restrictiveness of review & investigation policies
 FTS = Firearms training standard
 EXR = Expenditure rate
 EDST = Education standard (police officers)
 BPE = Black political empowerment
 AGE = Average age of the population

COMEDUC = community education level
 FR = Family Rate
 OCR = Occupational Rate
 RACE = Ratio of blacks to whites in the population
 CHR = Civilian Homicide Rate
 PHR = Police Homicide Rate

often highly correlated (Pedhazur, 1973). High multicollinearity leads to imprecise estimation of regression coefficients and adversely affects their standard errors. The greater the intercorrelation of the independent variables, the less reliable is the relative importance indicated by the regression coefficients. Proposed remedies for this problem include, deletion of variables, collection of additional data, using experimental designs and using other methods of estimation (Tufte, 1974).⁴⁸

The second issue concerns the method used to deal with missing data. Listwise deletion of missing data was utilized. This specification causes a case to be omitted from the calculation of all coefficients when it contains a missing value on any variable entered into the equation. Although leastwise deletion reduces the number of cases upon which coefficients are computed, it is the only way to ensure that all means, standard deviations and correlations are computed from the same universe of data.

Summary

In summary, this is an exploratory study of the effect of police systems and their environments on

⁴⁸ None of these proposed methods constitute a cure.

police homicides. Five sources were used to create a comprehensive database which includes data on 54 metropolitan police systems serving communities with 250,000 population or more.

The study findings are presented in Chapter IV.

CHAPTER IV

FINDINGS

This chapter summarizes the findings of the univariate,⁴⁹ bivariate and multivariate analyses of the data.

Univariate Analyses

The mean, standard deviation, range and missing observations for the study variables are presented in Appendix E, Table E-1 (p. 231). The univariate analyses of: (1) number of citizens killed by the police between 1981-1984; (2) interjurisdictional variation in police homicide rates; (3) system resource variables; (4) system management variables; and (5) system environment variables are described below.

Citizens Killed by the Police⁵⁰

Between 1981 and 1984, the number of citizens killed by the police fluctuated (See Table E-2). There were 201 police homicides reported in 1981. New York city reported the highest number of police killings (40) followed by Chicago (23) and Los Angeles (15). Twenty-nine cities reported less than five killings by the police and nine cities reported no killings in 1981.

49 The Univariate Tables appear in Appendix E.

50 There is no data available for three cities: Boston, MA; Newark, NJ; and St. Louis, MO.

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In 1982, 196 police homicides were reported, representing a 10% decrease from 1981. New York City (41), Los Angeles (20), and Chicago (18), reported the largest number of killings. Ten cities reported more killings in 1981 and 16 cities reported fewer. Eleven cities reported no police homicides that year.

In 1983, the highest number of citizens killed by the police was reported (219). Sixteen cities reported increases as well as decreases while seven reported no killings in that year.

In 1984, 173 police killings were reported, representing the lowest number of reported homicides in the four year period. New York City, Los Angeles and Chicago continued to report the lowest number of police killings. Thirteen cities reported an increase, 21 reported a decrease, and 10 cities reported no citizens killed.

Interjurisdictional Variation in Police Homicide Rates

Considerable interjurisdictional variation was found for each police homicide rate (See Table E-3). Jacksonville, Florida had the highest rates (PHR=1.15). New Orleans (1.04), Miami (.93), Dallas (.92), Washington, D. C. (.88), and Oklahoma City (.81) also had high rates.

in Table E-6. Washington DC reported both the highest number of Blacks in the population (RACE) and level of Black political empowerment (BPE). The average age of the population was 28. Miami, FL reported the highest average age (35.90) and Norfolk, VA reported the lowest (23.80).

Wichita, KS had the highest family ratio (5.78), followed by Phoenix, AZ (5.74), San Jose, CA (5.47) and Tulsa, OK (5.36). Newark, NJ had the lowest family rate (1.33), followed by Washington, DC (1.53), Oakland, CA (1.70) and Detroit, MI (1.77). Cities with high family rates had more married family households while those with low family rates had more female headed households.

New York City had the highest occupational rate (17.63), considerably higher than other cities. For example, Los Angeles, had the second highest OCR, (6.88). St. Louis, MO had the lowest OCR (.08). Rochester, NY (.11), St. Paul, MN (.13), and Portland, OR (.15) also had very low OCR's.

Miami, FL (PHR=47.67), Detroit, MI (PHR=45), and St. Louis, MO (PHR=42.61) had the highest civilian homicide rates (see Table E-8).

This study and others (Matulia, 1982; Sherman and Cohn, 1986), found interjurisdictional variation in police homicides. However, system management, resources and environmental factors also vary considerably. The univariate analyses imply that interjurisdictional

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variation in police homicides is less alarming than previously believed to be. To further understand police homicides, the bivariate relationships between the study variables were examined with Pearson's correlation coefficient. The correlational analyses are described in the next section.

Bivariate Analyses

A correlation matrix of the study variables was presented in Table 12 (p. 99).

System Management Variables

The hypothesized association between control and police homicides was presented in Hypothesis 1 which stated:

There is a negative relationship between restrictive review and investigation polices and police homides.

While there was a negative correlation between Control and the police homicide rate ($r = -.1152$), it was not significant. Nevertheless, the negative association supports this hypothesis. However, the review process was not as important as other police system variables.⁵²

⁵² There was a stronger association between system environment variables and the police Homicide Rate which is described under Hypothesis 5.

Hypothesis 2 stated:

Nonshooting firearms training is negatively correlated with police homicides.

There was no significant association between nonshooting training (FTS) and PHR ($r=.0894$).

The weak association between Control, FTS and police homicides suggests that managerial aspects of police systems are less important than other factors in understanding police homicides.

System Resource Variables

Hypothesis 3 stated:

The level of expenditures of a police system is positively related to the restrictiveness of review and investigation policies, and firearms training standards.

There was a weak positive association between expenditures and Control ($r=.1983$) and a moderate positive association between expenditures and FTS ($r=.4818$). As financial resources increased, restrictiveness of review and investigation policies and nonshooting training standards increased.

Hypothesis 4 stated:

The level of education of a police system's sworn personnel is positively related to the restrictiveness of review and investigation policies and firearms training standards.

Education had little effect on system management

variables. There was a negative weak association between education and Control ($r = -.0241$) and a modest positive association between education and FTS ($r = .2178$).⁵³

While system resources do affect system management, the only significant relationship was that between financial resources and FTS.

System Environment Variables

System environment variables were the most significant factors related to police homicides.

Hypothesis 5 stated:

There is a negative association between age, community education levels and police homicides.

There was no significant association between Age ($r = .0440$) or Comeduc ($r = -.0393$) and PHR. Although age and educational factors are important in understanding criminality, they were not related to police homicides.

Hypothesis 6 stated:

There is a positive association between the number of female headed households in the population and police homicides.

There was a weak association between FR and police homicides ($r = -.2808$).⁵⁴ While not significant, the number of female headed households in a police system are

⁵³ Data was only available for 26 cities for the officers' education variable.

⁵⁴ Although the correlation is negative, the association between these two variables is positive due to the construction of FR (See Table 11, pp. 92-94).

associated with reported police homicides. Another important environmental factor which has received very limited attention in the study of police homicides is Black political empowerment.

Hypothesis 7 stated:

There is a negative association between Black political empowerment and police homicides.

Contrary to the hypothesized association, there was a moderate positive association between these two variables ($r=.3950$). This finding was surprising since it implies that as Black political empowerment increases, so do police homicides. The association between RACE and BPE ($r=.7729$) probably confounds the role of BPE.

Previous research has established that system environment factors are the strongest predictors of police homicides. Therefore, when police system management, resources and environments are analyzed together, environmental factors should outweigh system management and resources in explaining police homicides.

Multivariate Analyses

A backward regression technique was employed to assess the relationship between police system variables and police homicides.

Hypothesis 8 stated:

The environment of a police system has a stronger positive association with police homicides

than system management or resources.

Four environment variables significantly associated with police homicides were included in the first regression model used to test this hypothesis.

According to this model:

$$(1) Y = B_0 + B_1X_1 + B_2X_2 + B_3X_3 + B_4X_4$$

where:

Y = the police homicide rate (PHR)

B_0 = constant

B_1 = the regression coefficient⁵⁵ for the civilian homicide rate (CHR)

X_1 = the civilian homicide rate

B_2 = the regression coefficient for RACE

X_2 = RACE

B_3 = the regression coefficient for Family Ratio (FR)

X_3 = FR

B_4 = the regression coefficient for Black Political Empowerment (BPE)

X_4 = BPE

The results of the first regression model are presented in Table 13. This model explained thirty-seven percent of the variation in police homicides per 100,000 population (adjusted R squared=.36712). The Civilian

⁵⁵ All regressions coefficients are standardized.

TABLE 13
System Environment
Factors Affecting Police Homicides

Variable	Standardized Coefficient	T- Ratio
CHR	.657040	4.061*
RACE	.107507	.538
BPE	-.002829	-.016
FR	.180256	1.089
Adjusted R Squared		.36712
F=		7.52155

P<.05

N=51

CHR = Civilian Homicide Rate
RACE = Ratio of blacks to whites in the population
BPE = Black Political Empowerment
FR = Family Ratio

Homicide Rate (CHR) is the best predictor of police homicides (Beta=.657040). This finding supports previous research which found police violence to be a function of community crime characteristics. However, the significant correlation between RACE and CHR ($r=.6529$), BPE (.7729), and FR (.7067) may have effected the model.

The second regression model used to test Hypothesis 8 included Control as a measure of system management. Since the literature suggested that restrictive policies would deter police homicides, Control was included in spite of its low correlation with PHR. This model was expressed as:

$$(2) \quad (1) \quad Y = B_0 + B_1X_1 + B_2X_2 + B_3X_3 + B_4X_4 + B_5X_5$$

where:

Y = the police homicide rate (PHR)

B_0 = constant

B_1 = the regression coefficient for the civilian homicide rate (CHR)

X_1 = the civilian homicide rate

B_2 = the regression coefficient for RACE

X_2 = RACE

B_3 = the regression coefficient for Family Ratio (FR)

X_3 = FR

B_4 = BPE

X_4 = the regression coefficient for Black political

empowerment

B_5 = the regression coefficient for the restrictiveness of review and investigation policies (Control)

X_5 = Control

The inclusion of Control added nothing to the model. The explained variation decreased (adjusted R squared = .35683). Again, the civilian homicide rate was the best predictor of police homicides (Beta=.657183) (See Table 14).

Summary of Study Findings

This study confirms prior research and expands our current knowledge of police homicides. Police system environments, not management and resources were associated with police homicides. The major findings are listed and discussed below.

(1) In a multivariate analysis of police homicides, the civilian homicide rate was the best predictor of police homicides.

(2) There was no significant association between restrictiveness of review and investigation policies (Control), moral, legal and ethical aspects of firearms training, financial resources or education of sworn personnel and police homicides.

(3) Race as a system environment variable was correlated with other environment variables at the zero

Table 14
System Environment & Management
Factors Affecting Police Homicides

Variable	Standardized Coefficient	T-Ratio
CHR	.657183	4.023*
RACE	.098536	.483
BPE	-.005525	.030
FR	.191172	1.121
CONTROL	-.040074	-.325
	Adjusted R ²	.35683
	F=	7.52155

p<.05

N=51

CHR = Civilian Homicide Rate
RACE = Ratio of blacks to white
BPE = Black Political Empowerment
FR = Family Ratio
CONTROL = Restrictiveness of Review & Investigation Policies

order level but not significant in the multivariate analyses.

(4) Civilian homicides, RACE, Black Political Empowerment and Family ratio were moderately associated with police homicides at the zero order level.

(5) Demographic characteristics had little, if any effect on police homicides.

(6) Interjurisdictional variation existed not only in police homicides but also in system management, resources and environments.

Discussion

The relationship between community crime characteristics and police violence documented by many researchers was supported in this study as well. Although it was expected that community crime characteristics and other environmental factors would be the best predictors of police homicides, the insignificance of system management and resource factors was surprising. The bivariate analyses found restrictiveness of review and investigation policies (Control) to be negatively correlated with police homicides. While this seems to support prior studies which attributed decreases in fatal and nonfatal shootings by police to internal departmental factors, the correlation was very weak. Thus, the role of restrictive review and investigation policies remains unclear.

Contrary to what was expected, moral, legal and ethical aspects of firearms training (FTS) had no cross-sectional relationship to police homicides. However, financial resources were strongly associated with FTS which suggests that resources do effect system management of police homicides. Yet, financial resources and education of sworn personnel had no effect on police homicides in this study.

One possible explanation for the lack of association between review and investigation policies, firearms training standards, financial and educational resources and police homicides could be the unreliability of aggregate data. Another possible explanation could be the difficulty in finding statistical significance with statistically rare events such as police homicides.

Another surprising finding was the role of race in explaining police homicides. The race variable was associated with police homicides, Black Political Empowerment, civilian homicides and the family ratio at the zero order. Yet, race was not significant in the multivariate analyses.

The correlation between race, civilian homicides, and police homicides seems to support Goldkamp's (1976) Belief Perspective II which asserts that high crime rates among minorities result in high death rates where confrontations with police occur. However, civilian homicides do not usually precipitate police violence.

Fyfe (1981b) suggested that disproportionality by race of victims may be due to the lower socioeconomic group to which many blacks belong. Two of the three variables included to explore the effect, if any, of demographic characteristics (socioeconomic status), occupational ratio, and community education were neither associated between race and family ratio found in this study lends support to Fyfe's assertion since most female headed households have very low income levels. When interjurisdictional variation in police systems they become less alarming. The interjurisdictional variation in police system management, resources environments and police homicide rates suggests that there is diversity in police systems.

The conclusions which can be drawn from these findings, limitations and policy implications of this study are presented in Chapter V.

CHAPTER V

MAJOR CONCLUSIONS, LIMITATIONS

AND POLICY IMPLICATIONS OF THE STUDY

This chapter summarizes the: (1) purposes of the study. (2) review of the literature, and (3) research methodology. The major conclusions, limitations, and policy implications of the study are also presented.

As stated in Chapter I the purpose of this study was to increase our knowledge and understanding of police homicides. A basic assumption of this study was that police homicides are the outcome of many police organizationa; and community characteristics. The systems approach provided the analytical frame work for examining the role of (1) management, (2) resources, and (3) environmental factors in understanding police homicides.

The empirical literature presented in Chapter II documented the multiplicity of factors related to both fatal and nonfatal police use of deadly force. Yet, previous studies had not explored police homicides within a systems theoretical framework. This was due in part to the unavailability of comprehensive databases. To overcome this problem, a database was created which included data from the (1) Crime Control Institute (CCI), (2) International Association of Chiefs of Police (IACP), 3) Police Executive Research Forum, (4) United States Department of Commerce, Bureau of the Census, and the (5)

Joint Center for Political Studies.

Major Conclusions

This research has examined the role police departmental (internal) and community (external) factors play in explaining police homicides. It was stated in Chapter I that police homicides have been a controversial issue in law enforcement due to: (1) disproportionality by race of shooting victims, and (2) interjurisdictional variations in shooting rates. The conclusions which can be drawn from this study regarding these issues are presented below.

Disproportionality by Race of Shooting Victims

No study to date has resolved the controversy surrounding the overrepresentation of Blacks and other minorities as victims of police homicides. Since the data did not facilitate an examination of disproportionality by race of shooting victims, race was analyzed as an environmental factor. While race was associated with police homicides in the bivariate analysis, this association disappeared in the regression analyses. Yet, we know that police discretion results in more black suspects being fatally shot by police.

The association of race with political, demographic and crime characteristics supports the conflict theory of police use of force. According to this theory, the police are employees of the power holding classes and are

sanctioned to use violence against those who represent a challenge to the elite. There is a close connection between economic inequality and police violence since those with fewer resources will be less able to protect themselves from police violence.

Although it is difficult to document, racial discrimination in law enforcement does exist. Historically, police departments have been internally divided along racial lines. In the community, officers are apprehensive and suspicious in contacts with minorities and carry predispositions into their contacts with them (Bayley and Mendelson, 1968).

The major conclusion which can be drawn from this study about disproportionality by race of shooting victims is that aggregate data may not be the best method for examining this issue. Examining race as an environmental factor was useful to the body of knowledge but did not end the controversy. Future research must consider the possible relationship between officers' racial attitudes and fears and race of police homicide victims.

Another issue closely related to race as an environmental factor is Black Political Empowerment. Due to the strong positive association between race and Black Political Empowerment, it was impossible to separate out the effect of Black Political Empowerment on police homicides. While a positive association between race and

police homicides was expected, the positive association between Black Political Empowerment and police homicides raises methodological and theoretical issues.

Methodologically, construction of the Black Political Empowerment variable and use of cross-sectional data probably affected the study findings. The variable was constructed to include all Black elected officials. Future research should exclude those elected officials who do not affect police homicides such as school board members. Some appointed officials including city managers and chiefs of police may need to be included in light of their role in police agency management.

More importantly, the role of Black Political Empowerment in explaining police homicides might be better understood by utilizing longitudinal data since the number of Black elected officials has steadily increased in recent years. The cross-sectional data used in this study did not allow an analysis of the effect, if any, of increases in Black Political Empowerment on police homicides.

While the positive association between Black Political Empowerment and police homicides was surprising, it is plausible. Theoretically, as Black Political Empowerment increases more punitive police practices could emerge. Black elected officials in metropolitan areas are confronted with rapidly

deteriorating urban environments. The incidence of crime and drugs coupled with adverse socioeconomic conditions requires tougher styles of policing. As respect for authority declines police officers may be required to act more punitively. To maintain order in urban environments, Black elected officials may be required to support the justifiable police use of deadly force. On the other hand, Black police chiefs have been instrumental in the movement to reduce excessive use of deadly force.

The positive association between Black Political Empowerment and police homicides could simply be spurious or a reflection of levels of violence in urban environments. Future research should study this association temporally.

Interjurisdictional Variation in Shooting Rates

Previous researchers were concerned with interjurisdictional variations in fatal and nonfatal police shooting rates. In this study variation in rates were attributed to the diversity of police systems and their environments. There was wide variation in review policies, firearm training standards, expenditures, political, demographic and crime characteristics. Yet, no association was found between system management, resources and police homicide rates. Obviously interjurisdictional variation in police homicide rates is

a reflection of the diversity in American urban areas. Perhaps the lack of appropriate data in the past caused interjurisdictional variations in police shooting rates to be misunderstood.

Finally the Garner decision, which sets limits on use of deadly force, should reduce interjurisdictional variations in police homicides. As more states and police agencies join the movement away from the common law doctrine, police killings should continue to decline.

Limitations of The Study

Like previous studies, this study had several limitations including the: (1) unavailability of data, (2) use of official data, (3) use of secondary data, (4) missing data and (5) multicollinearity.

The study of police homicides has always been a highly sensitive research issue. Data on police homicides has been both difficult to obtain and inaccurate. In addition to this, the systematic collection of data on police organizational factors is still being developed. Therefore, such data is not readily available.

The present study used secondary data from several sources. While this strategy facilitated the creation of a comprehensive database, it also had drawbacks. Some of these problems are described below.

associated with secondary data. This study provided a rich source of data on police homicides and police departmental policies (system management). However, the IACP study was not specifically concerned with the association between police homicides and their review. Thus, the creation of the control variable is one source of error. Furthermore, the survey results may be outdated since review policies have changed in the past several years.

The Census Bureau datasets are another source of error. The Census Bureau only surveys population and governmental characteristics every ten years. The last census of governments was conducted in 1977. Yet, the number of Black elected officials has changed dramatically during the last ten years. Though Black political empowerment is believed to effect the incidence of police homicides (Sherman and Cohn, 1986) it can not be accurately measured without more recent data.

The Crime Control Institute dataset included the Federal Bureau of Investigation (FBI) Uniform Crime Reports (UCRs) civilian homicide data. The limitations associated with the use of official data include reporting and recording discrepancies. Sherman and Cohn (1986) addressed the issue of reporting discrepancies. They concluded that in spite of limitations, their dataset was still useful.

other environmental factors cannot be eliminated using present methods. However, since race is confounded with so many other factors including civilian homicides, Black political empowerment and the family ratio, it is difficult to interpret these findings.

In spite of these limitations, this study provides a model for future research on the role of police systems and their environments in understanding police homicides.

Policy Implications

This study has several implications for future research and policy on police use of deadly force. First, as Sherman and Cohn (1986) recommended, there is a need for the systematic collection and dissemination of police homicide data on a nationwide basis. The data should be readily available and accessible at the state and federal levels of government. Without accurate data, quantitative research can offer little to the body of knowledge.

Second, there should be more research on post shooting review and investigation policies to determine (1) if there is a nationwide trend toward more restrictive review policies (2) policy content and (3) the effect, if any of restrictive policies on police use of deadly force. The systematic collection, analysis and dissemination of information on review policies should become a part of data available from the National Institute of Justice. Until the necessary data is

available, case studies of review policies should be conducted.

Third, police departments should improve the collection and availability of police fatal and nonfatal shooting data. Since police homicides are rare, data on all shootings would be more beneficial. This data should be reported annually by police agencies.

Fourth, future research should focus upon the role of race as an organizational factor. No police homicide studies have attempted to analyze the role of either (1) police officers' racial attitudes or (2) racial composition of the police force in explaining police homicides.

Fifth, police agencies should continue to strengthen internal management of police homicides. More restrictive review and investigation policies and procedures should be implemented. The chief should play an active leadership role in implementing and enforcing use of deadly force policies.

Finally, since environmental factors are strongly associated with police homicides, police departments should reevaluate their approaches to controlling and preventing police homicides. If crime characteristics are the strongest predictors of police homicides, more emphasis should be placed on community outreach efforts and crime prevention programs in urban areas.

One approach would be to develop a model program to

educate officers and civilians on police use of deadly force. These programs should focus on (1) attitudes and fears of police officers towards Black citizens and vice versa (2) human relations training and (3) the role of community violence in police violence.

APPENDIX A

Kansas City, Missouri Police Department
Police Foundation
Police Executive Research Forum
1977 General Administrative Survey of
Municipal Police Department Data
(Level of Expenditures and Education of Sworn
Personnel)

This dataset is an excerpt from Section II of Police Practices, The General Administrative Survey. It is based on the voluntary collection and submission of data by 49 police departments.

TABLE A-1
1977 GENERAL ADMINISTRATIVE SURVEY
OF MUNICIPAL POLICE DEPARTMENTS

	1	2	3	4	5	6
	Educational Level of Department					
CITY	Total Budget Last F Y (\$)	% High School	% 2 Years College	% Baccalaureate	% Masters	% Other
AKRON	10,839,988	N/A	N/A	N/A	N/A	N/A
ALBUQUERQUE	11,487,222	33.06	50	15.72	1.2	0
ATLANTA	23,885,982	92	4	3	1	0
AUSTIN	12,936,170	92	26	5	0.4	0
BALTIMORE	93,216,665	56.6	31.3	10.8	1.0	0.3
BIRMINGHAM	11,785,182	63	24	9	3	1
BOSTON	53,247,160	N/A	N/A	N/A	N/A	N/A
BUFFALO	22,612,665	100	N/A	N/A	N/A	N/A
CHARLOTTE	10,864,650	59.2	26.3	14	.5	0
CINCINNATI	22,389,534	N/A	N/A	N/A	N/A	N/A
CLEVELAND	37,785,944	95.65	2.28	1.91	.16	0
COLUMBUS	27,667,557	N/A	N/A	N/A	N/A	N/A
DALLAS	50,166,333	12.40	45.44	40.18	1.98	0
DENVER	35,596,118	N/A	N/A	N/A	N/A	N/A
DETROIT	186,955,637	61.2	12.5	7.9	7.9	N/A
EL PASO	8,266,365	100	5	7	0	0
FORT WORTH	14,295,563	100	13.08	7.62	0.51	0
HONOLULU	34,659,791	100	N/A	N/A	N/A	N/A
HOUSTON	53,679,353	87	2.7	10	0.3	0
INDIANAPOLIS	27,324,014	74.6	15	10	0.4	0
JACKSONVILLE	31,947,744	N/A	N/A	N/A	N/A	N/A

(CONTINUED)

TABLE A-1

1977 GENERAL ADMINISTRATIVE SURVEY
OF MUNICIPAL POLICE DEPARTMENTS

	1	2	3	4	5	6
	Educational Level of Department					
<u>CITY</u>	<u>Total Budget</u> <u>Last F Y (\$)</u>	<u>%</u> <u>High School</u>	<u>%</u> <u>2 Years College</u>	<u>%</u> <u>Baccalaureate</u>	<u>%</u> <u>Masters</u>	<u>%</u> <u>Other</u>
JERSEY CITY	18,671,808	51.5	40.0	7.0	1.5	0
KANSAS CITY	28,403,593	100	7.33	16.29	3.83	.16
LONG BEACH	30,741,117	100	25	14	2	0
MEMPHIS	32,861,179	N/A	15.7	12.4	.9	.1
MIAMI	20,233,000	70	18	11	1	0
MINNEAPOLIS	19,782,417	75	12	10	0	3
NEW ORLEANS	33,783,832	100	2	1.3	N/A	N/A
NEWARK	20,341,861	97	43	4.95	0.04	0.01
NORFOLK	10,644,542	100	18	N/A	N/A	N/A
OAKLAND	20,095,094	75	3	19	3	0
OMAHA	13,085,348	100	12	10	1	0
PHILADELPHIA	161,834,387	N/A	N/A	N/A	N/A	N/A
PHOENIX	44,653,052	100	5	4	1	0
PITTSBURGH	24,668,782	95	25	25	2	0
PORTLAND	19,100,000	28	19	53		
		(1976 recruits)	(1976 recruits)	(1976 recruits)	0	0
ROCHESTER	13,695,800	N/A	23.88	9.24	0.3	N/A
SACRAMENTO	18,126,384	25	35	38	2	0

(CONTINUED)

TABLE A-1

1977 GENERAL ADMINISTRATIVE SURVEY
OF MUNICIPAL POLICE DEPARTMENTS

	1	2	3	4	5	6
	Educational Level of Department					
<u>CITY</u>	<u>Total Budget Last F Y (\$)</u>	<u>% High School</u>	<u>% 2 Years College</u>	<u>% Baccalaureate</u>	<u>% Masters</u>	<u>% Other</u>
ST. LOUIS	40,725,800	N/A	N/A	N/A	N/A	N/A
ST. PAUL	12,489,624	72.5	16	11	0.5	0
SAN DIEGO	30,853,013	100	30	15	5	2
SAN FRANCISCO	69,653,821	100	60	40	10	0
SAN JOSE	18,955,000	100	95	30	5	0
SEATTLE	34,234,083	67.39	17.17	13.71	1.73	N/A
TAMPA	17,297,000	100	38	20	4	1
TOLEDO	18,012,165	N/A	N/A	N/A	N/A	N/A
TUCSON	15,200,000	N/A	2.70	20.31	1.74	0
TULSA	11,884,793	100	18.3	32.5	3.48	0.75
WASHINGTON	94,431,200	N/A	N/A	N/A	N/A	N/A
WICHITA	7,788,681	49	25	25	1	0

APPENDIX B

U.S. Department of Commerce
Survey of Popularly Elected Officials Data

(1977)

Census of the Population Data

(1980)

This appendix includes the following information:

1. Definitions of key terms provided by the Governments Division.
2. Number of Popularly Elected Officials (1977).
3. Definitions of key terms for the Census of the Population.
4. 1980 Census of the Population Data.

DEFINITIONS

GOVERNING BODIES

The principal policy making body such as the City Council, Commissioners, Supervisors, Alderman, etc.,.

GOVERNING BOARDS

Special purpose boards including school boards. Examples include library, hospital and park boards EXCLUDING and members serving in an ex-officio capacity.

OTHER OFFICIALS

Includes all other officials not mentioned in the previous categories such as judgeships and other court-related positions filled by popular election. Officials also include the Municipal Court Judge, Police Chief or Marshall, Treasurer, Attorney, Clerk, etc.,

TABLE B-1

NUMBER OF POPULARLY ELECTED OFFICIALS (1977)

<u>CENSUS ID</u>	<u>CITY</u>	<u>GOVERNING BODIES</u>	<u>GOVERNING BOARDS</u>	<u>OTHER OFFICIALS</u>	<u>TOTAL NUMBER</u>
36 2 077 011	AKRON, OH	13	0	7	20
32 2 001 001	ALBUQUERQUE, NM	9	0	5	14
44 2 227 001	AUSTIN, TX	7	0	1	8
21 2 004 001	BALTIMORE, MD	19	0	13	32
01 2 037 003	BIRMINGHAM, AL	9	0	1	10
22 2 013 001	BOSTON, MA	9	0	7	16
33 2 015 005	BUFFALO, NY	15	0	3	18
34 2 060 001	CHARLOTTE, NC	7	0	1	8
14 2 016 016	CHICAGO, IL	50	0	3	53
36 2 031 006	CINCINNATI, OH	9	0	3	12
36 2 018 014	CLEVELAND, OH	33	0	2	35
36 2 025 003	COLUMBUS, OH	7	0	4	11
44 2 057 007	DALLAS, TX	10	0	1	11
06 2 016 001	DENVER, CO	9	2	23	34
23 2 082 004	DETROIT, MI	9	0	2	11
44 2 071 002	EL PASO, TX	4	0	3	7
44 2 220 011	FORT WORTH, TX	9	0	1	10
12 2 002 001	HONOLULU, HI	9	0	1	10
44 2 101 008	HOUSTON, TX	8	0	1	9
15 2 049 008	INDIANAPOLIS, IN	29	0	14	43
10 2 016 003	JACKSONVILLE, FL	19	0	18	37
26 2 048 006	KANSAS CITY, KS	12	0	1	13
05 2 019 026	LONG BEACH, CA	9	0	3	12
05 2 019 027	LOS ANGELES, CA	14	0	3	17
18 2 056 014	LOUISVILLE, KY	12	0	4	16
43 2 079 005	MEMPHIS, TN	13	0	3	16

(CONTINUED)

TABLE B-1

NUMBER OF POPULARLY ELECTED OFFICIALS (1977)

<u>CENSUS ID</u>	<u>CITY</u>	<u>GOVERNING BODIES</u>	<u>GOVERNING BOARDS</u>	<u>OTHER OFFICIALS</u>	<u>TOTAL NUMBER</u>
10 2 013 013	MIAMI, FL	5	0	0	5
24 2 027 020	MINNEAPOLIS, MN	13	0	3	16
43 2 019 003	NASHVILLE, TN	40	0	31	71
19 2 036 001	NEW ORLEANS, LA	7	7	21	35
33 2 031 001	NEW YORK, NY	43	0	139	182
31 2 007 009	NEWARK, NJ	9	0	1	10
47 2 122 001	NORFOLK, VA	7	0	5	12
05 2 001 009	OAKLAND, CA	8	0	2	10
37 2 055 015	OAKLAHOMA, OK	8	0	1	9
28 2 028 004	OMAHA, NE	7	0	9	16
39 2 051 001	PHILADELPHIA, PA	17	0	167	184
03 2 007 010	PHOENIX, AZ	6	0	1	7
38 2 026 003	PORTLAND, OR	4	0	2	6
33 2 028 008	ROCHESTER, NY	9	0	2	11
05 2 034 005	SACRAMENTO, CA	9	0	0	9
44 2 015 010	SAN ANTONIO, TX	8	0	1	9
05 2 037 010	SAN DIEGO, CA	7	0	2	9
05 2 038 001	SAN FRANCISCO, CA	11	0	53	64
05 2 043 012	SAN JOSE, CA	6	0	1	7
48 2 017 021	SEATTLE, WA	9	0	8	17
26 2 096 001	ST LOUIS, MO	29	0	29	58
24 2 062 009	ST PAUL, MN	7	0	5	12
10 2 029 003	TAMPA, FL	7	0	2	9
36 2 048 007	TOLEDO, OH	9	0	0	9
03 2 010 002	TUCSON, AZ	6	0	1	7
37 2 072 010	TULSA, OK	6	0	2	8

(CONTINUED)

TABLE B-1

NUMBER OF POPULARLY ELECTED OFFICIALS (1977)

<u>CENSUS ID</u>	<u>CITY</u>	<u>GOVERNING BODIES</u>	<u>GOVERNING BOARDS</u>	<u>OTHER OFFICIALS</u>	<u>TOTAL NUMBER</u>
09 2 001 001	WASHINGTON, DC	13	344	1	358
17 2 087 014	WICHITA, KS	5	0	0	5

Definitions and Explanations*

Coverage. The population in this report includes the civilian noninstitutional population of the United States plus approximately 817,000 members of the Armed Forces in the United States living off post or with their families on post in 1981 but excludes all other members of the Armed Forces.

Age. The age classification is based on the age of the person at the person's last birthday. The adult universe (i.e., population of marriageable age) is now comprised on persons 15 years old and over. Prior to 1980 the adult universe was 14 years old and over.

Race. The population is divided into three groups on the basis of race: White, Black and "other races." The last category includes Indians, Japanese, Chinese, and any other race except White and Black.

Marital Status. The marital status classification identifies four major categories: single (never married), married, widowed, and divorced. These terms refer to the marital status at the time of the enumeration.

Household. A household consists of all the persons who occupy a housing unit. A household includes the related family members and all the unrelated persons.

Head versus householder. Beginning with the 1980 CPS, the Bureau of the Census discontinued the use of the terms "head of household" and "head of family." Instead, the terms "householder" and "family householder" are used. The Bureau has discontinued its longtime practice of always classifying the husband as the reference person (head) when he and his wife are living together.

Years of School Completed. In this report, data on years of school completed were derived from the combination of answers to two questions, (a) "What is the highest grade of school that the person has attended?" and (b) "Did the person finish this grade?"

Labor Force and Employment Status. The definitions of labor force and employment status in this report related to the population 15 years old and over.

Occupation. The data on occupation of employed persons refer to the civilian job held during the survey week. Persons employed at two or more jobs were reported in the job at which they worked the greatest number of hours during the week.

*These definitions and explanations appear in Appendix A, 1980 Census of the Population.

TABLE B-2

AVERAGE AGE OF THE POPULATION IN EACH CITY

<u>CITY</u>	<u>AGE</u>
AKRON	28.4
ALBUQUERQU	28.5
AUSTIN	25.7
BALTIMORE	28.9
BIRMINGHM	27.8
BOSTON	27.5
BUFFALO	28.9
CHARLOTTE	28.2
CHICAGO	28.1
CINCINNATI	27.4
CLEVELAND	28.2
COLUMBUS	26.1
DALLAS	27.7
DENVER	29.3
DETROIT	27.4
EL PASO	24.4
FT. WORTH	27.8
HONOLULU	30.8
HOUSTON	27.0
INDIANAPOL	27.8
JACKSONVLE	27.5
KANSAS CTY	28.9
LONG BEACH	29.9
LOS ANGELS	29.3
LOUISVILLE	29.3
MEMPHIS	26.9
MIAMI	35.9
MINNEAPOLS	28.7
NASHVILLE	28.3
NEWARK	25.0
NEW ORLEAN	27.2
NEW YORK	30.9
NORFOLK	23.8
OAKLAND	30.5
OKLA. CTY	28.6
OMAHA	27.9
PHILADEOPH	29.4
PHOENIX	28.0
PORTLAND	30.1
ROCHESTER	27.5
SACRAMENTO	30.4
ST. LOUIS	28.4
ST. PAUL	28.1
SAN ANTON	25.9

(CONTINUED)

TABLE B-2

AVERAGE AGE OF THE POPULATION IN EACH CITY

CITY	AGE
SAN DIEGO	26.7
SAN FRAN	32.9
SAN JOSE	26.9
SEATTLE	31.0
TAMPA	29.9
TOLEDO	27.9
TUCSON	27.4
TULSA	28.6
WASHINGTON	29.9
WICHITA	27.9

TABLE B-3

BLACK POPULATION AND TOTAL POPULATION
FOR EACH CITY

<u>CITY</u>	<u>BLACK POPULATION</u>	<u>TOTAL POPULATION</u>
AKRON	52719	182114
ALBUQUERQU	8361	268631
AUSTIN	42118	261166
BALTIMORE	431151	345113
BIRMINGHM	158224	124729
BOSTON	126229	393937
BUFFALO	95116	252365
CHARLOTTE	97627	211980
CHICAGO	1197000	1490216
CINCINNATI	130467	251144
CLEVELAND	251347	307264
COLUMBUS	124880	430678
DALLAS	265594	555270
DENVER	59252	368068
DETROIT	758939	413730
EL PASO	13466	248966
FT. WORTH	87723	265451
HONOLULU	4247	104688
HOUSTON	440346	978353
INDIANAPOL	152626	540294
JACKSONVLE	136886	385775
KANSAS CTY	122699	310812
LONG BEACH	40738	269953
LOS ANGELS	505210	1816761
LOUISVILLE	84080	212102
MEMPHIS	307671	333769
MIAMI	87110	231008
MINNEAPOLS	28433	323831
NASHVILLE	105732	335512
NEWARK	191745	101417
NEW ORLEAN	308112	236538
NEW YORK	1784337	4294075
NORFOLK	93987	162300
OAKLAND	15928	129692
OKLA. CTY	38370	308584
OMAHA	37864	268591
PHILADELPH	638878	983084
PHOENIX	37804	665898
PORTLAND	27734	316993
ROCHESTER	62332	168102
SACRAMENTO	36866	186477
ST. LOUIS	206386	242576
ST. PAUL	13305	243226

(CONTINUED)

TABLE B-3

BLACK POPULATION AND TOTAL POPULATION
FOR EACH CITY

<u>CITY</u>	<u>BLACK POPULATION</u>	<u>TOTAL POPULATION</u>
SAN ANTON	47700	617998
SAN DIEGO	76117	644003
SAN FRAN	86414	394081
SAN JOSE	29186	463344
SEATTLE	46755	392766
TAMPA	63835	200741
TOLEDO	61750	283920
TUSCON	12301	270188
TULSA	42594	298114
WASHINGTON	448906	171768
WICHITA	30200	235818

TABLE B-4

NUMBER OF MARRIED HEAD OF HOUSEHOLD AND
FEMALE HEAD OF HOUSEHOLD FAMILIES IN EACH CITY

<u>CITY</u>	<u>MARRIED HEAD OF HOUSEHOLD</u>	<u>FEMALE HEAD OF HOUSEHOLD</u>
AKRON	45634	12995
ALBUQUERQU	68660	13907
AUSTIN	62443	13484
BALTIMORE	114066	61529
BIRMINGHM	50247	19470
BOSTON	73333	35408
BUFFALO	57406	25243
CHARLOTTE	62499	16539
CHICAGO	465620	195771
CINCINNATI	62182	24311
CLEVELAND	93081	41401
COLUMBUS	101236	28470
DALLAS	169409	43929
DENVER	90343	22075
DETROIT	173206	97720
EL PASO	82788	16999
FT. WORTH	78748	17111
HONOLULU	68729	13553
HOUSTON	303378	69344
INDIANAPOL	140233	33864
JACKSONVLE	106467	28135
KANSAS CTY	84433	22578
LONG BEACH	65217	16671
LOS ANGELS	503014	145234
LOUISVILLE	53829	19707
MEMPHIS	115000	41375
MIAMI	60191	20847
MINNEAPOLS	61311	17615
NASHVILLE	88858	22243
NEWARK	41913	31397
NEW ORLEAN	85292	40298
NEW YORK	1203135	462933
NORFOLK	43520	14417
OAKLAND	51331	30166
OKLA. CTY	84208	16752
OMAHA	62215	14018
PHILADELPH	274327	114840
PHOENIX	164802	28708
PORTLAND	68693	15890
ROCHESTER	37021	15546
SACRAMENTO	52197	13874

(CONTINUED)

TABLE B-4

NUMBER OF MARRIED HEAD OF HOUSEHOLD AND
FEMALE HEAD OF HOUSEHOLD FAMILIES IN EACH CITY

<u>CITY</u>	<u>MARRIED HEAD OF HOUSEHOLD</u>	<u>FEMALE HEAD OF HOUSEHOLD</u>
ST. LOUIS	67933	32930
ST. PAUL	50198	11994
SAN ANTON	150878	35850
SAN DIEGO	153172	33257
SAN FRAN	101782	29737
SAN JOSE	125855	22997
SEATTLE	88503	19987
TAMPA	51988	15640
TOLEDO	69691	17267
TUCSON	65166	12799
TULSA	79723	14879
WASHINGTON	74800	48839
WICHITA	61395	10631

TABLE B-5

PERCENTAGE OF HIGH SCHOOL AND COLLEGE GRADUATES
IN THE POPULATION AGE 25 and OVER

CITY	HIGH SCHOOL	COLLEGE
	GRADUATES 25+	GRADUATES 25+
		125
AKRON	624	249
ALBUQUERQU	791	306
AUSTIN	748	113
BALTIMORE	484	130
BIRMINGHM	604	203
BOSTON	684	111
BUFFALO	538	224
CHARLOTTE	701	121
CHICAGO	562	176
CINCINNATI	579	64
CLEVELAND	509	186
COLUMBUS	689	220
DALLAS	685	248
DENVER	747	93
DETROIT	542	145
EL PASO	601	173
FT. WORTH	622	240
HONOLULU	745	231
HOUSTON	684	164
INDIANAPOL	667	.
JACKSONVLE	.	87
KANSAS CTY.	751	180
LONG BEACH	729	198
LOS ANGELS	686	133
LOUISVILLE	555	146
MEMPHIS	633	130
MIAMI	500	237
MINNEAPOLS	748	189
NASHVILLE	656	63
NEWARK	446	177
NEW ORLEAN	592	173
NEW YORK	602	125
NORFOLK	617	218
OAKLAND	715	190
OKLA. CTY	723	89
OMAHA	803	81
PHILADELPH	739	165
PHOENIX	733	221
PORTLAND	758	139
ROCHESTER	580	187
SACRAMENTO	716	

(CONTINUED)

TABLE B-5

PERCENTAGE OF HIGH SCHOOL AND COLLEGE GRADUATES
IN THE POPULATION AGE 25 and OVER

CITY	HIGH SCHOOL		COLLEGE	
	GRADUATES	25+	GRADUATES	25+
ST. LOUIS	482		100	
ST. PAUL	724		198	
SAN ANTON	586		136	
SAN DIEGO	789		240	
SAN FRAN	740		282	
SAN JOSE	764		211	
SEATTLE	797		281	
TAMPA	610		128	
TOLEDO	639		122	
TUCSON	727		192	
TULSA	773		217	
WASHINGTON	735		124	
WICHITA	759		190	

TABLE B - 6

NUMBER OF WHITE COLLAR AND BLUE COLLAR WORKERS IN EACH CITY

CITY	WHITE COLLAR WORKERS	BLUE COLLAR WORKERS (Sevria)	BLUE COLLAR WORKERS (Homeless)
AKRON	18768	13684	4398
ALBUQUERQU	43486	15358	5093
AUSTIN	49568	21060	5232
BALTIMORE	59668	46459	20821
BIRMINGHM	22747	15693	7486
BOSTON	66660	39250	8958
BUFFALO	24188	20015	7556
CHARLOTTE	41037	15618	7568
CHICAGO	245887	139942	72711
CINCINNATI	38974	23644	7273
CLEVELAND	27614	30529	14590
COLUMBUS	63939	31947	10811
DALLAS	11159	49240	22650
DENVER	6785	31908	9938
DETROIT	65392	59162	8155
EL PASO	34687	16547	7639
FT. WORTH	38571	19557	9742
HONOLULU	47551	29512	7694
HOUSTON	202783	75780	481
INDIANAPOL	72111	37679	4387
JACKSONVLE	49966	23710	1153
KANSAS CTY	47722	26096	9869
LONG BEACH	40823	18288	6719
LOS ANGELS	358835	47030	5135
LOUISVILLE	26086	17912	5983
MEMPHIS	57929	30424	6400
MIAMI	27411	24470	8676
MINNEAPOLS	50074	27379	7230
NASHVILLE	54570	22808	9780
NEWARK	13523	14284	9117
NEW ORELAN	53129	31357	2385
NEW YORK	754154	35188	7589
NORFOLK	17603	11507	4993
OAKLAND	37030	17760	6514
OKLA. CTY	44199	19184	7440
OMAHA	35829	18887	6479
PHILADEOPH	12639	74298	1254
PHOENIX	8881	39058	14776
PORTLAND	4457	22082	7025
ROCHESTER	1953	14519	3810
SACRAMENTO	2924	14208	4410
ST. LOUIS	3068	29104	9989

(CONTINUED)

TABLE B-6

NUMBER OF WHITE COLLAR AND BLUE COLLAR WORKERS IN EACH CITY

<u>CITY</u>	<u>WHITE COLLAR WORKERS</u>	<u>BLUE COLLAR WORKERS (Sevria)</u>	<u>BLUE COLLAR WORKERS (Homeless)</u>
ST. PAUL	3067	18858	5454
SAN ANTON			
SAN DIEGO	9643	4503	1022
SAN FRAN	9825	4629	901
SAN JOSE	7746	2806	1064
SEATTLE	7178	3050	900
TAMPA	2366	1433	639
TOLEDO	3043	1793	636
TUCSON	3542	1918	590
TULSA	4757	1730	582
WASHINGTON	9715	3965	1047
WICHITA	3211	1394	493

APPENDIX C

Joint Center for Political Studies Data

(1977)

Black Elected Officials Data

The Joint Center for Political Studies annually publishes a national roster of Black Elected Officials. These rosters provide data on the number of Black elected officials of the local state and federal government.

Black elected officials serving in positions that fulfill the Census Bureau definitions of popularly elected officials (See Appendix B) were included here.

TABLE C-1

BLACK ELECTED OFFICIALS DATA

<u>CITY</u>	<u>NUMBER OF BLACK ELECTED OFFICIALS</u>
AKRON	020
ALBUQUERQU	014
AUSTIN	008
BALTIMORE	032
BIRMINGHM	010
BOSTON	016
BUFFALO	018
CHARLOTTE	008
CHICAGO	053
CINCINNATI	012
CLEVELAND	035
COLUMBUS	011
DALLAS	011
DENVER	034
DETROIT	011
EL PASO	007
FT. WORTH	010
HONOLULU	010
HOUSTON	009
INDIANAPOL	043
JACKSONVLE	037
KANSAS CTY	013
LONG BEACH	012
LOS ANGELS	017
LOUISVILLE	016
MEMPHIS	016
MIAMI	005
MINNEAPOLS	016
NASHVILLE	071
NEWARK	010
NEW ORLEAN	035
NEW YORK	182
NORFOLK	012
OAKLAND	010
OKLA. CTY	009
OMAHA	016
PHILADELPH	184
PHOENIX	007
PORTLAND	006
ROCHESTER	011

(CONTINUED)

TABLE C-1

BLACK ELECTED OFFICIALS DATA

<u>CITY</u>	<u>NUMBER OF BLACK ELECTED OFFICIALS</u>
SACRAMENTO	009
ST. LOUIS	058
ST. PAUL	012
SAN ANTON	009
SAN DIEGO	009
SAN FRAN	064
SAN JOSE	007
SEATTLE	017
TAMPA	009
TOLEDO	009
TUCSON	007
TULSA	008
WASHINGTON	358
WICHITA	005

CREATION OF THE CONTROL VARIABLE

CREATION OF THE CONTROL VARIABLE

The restrictiveness of review and investigation policies (Control) was one construct included to measure police system management of police homicides. Matulia (1982) reported the results of an analysis of departmental policies which were submitted by police agencies in response to the IACP survey.

The Policy Content Analysis Form was used to construct Table B-1 and B-2 (See Appendix B).

The control variable was created by weighing internal and external involvement in the review and investigation of police homicides (See Tables B-1 and B-2). To eliminate possible duplication, the data in these tables was recorded. The SPSSX Compute Command was used to create a summative Control scale as follows:

1. Compute Control = 0
2. If the review process was by Command Staff, Control = Control + 1.
3. If the review process was by Internal Affairs, Control = Control + 2.
4. If the review process included the Chief of Police, Control = Control + 3.
5. If the review process included the Mayor, Control = Control + 4.
6. If the review process included a Departmental Review Board, Control = Control + 3.
7. If the review process included the District Attorney, Control = Control + 2.
8. If the review process included the Chief, Mayor, a Departmental Review Board and the District Attorney, Control = Control + 5.

The result of the Control Scale are presented in Table F-1.

*Portland, Oregon was the only city with a review process including a high level of internal and external involvement.

TABLE D-1

THE CREATION OF THE CONTROL VARIABLE							
CITY	REVIEW BY		CHIEF OF		DEPT. REVIEW		CONTROL
	COMMAND STAFF	INTERNAL AFFAIRS	POLICE	MAYOR	BOARD	DIST. ATTOR.	
AKRON	1	0	1	1	1	0	11.00
ALBUQUERQU	1	1	1	0	1	1	11.00
AUSTIN	1	1	1	0	0	1	8.00
BALTIMORE	1	1	1	0	0	1	8.00
BIRMINGHM	1	1	0	0	1	0	6.00
BOSTON	1	1	1	0	1	0	9.00
BUFFALO	1	1	1	0	0	1	8.00
CHARLOTTE	0	1	1	0	0	0	5.00
CHICAGO	1	0	1	0	0	1	6.00
CINCINNATI	0	1	1	0	0	1	7.00
CLEVELAND	1	0	0	0	0	1	3.00
COLUMBUS	0	1	1	0	1	1	10.00
DALLAS	0	1	1	0	0	1	7.00
DENVER	1	1	1	0	0	1	8.00
DETROIT	1	0	1	0	0	1	6.00
EL PASO	0	1	0	0	0	0	2.00
FT. WORTH	0	1	1	0	0	0	5.00
HONOLULU	1	1	1	0	1	1	11.00
HOUSTON	1	1	1	0	1	1	11.00
INDIANAPOL	1	1	1	0	1	1	11.00
JACKSONVLE	1	1	1	0	1	1	11.00
KANSAS CTY	1	1	1	0	1	1	11.00
LONG BEACH	1	0	0	0	1	1	6.00
LOS ANGELS	1	0	1	0	1	1	9.00
LOUISVILLE	1	1	1	0	0	1	8.00
MEMPHIS	1	0	1	0	0	0	4.00
MIAMI	1	1	1	0	1	1	11.00
MINNEAPOLS	1	0	0	0	1	1	6.00
NASHVILLE	0	0	1	0	1	0	6.00
NEW ORLEAN	1	1	0	0	1	1	8.00
NEW YORK	0	0	0	0	1	0	3.00
NEWARK	1	1	0	0	0	0	3.00
NORFOLK	1	1	1	0	0	1	8.00
OAKLAND	1	0	0	0	1	1	6.00
OKLA. CITY	1	0	1	0	1	1	9.00
OMAHA	1	1	1	1	0	0	10.00
PHILADELPH	1	1	0	0	1	0	6.00
PHOENIX	1	1	1	0	0	1	8.00
PORTLAND	1	1	1	1	1	1	20.00
ROCHESTER	1	1	1	0	0	1	8.00
SACRAMENTO	1	1	1	0	0	1	8.00
SAN ANTON	0	1	1	0	0	1	7.00
SAN DIEGO	1	1	1	0	0	1	8.00
SAN FRAN	1	0	1	0	1	1	9.00
SAN JOSE	1	1	1	0	0	1	8.00
SEATTLE	1	0	1	0	0	1	6.00
ST. LOUIS	0	1	1	0	0	1	7.00
ST. PAUL	0	0	0	0	1	0	3.00
TAMPA	1	0	1	1	0	1	10.00
TOLEDO	1	1	1	0	1	0	9.00
TUCSON	1	1	1	0	1	1	11.00
TULSA	0	0	1	0	1	1	8.00
WASHINGTON	1	1	1	0	0	0	6.00
WICHITA	1	1	1	1	0	1	12.00

UNIVARIATE ANALYSES

TABLE E-1

MEAN, STANDARD DEVIATION, RANGE AND MISSING
OBSERVATIONS FOR THE STUDY VARIABLES

<u>Variable Name</u>	<u>Mean</u>	<u>Std. Dev.</u>	<u>Min</u>	<u>Max</u>	<u>Missing</u>
Police Homicide Rate 1(PHR1) (Per 100,000 population)	.458	.285	.00	1.15	3
Police Homicide Rate 2(PHR2) (Per 100 police)	.216	.148	.00	.74	3
Control (The Restrictiveness of Review and Investigation Policies)	7.889	2.982	2.00	20.00	0
Firearms Training Standard	.634	.795	.00	5.00	5
Expenditures Ratio	2.515	.655	1.219	5.098	5
Educational Standard (Of Sworn Personnel)	88.180	26.166	34.34	130.00	28
Race	.452	.519	.03	2.61	0
Black Political Empowerment (BPE)	.131	.145	.000	.701	0
Age of the Population (AGE)	28.359	1.962	23.80	25.90	0
Family Ratio (FR)	3.560	1.174	1.33	5.78	0
Community Educational Level (Comeduc)	11.248	4.344	5.59	25.13	0
Occupational Ratio (OCR)	1.639	2.452	.08	17.63	1
Civilian Homicide Rate 1(CHR1) (Per 100,000 population)	18.502	10.669	4.25	47.67	0
Civilian Homicide Rate 2(CHR2) (Per 100 police)	8.056	3.982	2.14	18.30	0

TABLE E-2

CITIZENS KILLED BY THE POLICE: 1981-1984

CITY	1981	1982	1983	1984
AKRON	0	0	0	0
ALBUQUERQU	1	1	1	2
AUSTIN	2	3	1	3
BALTIMORE	3	1	2	3
BIRMINGHM	1	1	1	1
BOSTON	99	99	99	99
BUFFALO	0	0	0	2
CHARLOTTE	1	1	3	2
CHICAGO	23	18	22	17
CINCINNATI	1	0	0	1
CLEVELAND	3	2	6	5
COLUMBUS	6	6	3	2
DALLAS	8	3	15	10
DENVER	3	3	6	3
DETROIT	9	5	10	8
EL PASO	0	0	1	0
FT. WORTH	2	0	1	3
HONOLULU	0	0	1	0
HOUSTON	7	15	16	9
INDIANAPOL	4	2	1	1
JACKSONVILE	6	11	5	5
KANSAS CITY	2	2	1	3
LONGBEACH	2	4	4	1
LOS ANGELES	15	20	26	20
LOUISVILLE	1	1	0	2
MEMPHIS	7	2	10	3
MIAMI	3	3	4	4
MINNEAPOLS	2	1	1	0
NASHVILLE	5	4	2	0
NEWARK	99	99	99	99
NEW ORLEAN	4	11	6	3
NEW YORK	40	41	32	32
NORFOLK	0	1	1	2
OAKLAND	4	2	1	1
OKLA. CITY	1	3	4	6
OMAHA	2	1	2	0
PHILADELPH	6	4	8	7
PHOENIX	3	3	1	2
PORTLAND	0	0	1	0
ROCHESTER	2	1	1	1
SACRAMENTO	0	0	0	1
ST. LOUIS	99	99	99	99
ST. PAUL	0	0	0	0
SAN ANTON	3	2	2	3

(CONTINUED)

TABLE E-2

CITIZENS KILLED BY THE POLICE: 1981-1984

<u>CITY</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>
SAN DIEGO	4	4	2	5
SAN FRAN	2	2	1	1
SAN JOSE	1	2	3	2
SEATTLE	2	2	1	3
TAMPA	0	2	2	1
TOLEDO	1	0	0	0
TUCSON	1	0	2	0
TULSA	3	4	1	1
WASHINGTON	8	7	6	1
WICHITA	0	1	1	1
TOTAL	204	196	219	173

TABLE E-3

UNIVARIATE DISTRIBUTION OF THE POLICE HOMICIDE RATE

<u>CITY</u>	<u>Police Homicide Rate</u> <u>(per 100,000 population)</u>
AKRON	.00
ALBUQUERQU	.36
AUSTIN	.60
BALTIMORE	.28
BIRMINGHM	.35
BOSTON	.00
BUFFALO	.14
CHARLOTTE	.54
CHICAGO	.66
CINCINNATI	.13
CLEVELAND	.70
COLUMBUS	.75
DALLAS	.92
DENVER	.72
DETROIT	.68
EL PASO	.05
FT. WORTH	.36
HONOLULU	.03
HOUSTON	.68
INDIANAPOL	.43
JACKSONVLE	1.15
KANSAS CITY	.44
LONG BEACH	.73
LOS ANGELS	.65
LOUISVILLE	.33
MEMPHIS	.84
MIAMI	.93
MINNEAPOLS	.27
NASHVILLE	.59
NEWARK	.00
NEW ORLEAN	1.04
NEW YORK	.51
NORFOLK	.37
OAKLAND	.56
OKLA. CITY	.81
OMAHA	.38
PHILADELPH	.37
PHOENIX	.27
PORTLAND	.07
ROCHESTER	.51
SACRAMENTO	.09
ST. LOUIS	.00
ST. PAUL	.00

(CONTINUED)

TABLE E-3

UNIVARIATE DISTRIBUTION OF THE POLICE HOMICIDE RATE

<u>CITY</u>	<u>Police Homicide Rate 1</u> <u>(per 100,000 population)</u>
SAN ANTON	.29
SAN DIEGO	.40
SAN FRAN	.21
SAN JOSE	.30
SEATTLE	.40
TAMPA	.43
TOLEDO	.07
TUCSON	.21
TULSA	.59
WASHINGTON	.88
WICHITA	.26

TABLE E-4

UNIVARIATE DISTRIBUTION OF POLICE SYSTEM
MANAGEMENT VARIABLES

<u>CITY</u>	<u>Restrictiveness of Review & Investigation Policies (Control)</u>	<u>Firearms Training Standard</u>
AKRON	11.00	1.33
ALBUQUERQU	11.00	.20
AUSTIN	8.00	.29
BALTIMORE	8.00	.15
BIRMINGHM	6.00	.33
BOSTON	9.00	1.80
BUFFALO	8.00	.90
CHARLOTTE	5.00	.00
CHICAGO	6.00	.42
CINCINNATI	7.00	.05
CLEVELAND	3.00	.63
COLUMBUS	10.00	.25
DALLAS	7.00	.83
DENVER	8.00	.47
DETROIT	6.00	.08
EL PASO	2.00	1.00
FT. WORTH	5.00	.13
HONOLULU	11.00	.
HOUSTON	11.00	.
INDIANAPOL	11.00	.75
JACKSONVLE	11.00	.42
KANSAS CITY	11.00	.42
LONG BEACH	6.00	5.00
LOS ANGELS	9.00	.
LOUISVILLE	8.00	.10
MEMPHIS	4.00	.25
MIAMI	11.00	.
MINNEAPOLS	6.00	.00
NASHVILLE	6.00	.30
NEWARK	3.00	.
NEW ORLEAN	8.00	1.00
NEW YORK	3.00	2.00
NORFOLK	8.00	.63
OAKLAND	6.00	.33
OKLA. CTY	9.00	1.00
OMAHA	10.00	.40
PHILADELPH	6.00	.00
PHOENIX	8.00	1.25
PORTLAND	20.00	.43
ROCHESTER	8.00	.30
SACRAMENTO	8.00	.44

(CONTINUED)

TABLE E-4

UNIVARIATE DISTRIBUTION OF POLICE SYSTEM
MANAGEMENT VARIABLES

<u>CITY</u>	<u>Restrictiveness of Review & Investigation Policies (Control)</u>	<u>Firearms Training Standard</u>
ST. LOUIS	7.00	.25
ST. PAUL	3.00	.38
SAN ANTON	7.00	.50
SAN DIEGO	8.00	.75
SAN FRAN	9.00	.25
SAN JOSE	8.00	.50
SEATTLE	6.00	.50
TAMPA	10.00	.67
TOLEDO	9.00	2.00
TUCSON	11.00	.56
TULSA	8.00	.40
WASHINGTON	6.00	.16
WICHITA	12.00	.29

TABLE E-5
UNIVARIATE DISTRIBUTION OF POLICE
SYSTEM RESOURCE VARIABLES

	<u>Expenditure Rate</u> (ER)	<u>Educational Standard</u> (EDST)
CITY		.
AKRON	2.509	48.29
ALBUQUERQU	2.270	112.36
AUSTIN	2.290	66.50
BALTIMORE	2.940	71.70
BIRMINGHM	2.386	.
BOSTON	2.465	.
BUFFALO	2.113	68.86
CHARLOTTE	1.829	.
CHICAGO	.	.
CINCINNATI	2.259	100.94
CLEVELAND	1.994	.
COLUMBUS	2.351	34.34
DALLAS	2.541	.
DENVER	2.579	69.23
DETROIT	2.074	103.10
EL PASO	1.291	105.13
FT. WORTH	2.081	.
HONOLULU	2.298	87.96
HOUSTON	1.807	78.06
INDIANAPOL	2.602	.
JACKSONVLE	3.499	121.67
KANSAS CITY	2.399	110.00
LONG BEACH	5.098	.
LOS ANGELS	.	.
LOUISVILLE	.	.
MEMPHIS	2.709	76.97
MIAMI	3.047	.
MINNEAPOLS	2.744	.
NASHVILLE	2.145	.
NEWARK	1.718	.
NEW ORLEAN	2.417	.
NEW YORK	.	.
NORFOLK	1.816	82.50
OAKLAND	3.180	.
OKLA. CTY	2.266	105.80
OMAHA	2.410	.
PHILADEOPH	2.204	102.60
PHONENIX	2.765	.
PORTLAND	2.948	.
ROCHESTER	3.331	.
SACRAMENTO	3.547	44.20
ST. LOUIS	2.063	.

(CONTINUED)

TABLE E-5

UNIVARIATE DISTRIBUTION OF POLICE
SYSTEM RESOURCE VARIABLES

CITY	Expenditure Rate (ER)	Educational Standard (EDST)
ST. PAUL	2.335	79.20
SAN ANTON	.	.
SAN DIEGO	2.196	112.50
SAN FRAN	4.141	128.00
SAN JOSE	2.390	130.00
SEATTLE	3.230	75.66
TAMPA	2.993	115.20
TOLEDO	2.418	.
TUCSON	2.630	.
TULSA	1.705	.
WASHINGTON	2.341	.
WICHITA	1.957	61.90

TABLE E-6

UNIVARIATE DISTRIBUTION OF SYSTEM ENV. VARIABLES

CITY	RACE	BPE	AGE	FR	COMEDUC	OCR
AKRON	.29	.100	28.40	3.51	15.16	1.04
ALBUQUERQU	.03	.000	28.50	4.94	13.40	2.13
AUSTIN	.16	.125	25.70	4.63	7.03	1.89
BALTIMORE	1.25	.156	28.90	1.85	12.72	.89
BIRMINGHM	1.27	.400	27.80	2.58	8.37	.98
BOSTON	.32	.000	27.50	2.07	5.59	1.38
BUFFALO	.38	.167	28.90	2.27	11.04	.88
CHARLOTTE	.46	.125	28.20	3.78	7.43	1.77
CHICAGO	.80	.208	28.10	2.38	9.36	1.16
CINCINNATI	.52	.083	27.40	2.56	8.37	1.26
CLEVELAND	.82	.371	28.20	2.25	16.98	.61
COLUMBUS	.29	.091	26.10	3.56	8.07	1.50
DALLAS	.48	.182	27.70	3.86	6.50	.16
DENVER	.16	.147	29.30	4.09	7.48	.16
DETROIT	1.83	.455	27.40	1.77	21.30	.97
EL PASO	.05	.000	24.40	4.87	17.45	1.43
FT. WORTH	.33	.100	27.80	4.60	9.93	1.32
HONOLULU	.04	.000	30.80	5.07	9.54	1.28
HOUSTON	.45	.111	27.00	4.37	7.58	2.66
INDIANAPOL	.28	.140	27.80	4.14	10.21	1.71
JACKSONVLE	.35	.081	27.50	3.78	18.38	2.01
KANSAS CTY	.39	.154	28.90	3.74	8.93	1.30
LONG BEACH	.15	.083	29.90	3.91	12.68	1.63
LOS ANGELES	.28	.235	29.30	3.46	9.73	6.88
LOUISVILLE	.40	.188	29.30	2.68	8.74	1.09
MEMPHIS	.92	.125	26.90	2.78	10.73	1.57
MIAMI	.38	.400	35.90	2.89	16.73	.83
MINNEAPOLS	.09	.000	28.70	3.48	7.08	1.45
NASHVILLE	.32	.085	28.30	3.99	8.76	1.67
NEWARK	1.89	.500	25.00	1.33	20.17	.58
NEW ORLEAN	1.30	.029	27.20	2.12	9.11	1.57
NEW YORK	.42	.022	30.90	2.60	7.08	17.63
NORFOLK	.58	.083	23.80	3.02	25.13	1.07
OAKLAND	.12	.100	30.50	1.70	13.02	1.53
OKLA. CITY	.12	.111	28.60	5.03	9.27	1.66
OMAHA	.13	.000	27.90	4.44	8.73	1.41
PHILADELPH	.65	.027	29.40	2.39	8.84	.17
PHEONIX	.06	.143	28.00	5.74	18.28	.16
PORTLAND	.09	.167	30.10	4.32	9.99	.15
ROCHESTER	.37	.273	27.50	2.38	9.20	.11
SACRAMENTO	.20	.111	30.40	3.76	11.13	.16
ST. LOUIS	.85	.207	28.40	2.06	10.65	.08
ST. PAUL	.05	.000	28.10	4.19	8.67	.13
SAN ANTON	.09	.111	25.90	4.21	13.44	.

TABLE E-6

17122 HOMICIDES REPORTED BETWEEN
1961-1964

(CONTINUED)

TABLE E-6

UNIVARIATE DISTRIBUTION OF SYSTEM ENV. VARIABLES

CITY	RACE	BPE	AGE	FR	COMEDUC	OCR
SAN DIEGO	.12	.111	26.70	4.61	13.50	1.75
SAN FRAN	.22	.016	32.90	3.42	5.91	1.78
SAN JOSE	.06	.000	26.90	5.47	12.50	2.00
SEATTLE	.12	.059	31.00	4.43	7.17	1.82
TAMPA	.32	.000	29.90	3.32	18.75	1.14
TOLEDO	.22	.000	27.90	4.04	15.08	1.25
TUCSON	.05	.000	27.40	5.09	10.29	1.41
TULSA	.14	.000	28.60	5.36	8.86	2.06
WASHINGTON	2.61	.701	29.90	1.53	6.32	1.94
WICHITA	.13	.000	27.90	5.78	11.09	1.70

TABLE E-7CIVILIAN HOMICIDES REPORTED BETWEEN
1981-1984

<u>CITY</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>
AKRON	24	15	19	19
ALBUQUERQU	45	26	24	28
AUSTIN	39	57	58	59
BALTIMORE	228	227	201	215
BIRMINGHM	97	91	70	60
BOSTON	100	93	90	22
BUFFALO	999	42	43	35
CHARLOTTE	51	48	44	54
CHICAGO	877	668	729	741
CINCINNATI	43	52	27	36
CLEVELAND	233	175	148	156
COLUMBUS	91	92	74	62
DALLAS	298	306	268	294
DENVER	100	68	78	82
DETROIT	502	513	580	514
EL PASO	35	41	33	24
FT. WORTH	113	103	112	119
HONOLULU	40	25	45	25
HOUSTON	999	678	561	473
INDIANAPOL	65	69	56	49
JACKSONVLE	89	83	82	103
KANSAS CTY	115	93	106	88
LONG BEACH	74	68	60	41
LOS ANGELS	879	849	820	759
LOUISVILLE	55	36	44	39
MEMPHIS	133	122	127	113
MIAMI	210	190	144	170
MINNEAPOLS	38	36	16	27
NASHVILLE	79	67	81	72
NEWARK	161	117	112	87
NEW ORLEAN	217	233	211	214
NEW YORK	1826	1668	1622	1450
NORFOLK	43	36	31	36
OAKLAND	118	94	98	115
OKLA. CTY	65	84	61	65
OMAHA	28	20	27	24
PHILADEOPH	362	332	311	264
PHOENIX	96	95	83	101
PORTLAND	38	36	36	34
ROCHESTER	38	27	30	40
SACRAMENTO	53	43	52	45
ST. LOUIS	265	226	152	128
ST. PAUL	13	9	12	15

(CONTINUED)

TABLE E-7

CIVILIAN HOMICIDES REPORTED BETWEEN
1981-1984

<u>CITY</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>
SAN ANTON	185	190	165	160
SAN DIEGO	94	72	77	103
SAN FRAN	126	111	83	73
SAN JOSE	68	37	48	48
SEATTLE	59	31	61	50
TAMPA	69	59	58	52
TOLEDO	51	24	36	34
TUCSON	28	31	26	25
TULSA	17	31	35	30
WASHINGTON	223	174	193	175
WICHITA	43	31	25	12

TABLE E-8
POLICE HOMICIDE
RATES FOR EACH CITY

CITY	Police Homicide Rate
AKRON	8.17
ALBUQUERQU	8.83
AUSTIN	14.25
BALTIMORE	27.31
BIRMINGHM	27.66
BOSTON	16.11
BUFFALO	11.18
CHARLOTTE	15.24
CHICAGO	25.01
CINCINNATI	10.34
CLEVELAND	31.29
COLUMBUS	14.14
DALLAS	29.94
DENVER	15.78
DETROIT	45.00
EL PASO	7.23
FT. WORTH	27.00
HONOLULU	4.25
HOUSTON	32.83
INDIANAPOL	12.85
JACKSONVLE	15.16
KANSAS CTY	22.27
LONG BEACH	16.10
LOS ANGELS	26.59
LOUISVILLE	14.49
MEMPHIS	18.80
MIAMI	47.67
MINNEAPOLS	7.14
NASHVILLE	16.06
NEWARK	35.91
NEW ORLEAN	37.77
NEW YORK	23.09
NORFOLK	13.42
OAKLAND	29.83
OKLA. CTY	15.99
OMAHA	7.43
PHILADELPH	18.84
PHOENIX	11.29
PORTLAND	9.74
ROCHESTER	13.82
SACRAMENTO	16.58
ST. LOUIS	42.61
ST. PAUL	4.50
SAN ANTON	20.58
SAN DIEGO	9.34
SAN FRAN	13.83
SAN JOSE	7.55
SEATTLE	9.93
TAMPA	20.39
TOLEDO	10.26
TUCSON	7.72
TULSA	9.41
WASHINGTON	30.04
WICHITA	9.76

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