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DEATH ON PATROL:  
KILLINGS OF AMERICAN LAW ENFORCEMENT OFFICERS

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FEB 25 1993

ACQUISITIONS

Paper presented at the American Society of Criminology

New Orleans, LA  
November, 1992

*44th annual meeting, november 4-7, 1992*

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The research presented in this paper was supported by grant number 91-IJ-CX-K025 from the National Institute of Justice, Office of Justice Programs, U.S. Department of Justice. Points of view in this document are those of the authors and do not necessarily represent the official position or policies of the U.S. Department of Justice. We gratefully acknowledge the support and assistance provided by Winifred Reed, our grant monitor at the National Institute of Justice, and Bunny Morris and Loretta Behm at the Uniform Crime Reporting Program of the Federal Bureau of Investigation.

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In the early afternoon of June 14, 1990, a Big Horn County (Montana) deputy sheriff was dispatched to respond to a bank alarm. Upon arrival, the deputy was given a description of the perpetrator's vehicle and gave chase. She was joined in the pursuit by another officer in a backup vehicle. The first officer's vehicle collided with the suspect's vehicle, causing both cars to stop. Gunfire ensued, leaving the female deputy dead from a gunshot wound from a .357 magnum in the abdomen below her body armor. The assailant was killed by the backup officer, the husband of the slain deputy.

According to research conducted by the National Law Enforcement Officers Memorial Fund, more than 12,500 law enforcement officers have been killed on duty in the history of the United States (Clark, 1992). As indicated in reports submitted to the Federal Bureau of Investigation, 2,880 law enforcement officers were killed between 1973 and 1991, including 1,732 who were killed feloniously and 1,148 who were killed accidentally (FBI, 1976-1991). Thus, a police officer is killed about once every three days in this country. In fact, American police officers are significantly more likely to be the victims of criminal homicide than Americans in general (Guralnick, 1963). Peterson and Bailey (1988) found the rate of criminal homicides for full-time sworn law enforcement officers in the U.S. to be twice that for the general population. Lester (1980) found that U.S. officers have a much higher rate of criminal homicide than officers in sixteen selected industrial nations. In this paper we explore what is known about police killings, paying particular attention to the duty-related felonious deaths of law enforcement officers in the United States and its territories. That is, our focus is on those officers who are the victims of criminal homicide while acting in a law enforcement capacity. We shall discuss the rate of

these deaths within the profession; the trends over the last two decades; and the characteristics of the victim officers, the offenders, and the incidents in which the deaths occurred. Toward the end of the paper, we provide information about the accidental deaths of on-duty officers—a subject about which much less is known than felonious killings.

Most of the studies on police killings have relied upon the data compiled by the Uniform Crime Reporting (UCR) Program of the Federal Bureau of Investigation (FBI). The primary source of data concerning duty-related deaths are the supplementary reports from the state and local law enforcement agencies that participate in the UCR program. However, the UCR database is not restricted to felonious deaths of officers within UCR-participating agencies. The UCR collects information concerning all these deaths nationally and within the U.S. territories with the aid of FBI field divisions and the Bureau of Justice Assistance Public Safety Officers Benefits Program. The data on officers killed in the line of duty are reported annually in the UCR Law Enforcement Officers Killed and Assaulted. These data were first collected by the FBI in the early 1960s; general compliance with the voluntary system was achieved in the early 1970s. The amount of and quality of data regarding these incidents have improved progressively since that time<sup>1</sup> and are considered the most reliable of all data collected in the UCR (Vaughn and Kappeler, 1986). Nevertheless, these data are based on police records and therefore represent a law enforcement interpretation of events.

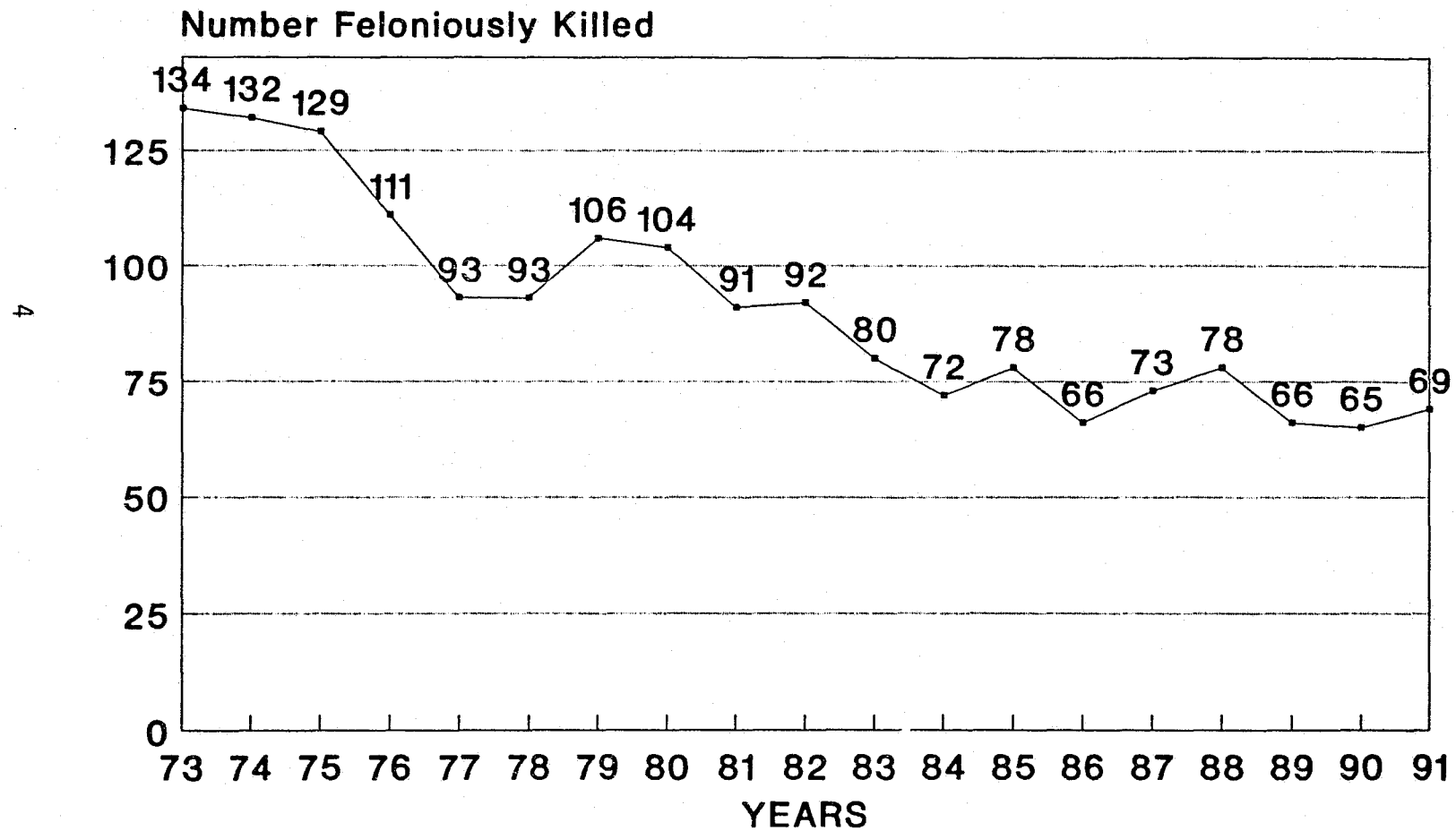
The incidents included in the FBI data involve persons who are sworn law enforcement officers with full arrest powers. The deaths occurred while these law enforcement officers were acting in a duty-related capacity. (This includes officers who were officially "off-duty" when they intervened in an incident in their law enforcement capacity.) The offenders intended to harm the officers and/or resist the officers' interventions.<sup>2</sup>

### Extent of the Problem

According to the data collected by the Uniform Crime Reporting Program, as shown in Figure 1, the number of law enforcement officers who were feloniously killed fell from a high of 134 in 1973 to below 100 per year in the early 1980s, then fell again in the late 1980s. There were 65 officers reported slain in 1990, 69 in 1991. Although precise estimates of the total number of law enforcement officers employed nationally vary, the rate of police killings (per 10,000 officers) fell from approximately 3.8 in 1973 to about 3 in 1980 to approximately 1.7 per 10,000 in 1991.

The reasons for this decline cannot be precisely determined. However, it is clear that the introduction of soft body armor in the 1970s led to a notable decrease in the chances of officers being killed as a result of wounds to the torso (U.S. Congress, Office of Technology Assessment, 1992a). In addition, many police departments have adopted sophisticated training procedures during the last two decades aimed at enhancing police officers' safety (Fyfe, 1987; Alpert and Fridell, 1992). Further, many agencies have revised their policies and procedures to ensure

Figure 1  
**LAW ENFORCEMENT OFFICERS FELONIOUSLY  
KILLED, 1973-1991**



Source: FBI, Law Enforcement Officers  
Killed and Assaulted, 1973-1991

that officers are less likely to put themselves in dangerous circumstances (see e.g., Alpert and Fridell, 1992). Below, we describe the geographic and demographic context of police shootings, the weapons used to kill officers, the circumstances of the events, the characteristics of officers who have been killed and their assailants, and the consequences for the assailants.

### Geographic and Demographic Context

A number of researchers have looked at the relationship between police killings/assaults and crime rates, poverty, income inequality, population ethnicity, and other social/cultural features of cities or states. One of the earliest studies was conducted by Cardarelli (1968) who found that rates of police killings were positively correlated with city size and highest in the South. Lester (1978a) used state level data (for the period 1970 through 1975) and found significant relationships between rates of police killings and the "political climate" and violent crime rates. Like Cardarelli (1968), Lester reported higher rates of police homicides in the South.

Lester (1982) used city-level data for 57 cities with populations over 250,000 (in 1975) and a sub-sample of the 21 largest U.S. cities, to determine what city-level characteristics were associated with rates of police murders. The strongest relationships were found in the subsample of 21 cities. Lester found that high rates of police murders were associated with high gun ownership, southern locations, and high murder and manslaughter rates in the general population. Other studies by Lester using city-level data indicated that rates of police killings were associated with percent black population, percent of the population below the poverty level, gun ownership

per capita, the index crime rate, and the murder rate (Lester, 1978b and 1982). Peterson and Bailey (1988) used state-level data for the years 1977 through 1984 and multivariate statistical techniques, and found significant associations between police killings and poverty and a measure of social disorganization. No relationship was indicated between police killings and income inequality, percent black population, or urbanization. Interestingly, they reported no relationship between the rate of police killings and serious crime rate (violent crime, property crime, total index crime). Peterson and Bailey only found a regional relationship for four of the eight years studied (1977-1984). Specifically, for 1977, 1980, 1981, and 1984 there were greater rates (per 1,000 full-time equivalent sworn police officers) of police killings in the South compared to the rest of the U.S.

Starting in 1987, the FBI included in its annual reports a regional comparison of police killings. For each of the years 1987 through 1990, the percentages of the officers killed in the West, Midwest, South and Northeast were compared to the percentages of all law enforcement officers nationwide employed within each region, as well as the percentage of the national population residing in each region. As indicated in Table 1, for all four years, the southern officers comprised a disproportionate percentage of all police killings relevant to the proportion of officers employed as well as to the total population within the region. For instance, whereas in 1988 officers in the South comprised only 34% of the total number of law enforcement officers nationwide, policing only 35 percent of the total U.S. population, they accounted for fully 50 percent of all of the police officers feloniously killed.

These data on police killings correspond with the criminological literature indicating a disproportionately high rate of homicide in the southern states (Porterfield, 1949; Kowalski, Dittmann, and Bung, 1980). A supposed "predisposition to lethal violence" (Gastil, 1971:412) in the South has been linked by some criminologists to a "subculture of violence" (Gastil, 1971; Hackney, 1969; Messner, 1983), as well as to the greater absolute poverty, and/or to the economic inequality in the southern states (see e.g., Loftin and Hill, 1974; Blau and Blau, 1982).

#### Precipitating Circumstances

Table 2 provides information regarding the circumstances of the incidents that led to police killings in the categories provided by the FBI for the period 1980 through 1991 (FBI, 1980-1991). Just under 40 percent (39.4%) of the officers feloniously killed in the line of duty were in the process of arresting suspects or had just completed arrests when the attacks occurred. Robbery-related arrests (13.9%) and making arrest for "other crimes" (13.8%) are the two largest subcategories. Disturbance calls (including family quarrels, bar fights, "man with a gun," etc.) accounted for 17.2 percent of the total. Investigating suspicious persons and/or circumstances and traffic pursuits and stops accounted for 14.6 percent and 13.5 percent of the situations, respectively.

The authors of this paper are currently conducting a study, involving the review of the FBI narrative summaries of all police killings since 1972, that is revealing that a large number of the incidents classified as "robbery arrests" are situations in which

TABLE 1

**LAW ENFORCEMENT OFFICERS KILLED  
BY REGION  
1987-1990**

<b>1987</b>	<b>South</b>	<b>Northeast</b>	<b>Midwest</b>	<b>West</b>
% Law Enforcement Officers Killed	39	17	24	21
% Law Enforcement Officers Employed	34	25	22	19
% Total U.S. Population	34	21	24	20
<b>1988</b>				
% Law Enforcement Officers Killed	50	9	16	25
% Law Enforcement Officers Employed	34	24	23	19
% Total U.S. Population	35	21	24	21
<b>1989</b>				
% Law Enforcement Officers Killed	49	14	12	14
% Law Enforcement Officers Employed	28	22	24	22
% Total U.S. Population	34	20	24	21
<b>1990</b>				
% Law Enforcement Officers Killed	46	11	22	14
% Law Enforcement Officers Employed	30	22	23	22
% Total U.S. Population	32	19	24	23

Source: FBI, Law Enforcement Officers Killed and Assaulted, 1987-1991

TABLE 2

LAW ENFORCEMENT OFFICERS KILLED  
TYPE OF ACTIVITY WHEN KILLED  
1980-1991

TYPE OF ACTIVITY	NUMBER	PERCENT
<b><i>DISTURBANCE CALLS</i></b>	<b><i>161</i></b>	<b><i>17.2</i></b>
Bar fights, man with gun, etc.	90	9.6
Family quarrels	71	7.6
<b><i>ARREST SITUATIONS</i></b>	<b><i>369</i></b>	<b><i>39.4</i></b>
Burglaries	41	4.4
Robberies	130	13.9
Drug-related	69	7.4
Other Crimes	129	13.8
<b><i>CIVIL DISORDERS</i></b>	<b><i>1</i></b>	<b><i>0.1</i></b>
<b><i>HANDLING TRANSPORTING, CUSTODY OF PRISONERS</i></b>	<b><i>42</i></b>	<b><i>4.5</i></b>
<b><i>INVESTIGATING SUSPICIOUS PERSON OR CIRCUMSTANCES</i></b>	<b><i>137</i></b>	<b><i>14.6</i></b>
<b><i>AMBUSH SITUATIONS</i></b>	<b><i>85</i></b>	<b><i>9.1</i></b>
Entrapment And Premeditation	44	4.7
Unprovoked Attack	41	4.4
<b><i>MENTALLY DERANGED</i></b>	<b><i>15</i></b>	<b><i>1.6</i></b>
<b><i>TRAFFIC PURSUITS AND STOPS</i></b>	<b><i>126</i></b>	<b><i>13.5</i></b>
TOTAL	936	100.0

Source: FBI, Law Enforcement Officers Killed and Assaulted, 1980-1991

the officer was "intervening officially" in his/her own robbery victimization while off-duty. This finding is consistent with that of Geller and Karaies (1981), who compared precipitating circumstances across shootings of on-duty and of off-duty officers. They reported that armed robberies constituted one-third of the shootings of off-duty officers but only 7 percent of the shootings of on-duty officers.

The degree of danger associated with disturbance calls has been a subject of debate in the police killings/assaults literature. Garner and Clemmer (1986) recently reviewed the history of this debate. They noted that there have been misconceptions regarding the types of incidents included under the heading of "disturbance" in the FBI reports. Until the FBI split the "disturbance" category into two subgroups (i.e., "family quarrels" and "bar fights, man with gun, etc."), many criminal justice practitioners and researchers believed that the category was mainly comprised of domestic disturbances.

Further compounding the problem was the presentation of raw numbers and percentages instead of (the elusive) rates. As Garner and Clemmer (1986) point out, to assess the relative danger of types of calls requires base rate information on the frequency of all types of calls. This confusion has its corollary in the police use of deadly force literature. Scharf and Binder's comments are constructive (1983:66-67):

Simply knowing the relative proportion of incidents that result in a fatality or a wounding by a police officer will not be very helpful. Knowing the proportion of hits or fatalities associated with a particular incident tells us little about the relative hazard of such incidents. For example, knowing that 25 percent of all New York City shots fired evolved from "disturbance" calls...does not yield any useful information about the relative danger of such calls. Such

information is similar in kind to knowing that in a certain city, 25 percent of all deaths were related to influenza, whereas only 1 percent were related to the always fatal myasthenia gravis (or Lou Gehrig's disease). From such information one might, wrongly, conclude that influenza was more hazardous than is myasthenia gravis. In reality, myasthenia gravis is infinitely more hazardous; however, it is also far rarer. The lower proportion of deaths from myasthenia gravis is attributable to its rareness, not its benignity; similarly, influenza causes many deaths because it is an extremely common, if only occasionally fatal, disease.

Garner and Clemmer (1986) relied on two earlier studies which measured police activity to estimate the relative risks (in terms of deaths and assaults) of types of police activity. Consistently, robbery calls ranked as the most dangerous in terms of risk per incident.

Other researchers have also found that robbery-related calls, instead of domestic disturbance calls, are the most dangerous (e.g., Margarita, 1980; Konstantin, 1984; and Little, 1984). Other studies have found that the situations accounting for the largest percentages of police deaths are "attempting arrest for matters other than burglary or robbery" (Chapman, 1976), "person with gun/shots fired" calls (Geller and Karales, 1981), or "making arrests or transporting prisoners" (Cardarelli, 1968).

The results of a study conducted by Uchida, Brooks, and Kopers (1987) are different from those described above concerning the danger of domestic violence incidents. These researchers analyzed non-fatal assaults against officers in the Baltimore County Police Department and calculated "danger rates" for various types of calls (e.g., domestic violence, robbery, etc.) using dispatch information to

determine the frequency of each type of call. They found a higher "danger rate" (relative probability of assault) for police responding to domestic violence calls than for any other category of activity. One reason why the dispatched domestic violence calls were found to have a higher "danger rate" than other calls, such as robbery, may be because an officer upon arrival is more likely to find a perpetrator at the scene of the former than the latter. Since the presence of a perpetrator is likely to increase the probability of assault against an officer, the chances of injury would be expected to be higher in domestic violence calls for that reason.

#### Time and Distance

Other factors related to police killing incidents examined by various researchers have included month, day, and time of the incident (e.g., Moorman and Wemmer, 1983; Chapman, 1986; and Boylen and Little, 1990), and the distance between victims and perpetrators (e.g., Chapman, 1986 and Margarita, 1980).

According to the analyses conducted by the authors of this paper of the data supplied to the FBI, during the period between 1980 through 1991, the month during which the most officers were feloniously killed was January (11.9 percent); followed by June (9.5 percent); and the months of February, March, and September, each of which accounted for 8.8 percent of the police officers killed (FBI, 1991). The fewest killings occurred in the months of May and August, which each had 6.4 percent of the killings.

Police officers were most often killed on Tuesdays and Thursdays; each accounted for almost 17 percent of the feloniously killings between 1980 and 1990.

Killings were least likely to occur on Sundays, which accounted for approximately 11 percent of the total (FBI, 1980-1990).

Felonious killings of police were most likely to occur between 4 p.m. and 4 a.m., during which 69.8 percent of deaths occurred between 1980 and 1990. The period between 8 p.m. and midnight accounted itself for almost 28 percent of the killings. The fewest killings occurred between 4 a.m. and 6 a.m. (FBI, 1980-1990).

Analysis by the current authors of the data provided to the FBI indicates that, of the officers killed during the period of 1980 through 1991 for which information was available, 56.8 percent were within five feet of their assailants; another 18.4 percent were between six and ten feet from their assailants. Slightly more than thirteen percent of the officers were between 11 to 20 feet of their opponents; seven percent were from 21 to 50 feet away; and 4.7 percent of the officers were over 50 feet from their opponents (FBI, 1991). Chapman (1986) also found that approximately half of the 54 law enforcement officers in Oklahoma who were slain between 1950 and 1984 were within five feet of their opponents.

#### Weapons Used

According to the information reported to the FBI concerning officers killed during the period from 1980 through 1991, 92 percent of the police killings were committed with firearms, including 70 percent with handguns, 14 percent with rifles, and 8 percent with shotguns. Among the rest, two percent of the killings were with knives. The remaining six percent of killings involved officers being struck by cars,

beaten to death, pushed to their deaths, killed by explosives, and the use of "personal weapons," such as hands and feet (FBI, 1991).

During the period 1980 through 1990, 118 officers were feloniously killed with their own firearms (FBI, 1980-1990). This accounts for 13.6 percent of all officers feloniously killed during that period, and 14.9 percent of those killed with firearms. The proportion of officers feloniously slain with their own firearms has not declined since the early 1970s despite increased emphasis in training on weapon-retention techniques and the widespread adoption of holsters designed to prevent offenders from disarming the officers.

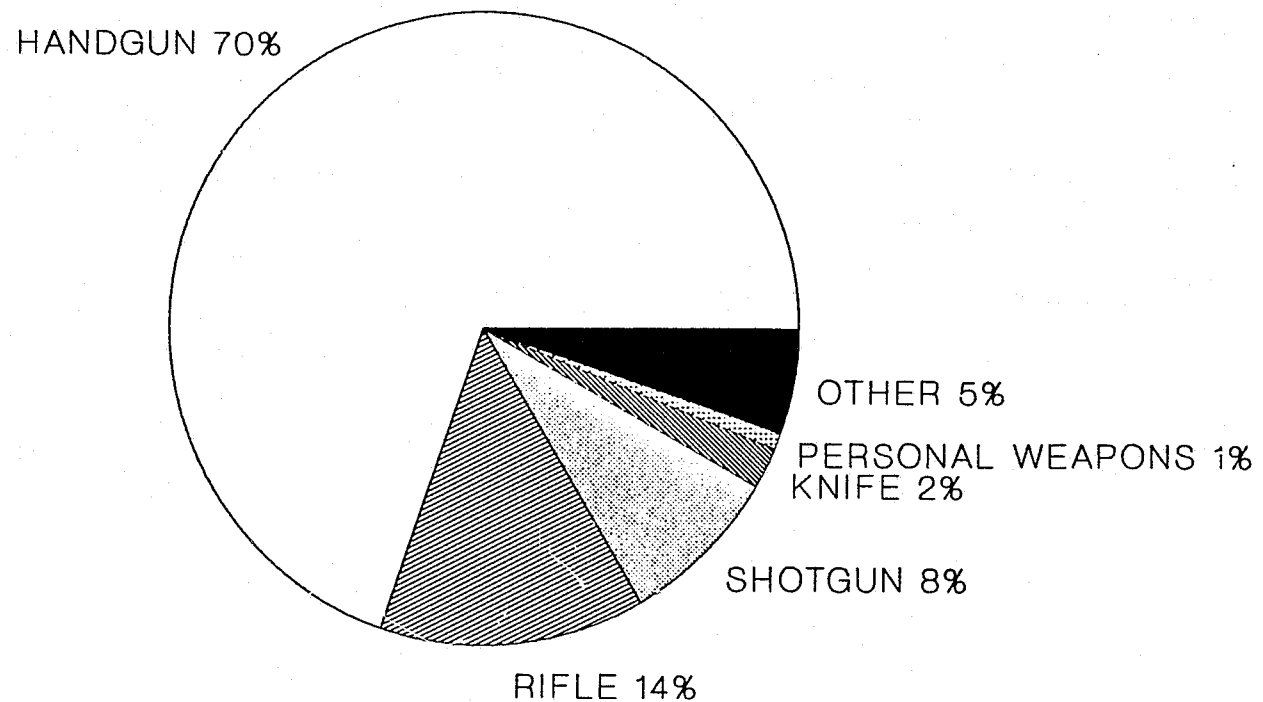
#### Officer Characteristics

As indicated in Table 3, most of the officers killed between the years of 1980 and 1991 were male (97.6%) and white (87.2%). One-third (32.1%) of the officers were 30 years of age or younger and the average number of years of service was 8.8. Seventy percent were in an official police uniform at the time of the killing. Although not indicated on the table, thirteen percent of the slain officers were off-duty at the time of the incident (FBI, 1991).

The disproportionate representation of young, less experienced officers in the group of officers feloniously killed is addressed by Cardarelli (1968:449):

These findings are probably a function of two major factors: first, there may be a greater proportion of police throughout the country who not only have less than five years of service, but in addition probably constitute a greater proportion of the police on patrol. As the officer's years on the force increase, he may be promoted and assigned to desk work or other duties where the risk of being killed decreases. However, even if the policeman

Figure 2  
**LAW ENFORCEMENT OFFICERS FELONIOUSLY  
KILLED BY TYPE OF WEAPON, 1980-1991**



Source: FBI, Law Enforcement Officers  
Killed and Assaulted, 1980-1991

TABLE 3

**LAW ENFORCEMENT OFFICERS KILLED  
PROFILE OF VICTIM OFFICERS  
1980-1991**

VICTIM OFFICERS	NUMBER	PERCENT
<b>AGE</b>		
Under 25 years of age	72	7.7
25 through 30 years of age	228	24.4
31 through 40 years of age	363	38.8
Over 40 years of age	273	29.2
<b>SEX</b>		
Male	914	97.6
Female	22	2.4
<b>RACE</b>		
White	816	87.2
Black	117	12.5
Other races	3	0.3
<b>YEARS OF SERVICE</b>		
Average years of service	8.8	--
Less than 1 year of service	45	4.8
From 1 through 4 years of service	275	29.4
From 5 through 10 years of service	293	31.3
Over 10 years of service	322	34.4
Years of service not reported	1	0.1
<b>UNIFORM</b>		
In uniform	655	70.0
Out of uniform	311	30.0
<b>BODY ARMOR</b>		
Wearing protective body armor	209	22.3
Not wearing protective body armor/unknown	727	77.7

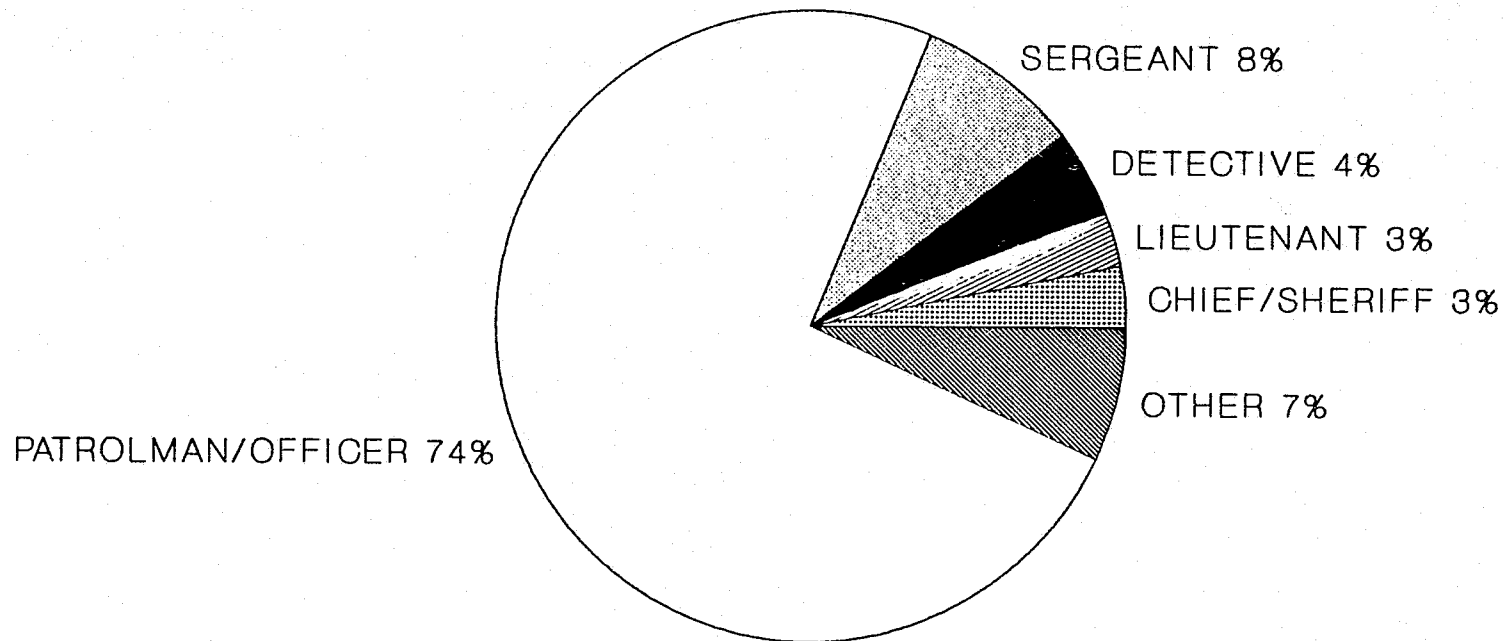
continues on patrol throughout his career, his experience in dealing with criminals would increase, possibly leading him to be more cautious in potentially dangerous situations and thereby reducing the probability of his being killed.

Chapman (1986) reports results similar to the national FBI data regarding the race, gender, and years of service of 54 slain officers in Oklahoma.

The data supplied to the FBI indicate that the vast majority of the law enforcement officers killed between 1980 and 1991 were at the lower ranks of their agencies. Figure 3 indicates that 74 percent of those officers killed were at the lowest ranks, including those of "patrolman," "police officer," "deputy sheriff," "trooper," and "constable." Among the rest, 8 percent held the rank of "sergeant," 4.5 percent were "detectives," and three percent were "lieutenants." Strikingly, 29 (approximately three percent) of the officers killed held the rank of "chief" or "sheriff." Chapman reported a similar tendency for the officers killed to be of lower ranks, although "persons in higher ranks were by no means safe" (1986:27-28).

Konstantin (1984), using the FBI data and data on law enforcement personnel, found that black officers were disproportionately the victims of police killings relative to their representation nationally as law enforcement officers. Specifically, Konstantin found that, whereas approximately 6 percent of the law enforcement officers in the U.S. in 1978 through 1980 were black, they comprised 10.7 percent of the law enforcement officers feloniously killed in the line of duty. Fully one-third of the black officers killed were off-duty at the time of the incident, compared to only 10.4 percent of the white officers. Geller and Karales (1981), who studied incidents in which shots

Figure 3  
**LAW ENFORCEMENT OFFICERS FELONIOUSLY  
KILLED BY RANK OF OFFICER, 1980-1991**



Source: FBI, Law Enforcement Officers  
Killed and Assaulted, 1980-1991

hit Chicago officers between 1974 and 1978, also found that black officers were disproportionately represented among those who were shot both on-duty and off-duty.

These findings are consistent with research on police use of deadly force that indicates that black officers are disproportionately more likely to use deadly force (Fyfe, 1978, 1981; Geller and Karales, 1981). In both areas—killings of police officers and killings by police officers—authors have suggested that these findings might be due to the nature of the assignments of the on-duty black officers and the location of the residences of the black officers. Assignments and residences of black officers, compared to those of white officers, are more frequently in high crime areas (see e.g., Fyfe, 1978; Geller and Karales, 1981).

#### Alone or Assisted

Some researchers have attempted to determine the relative safety for patrol officers of two-person versus one-person cars (e.g., Cardarelli, 1968; Chapman, 1976; Little, 1984). For instance, Cardarelli (1968) found that 51 percent of the slain officers he studied were alone on patrol; the other 49 percent were on two-person patrol. Cardarelli recognizes that the figures do not provide information regarding the relative danger of the two types of patrol, absent information about the extent to which officers are on one- or two-person patrol.

Little (1984) takes into account the fact that officers in one-person cars may not be alone at the scenes, since some of the slain officers who were in one-officer vehicles might have received assistance from fellow officers who responded to the scenes prior to the attack on the officer. His results indicate that of the 728 officers

on vehicle patrol in his sample of slain officers, 32 percent were assigned to a two-officer vehicle, 48 percent were assigned to a one-officer vehicle and alone at the time of the killing, and 20 percent were assigned to one-officer vehicles but were "assisted" at the scene by another officer at the time of death. Again, however, these figures have limited utility for determining the relative safety of one-person and two-person cars without baseline information indicating the proportion of all officers within the jurisdiction who are assigned to one- or two-person vehicles.

According to the FBI data (FBI, 1980-1990), over 60 percent (62.9%) of the officers slain between 1980 and 1990 were on vehicle patrol. Just over half of these officers (52.0%) were alone and unassisted at the time of their deaths. The FBI data indicate that 21.7 percent of the slain vehicle patrol officers were assigned to two-person vehicles; another 26.4 percent of the patrol officers were in one-person vehicles, but had assistance on the calls. Though the slain officers in the latter two groups had other officers on the scene, these data do not provide information concerning whether another officer was in the immediate vicinity of the slain officer at the time of his or her death.

### Soft Body Armor

Soft body armor designed to protect the torso from shotguns and small-caliber handguns while being comfortable enough for routine wear under a uniform, was first patented in 1972 (U.S. Congress, 1992a:2). Since that time, the wearing of such armor has become widespread, even mandated in some agencies. A recent survey, conducted by the John Jay College of Criminal Justice for the Allied Signal

Corporation, a body armor manufacturer, explored the issue of body armor use. That survey, using a sample of approximately 1700 officers in cities with populations of 25,000 or more, indicated that over two-thirds of the police departments represented directly supply officers with soft body armor, slightly higher than indicated by a 1987 survey conducted by the Bureau of Justice Statistics (U.S. Department of Justice, 1989). In that survey, over 72 percent of "front-line" officers indicated that they wore body armor "all of the time" (John Jay College, 1991). An additional 19 percent of these officers said that they wore a protective vest "some of the time." Five percent said they never wear such armor. Since the data were collected by means of self-administered questionnaires, the wear rate reported in the survey may be higher than it actually is.

The need for soft body armor is indicated by the fact that 425 (54%) of the 791 officers who were killed with firearms between 1980 and 1990 were killed as a result of wounds in the torso area (FBI, 1989, 1990). Since only 55 of these officers were wearing soft body armor when they were killed, it seems reasonable to expect that a significant number of those officers' lives might have been saved had they been wearing body armor.

Estimating the actual number of officers whose lives have been saved because they were wearing soft body armor is extremely difficult. The primary source of data, that provided to the UCR, has particular limitations. According to the Office of Technology Assessment of the U.S. Congress (n.d.:8):

The Justice Department's Uniform Crime Reports do not record precise locations of fatal wounds, which would be

needed to estimate accurately the number of officers that would have been saved had they worn armor. Nor do they record precise locations of non-fatal wounds, which would be needed to estimate the number of assaulted officers that would survive if they do not wear body armor. Thus estimates and forecasts of "saves," as well as estimates of the number of officers that "would have been saved" had they worn armor, are of doubtful accuracy and may be inflated.

Another difficulty in estimating the number of deaths prevented by wearing body armor is the fact that an unknown number of officers hit in the torso without wearing such armor can be expected to live. Despite all these limitations, the Office of Technology Assessment, using evidence from the military indicating that approximately 43 percent of shots to the torso are fatal, estimates that about 10 officers per year are saved from death by gunfire because they were wearing vests (U.S. Congress, 1992b:29).

It is worth noting that body armor is divided into two general categories, that suitable for routine full-time wear and that suitable for terrorist threat and tactical use when weight and bulk are less of a factor. The former type can be made concealable and is designed for protection from handgun bullets but not from rifle bullets or edged or pointed weapons such as knives or ice picks. The latter type is not concealable and is designed for protection from rifle bullets as well as those fired from pistols. Although both types are commonly called "bulletproof vests," there is no guarantee that even a bullet of a type a garment is designed to stop will not kill the wearer since much of the body is not covered by the protective panels of a particular type of armor.

Thus, although no police officer has been documented to have been killed by a bullet that pierced armor designed to stop it, the data collected by the FBI indicate that, as shown in Table 3, for the period between 1986 through 1991, 22.3 percent of the officers feloniously killed were wearing protective body armor at the time of the attack (FBI, 1980-1991). A more intensive study of the 348 officers feloniously killed between 1986 and 1990, indicates that 91 (26.1 percent) were killed while wearing soft body armor. Of those killed while wearing armor, 54 (59.3%) suffered gunshot wounds to the head, 9 (9.9%) received gunshot wounds below the waist, and 20 (22.0%) suffered gunshot wounds to the upper torso. Of the 20 who received wounds to the upper torso, in 19 instances the bullets entered areas outside the coverage of the vest (e.g., at the side panels, armholes, or neck area). One officer was slain when the bullet penetrated his armor. Of the remaining eight officers (8.8%), one was stabbed, one was beaten, one was pushed to his death, and four were struck intentionally by vehicles (FBI, 1990).

#### Characteristics of the Offender

As indicated in Table 4, the FBI data indicate that most of the persons identified as the perpetrator of a police killing during the years 1980 through 1990 were between 18 and 29 years of age (53.8%), male (96.1%), white (54.9%), and had at least one prior criminal arrest (74.2%). Likewise, Chapman (1986) reports that 66 of 69 (95.6%) suspects were male in the 52 incidents (between 1950 and 1984) in which Oklahoma officers were killed. Forty-six (66.7%) were white, 18 (26.1%)

TABLE 4

**LAW ENFORCEMENT OFFICERS KILLED  
PROFILE OF PERSONS IDENTIFIED IN THE FELONIOUS KILLING  
OF LAW ENFORCEMENT OFFICERS, 1980-1991**

PERSONS IDENTIFIED	NUMBER	PERCENT
<b>AGE</b>		
Under 18 years of age	97	7.5
From 18 through 29	692	53.8
Average age	28	--
<b>SEX</b>		
Male	1236	96.1
Female	50	3.9
<b>RACE</b>		
White	706	54.9
Black	548	42.6
Other Race	32	2.5
<b>PRIOR CRIMINAL RECORD</b>		
Prior Criminal Arrest	954	74.2
Convicted on Prior Criminal Charge	723	56.2
Prior Arrest for Crime of Violence	496	38.6
On Parole or Probation at Time of Killing	327	25.4
Prior Arrest for Murder	68	5.3
Prior Arrest for Drug Law Violation	312	24.3
Prior Arrest for Assaulting an Officer or Resisting Arrest	145	11.3
Prior Arrest for Weapons Violation	491	38.2
<b>TOTAL</b>	<b>1,286</b>	<b>100.0</b>

Source: FBI, Law Enforcement Officers Killed and Assaulted, 1980-1991

were black, and 5 (7.2%) were native Americans. The average age of the suspects was 31.1 years with a range in age from 16 to 74. The educational attainment of the 39 suspects for which information was available ranged from no formal schooling to 1.5 years of college with an average of 9.5 years of school. Less than half (42.0%) of the suspects were employed at the time of the crime.

The FBI data indicate that the persons who killed officers between 1974 (the earliest date for which comprehensive information is available) and 1979 were less likely to have prior criminal records than more recent perpetrators. In particular, offenders who perpetrated their killings during 1980 through 1990, compared to offenders who perpetrated their killings during 1974 through 1979, were more likely to have a prior criminal arrest (74.2% compared to 65.8%), a prior criminal conviction (56.2% compared to 49.7%), a prior arrest for a crime of violence (38.6% compared to 32.1%), a prior arrest for a drug law violation (24.3% compared to 15.4%), a prior arrest for assaulting an officer or resisting arrest (11.3% compared to 5.0%), and a prior arrest for a weapons violation (38.2% compared to 21.7%). Recent perpetrators are also more likely than earlier ones to have been on parole or probation at the time of the killing (25.4% compared 17.2%). Chapman (1986) found that approximately 75 percent of the offenders he studied had prior criminal arrests.

#### Disposition of Assailant

In the 1990 report, the FBI reviewed the dispositions of 1,179 persons who were "identified in connection with officers' murders" for the decade, 1979-1988. (Using this time period, versus a more recent one, reduced the number of pending

cases to only nine.) Over eighty percent (976, or 82.8%) of these persons were arrested and charged with murder, another 12.9 percent were justifiably killed. Forty-five persons (3.8%) committed suicide and six of these persons (0.5%) remain fugitives. Of the 976 persons who were arrested and charged, 72.4 percent (707) were found guilty of murder and another 13.1 percent were found guilty of a lesser offense. Ten percent (10.1%) were acquitted or otherwise had their cases dismissed. Nineteen persons (2.0%) were committed to mental institutions and 14 (1.4%) died in custody. For nine cases (0.9%) the disposition is either pending or unknown.

The FBI reports that of the 707 persons found guilty of murder for their police homicides during this time period, 20.5 percent were sentenced to death, 49.1 percent received sentences of life imprisonment, and 30.1 percent were sentenced to prison terms ranging from two months to 450 years (FBI, 1990). One received a sentence to community control and one was given an indeterminate sentence.

Chapman (1986) reported on the resolution of cases involving the 69 persons identified in connection with the slayings of 54 Oklahoma law enforcement officers between 1950 and 1984. Twelve were either killed by police or committed suicide. The remaining 57 were arrested and charged with either murder (94.7%) or manslaughter (5.3%). Two-thirds (66.7%) were ultimately convicted of first degree murder and another 15.8% were convicted of second-degree murder or manslaughter. The remaining 10 persons either were acquitted (3.5%), had their charges dismissed (10.5%), or died or were killed prior to trial (3.5%). Of the 47 who were convicted,

two-thirds (66.0%) were sentenced to life imprisonment. Seven (14.9%) were sentenced to death.

### Policy Recommendations

Policy recommendations or implied policy implications emanating from research on police killings have ranged from reducing poverty and oppression (see e.g., Boylen and Little, 1990) to increasing the distances officers stand from suspects (Margarita, 1980). Many of the suggestions have been implemented to some extent within police departments over the years. Bristow (1963), for example, suggested implementing special procedures and training as they relate to traffic stops, effective use of "cover," dealing with hostages, searching suspects after arrest, and so forth. Many of the more recent suggestions also advocate enhancing training to promote officer safety. Konstantin (1984), for instance, suggests improved training of police with regard to officer-initiated encounters. He claims (p. 42), "officers caught in such situations are inadequately prepared to plan their approaches to the scene, and are instead plunged into the middle of ongoing and very dangerous events." Sherman et al. (1989) suggest that rehearsing each drug raid could reduce the danger to police in drug-related circumstances.

Chapman (1976, 1986) provides a comprehensive assessment of measures to reduce danger to officers. He addresses prevention methods related to department training and policy, the use of special equipment (from radios to protective body armor), and the role of the legislature in enacting laws to protect the police. At an

even higher level of analysis, he discusses the reduction in the use of alcohol and other drugs in society and the reduction of anti-police violence on television.

Finally, many of the policy implications of the research conducted in the area of police use of deadly force have ramifications for the reduction of violence against police, as well (see e.g., Blumberg, 1989; Brown, 1984; Fridell and Binder, 1992; Fyfe, 1978, 1979, 1980; Geller and Karales, 1981). For instance, Fyfe (1978) found that when the New York City Police Department reduced their "buy and bust" narcotics enforcement tactics in favor of the pursuit of higher-ranking dealers, both shootings by and of police were reduced. Sherman (1980:1) points out that the areas of police killings and police use of deadly force "are to some degree artificially distinguished, since most of what they encompass are police encounters with citizens from which violence emerges." Consistent with this conceptualization, Toch (1980) maintains that violence is clearly transactional, and thus, the program he implemented within the Oakland Police Department, although focused on officers prone to use violence, was intended to reduce simultaneously the violence both by and against police. In the same vein, the Metro-Dade Violence Reduction Program sought to improve training of officers to defuse potentially violent situations--those with the potential for violence against the citizen or the officer (Fyfe, 1987).

#### Accidental Killings

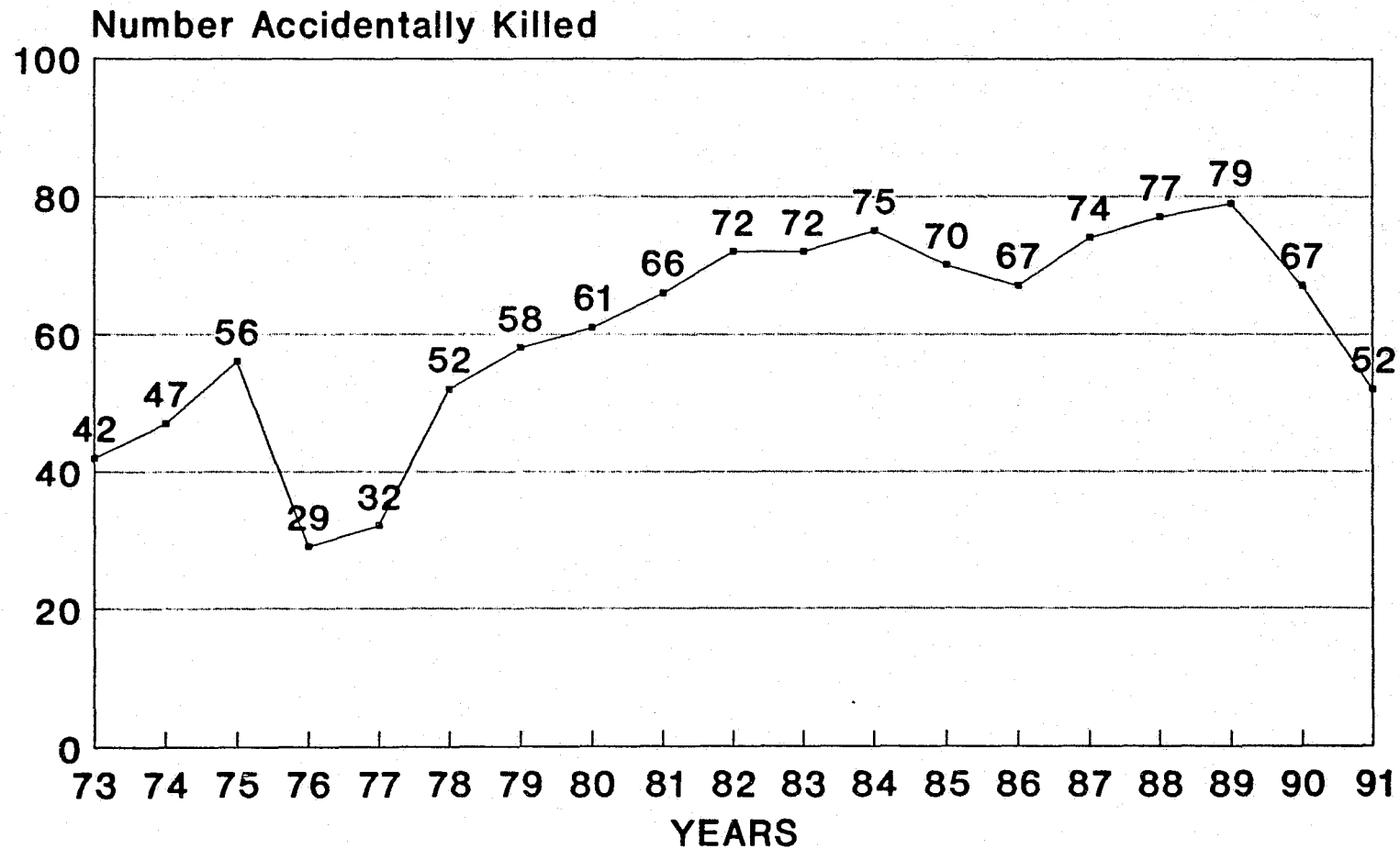
As mentioned earlier, during the period 1980 through 1991, 1,148 law enforcement officers were killed accidentally while acting in the line of duty. The largest percentage (43.2%) of accidental deaths during this 12-year period were due

to automobile accidents. Other circumstances included being struck by vehicles (23.1%), aircraft accidents (12.6%), accidental shootings (8.1%), motorcycle accidents (7.6%), and "other" (5.4%).

Geller and Karales (1981) found that 21.4 percent of all of the police shootings (on- and off-duty) in Chicago during the five-year period they studied, were accidentally self-inflicted. These incidents involved accidental discharges during "non-combat" handling of weapons and accidental firings during the course of arrest attempts. Eleven percent of all the officers shot in Chicago between 1974 and 1978 were accidental shot by other officers. Specifically, of these 20 shootings, 16 were accidental gun discharges, two were stray bullets, and two involved mistaking officers for suspects. Fyfe (1978) found a similar situation in New York City during 1971 through 1975. He states that police in New York "are at least as likely to be killed by themselves, their acquaintances or their colleagues as by their professional clientele" (1978:476).

Figure 4 provides information about the number of officers who were killed accidentally between 1973 and 1991. That figure indicates that the number of accidental killings reported to the FBI rose between 1973 and 1975, dropped in 1976, rose consistently and dramatically between 1976 and 1989, and fell back to the level of the late 1970s in 1990 and 1991. As indicated earlier, the phenomenon of accidental killings of police officers has received much less attention than has that of felonious killings. As a result, it is even more difficult to hypothesize possible

Figure 4  
**LAW ENFORCEMENT OFFICERS  
ACCIDENTALLY KILLED, 1973-1991**



Source: FBI, Law Enforcement Officers  
Killed and Assaulted, 1973-1991

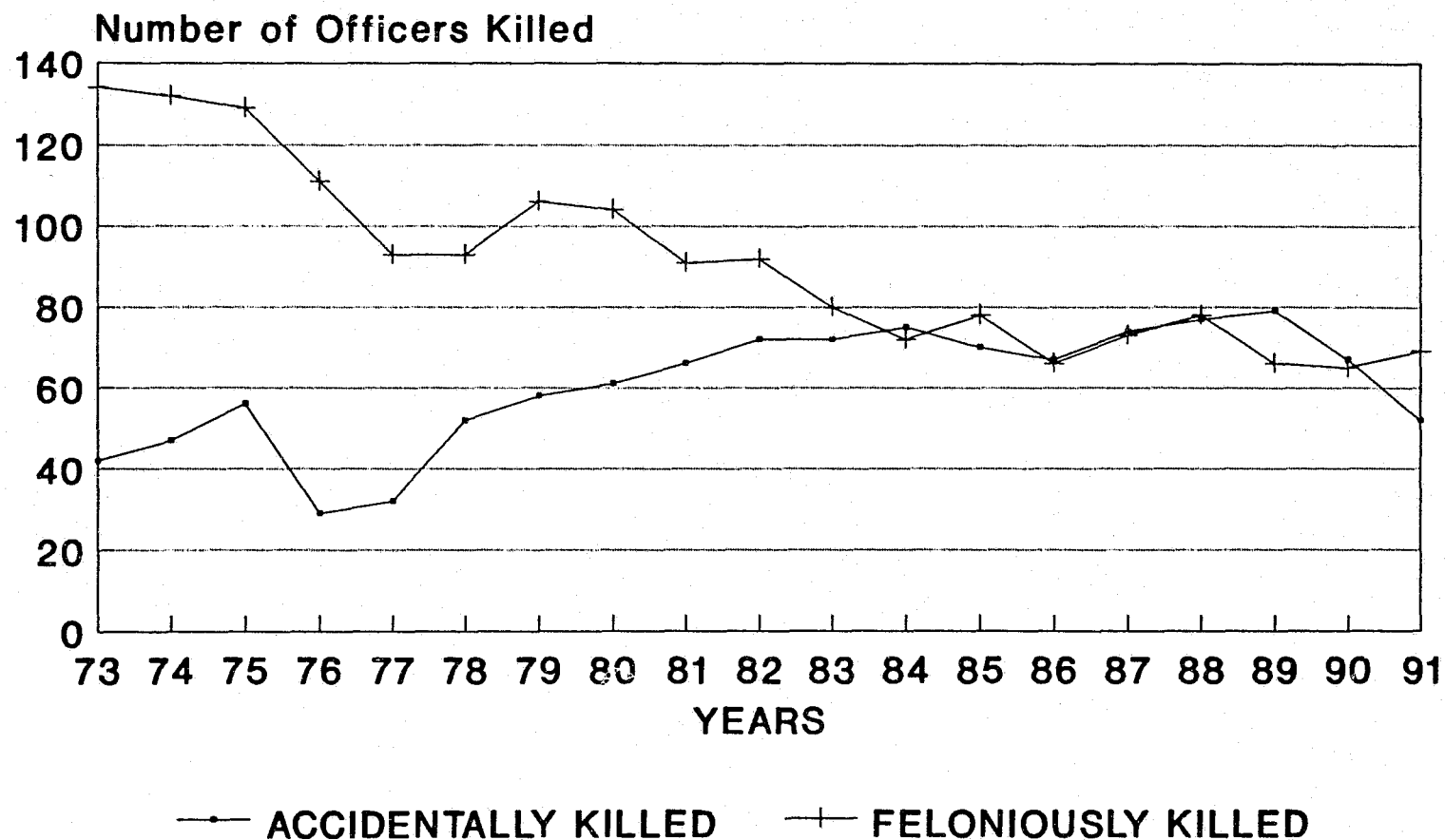
explanations for this trend than it is to attempt to explain changes in felonious killings. It is possible, however, that, as with felonious killings, law enforcement agencies have become more conscientious about reporting accidental killings to the FBI, thus accounting for part of the apparent increase in the total numbers.

Figure 5 provides a comparison of the number of officers feloniously and accidentally killed between 1973 and 1991. That figure makes clear the strikingly different trends reported for the two types of killings. While the number of reported felonious killings fell during the 1970s, the number of reported accidental killings increased. As a result, although there were two to three times as many felonious, as compared to accidental, killings reported in the 1970s, there have been approximately equal numbers of both types since the mid-1980s. The reasons for these differences require further attention before they can be understood. It may simply be, for example, that police departments began systematically reporting felonious killings earlier than they did accidental killings. Or, there may have been systematic changes occurring in the policing world that account for these differences.

### Summary

Policing is a dangerous occupation. The Federal Bureau of Investigation reports that 2,880 law enforcement officers were killed between 1973 and 1991, including 1,732 who were killed feloniously and 1,148 who were killed accidentally. There has been a general decrease, however, in the number of officers feloniously killed, dropping from a high of 134 in 1973 to fewer than 70 in 1990 and 1991. Among the

Figure 5  
**LAW ENFORCEMENT OFFICERS ACCIDENTALLY  
AND FELONIOUSLY KILLED, 1973-1991**



Source: FBI, Law Enforcement Officers  
Killed and Assaulted, 1973-1991

factors contributing to this decline may be the widespread use of soft body armor, the improvement of training, and revisions of policies and procedures to provide greater emphasis on officer safety and survival. The rate at which police officers are killed has consistently been highest in the southern states. There is also some evidence that police killings are more likely in large cities and those with high levels of violent crime, high rates of gun ownership, and high levels of poverty.

Officers were most often killed when they were involved in arresting, or had just arrested, suspects. Such killings also frequently involved responding to disturbance calls, investigating suspicious persons, and traffic pursuits and stops. Over 90 percent of the officers were killed with firearms; approximately 14 percent of the officers were killed with their own weapons. Most of the officers killed were white males, with an average of less than nine years of service on the police department. Most of the officers slain in the last decade were on vehicle patrol in an official police uniform. Just over half of the officers were alone and unassisted at the time of their deaths. Between 1986 and 1990, approximately one-fourth of the officers feloniously slain were wearing soft body armor, of whom almost 60 percent suffered gunshots to the head.

Most of the persons identified as having killed police officers were between 18 and 29 years of age, male, white, and had at least one prior criminal arrest. Over eighty percent of the alleged assailants were arrested and charged with murder. Of those, the vast majority were found guilty.

Since 1973, according to the FBI, 1,148 police officers were reported to have been killed accidentally while performing official duties. By far the largest number of these deaths were due to automobile accidents. In the early 1970s, the number of such accidental killings was only about one-third that of felonious killings. While the reported felonious killings decreased, however, the number of reported accidental killings rose. By the mid-1980s, there were approximately as many accidental as felonious killings.

### Conclusion

Compared to the study of how police respond to violent crime or of violence by police, the study of killings of police officers has received little attention from researchers. As Sherman (1980:4) points out:

If we are concerned with the dignity and safety of all persons...each [topic] is equal in importance to the others. What is not equal is our knowledge, both theoretical and practical, about each question. We arguably know the most about how to reduce violence by police and the least about how to reduce violence against police.

Although the information provided in this paper has attempted to provide an overview of what is currently known about the nature and extent of felonious and accidental killings of our nation's law enforcement personnel, additional research is required to provide a more analytical assessment of both the circumstances of the killings and the policies and practices of the departments in which they occur. Only with such research will it be possible to gain a better understanding of the causes of

the tragic killings of our police and, armed with such knowledge, to produce a safer working environment for our law enforcement professionals.

## REFERENCES

- Alpert, G.P. and L.A. Fridell (1992). Police Vehicles and Firearms: Instruments of Deadly Force. Prospect Heights, IL: Waveland Press.
- Bachner, T.E. (1992). 1992 Officer Safety Report. Presentation to the International Association of Chiefs of Police Division of State Associations of Chiefs of Police. Durham, New Hampshire: International Association of Chiefs of Police.
- Bannon, J.D. (1976). Assaults upon police officers: A sociological study of the definition of the situation. Ph.D. Dissertation, Department of Sociology, Wayne State University, Detroit, Michigan.
- Binder, A.B.; P. Scharf; and R. Galvin (1981). Use of Deadly Force by Police Officers. Final Report. Washington, D.C.: National Institute of Justice.
- Blau, J.R. and P.M. Blau (1982). The cost of inequality: Metropolitan structure and violent crime. American Sociological Review 47(1):114-129.
- Blumberg, M. (1983). The use of firearms by police officers: The impact of individuals, communities, and race. Ph.D. Dissertation, School of Criminal Justice, State University of New York at Albany.
- (1989). Controlling police use of deadly force: Assessing two decades of progress. In Dunham, R. and G.P. Alpert, eds, Critical Issues in Policing: Contemporary Readings, pp. 442-464. Prospect Heights, IL: Waveland Press.
- Boylen, M. and R. Little (1990). Fatal assaults on United States law enforcement officers. The Police Journal LXIV(1):61-77.
- Bristow, A. (1963). Police officer shootings: A tactical evaluation. Journal of Criminal Law, Criminology and Police Science 54:93-95.
- Brown, M.F. (1984). Use of deadly force by patrol officers: Training implications. Journal of Police Science and Administration (June):133-140.
- Cardarelli, A.P. (1968). An analysis of police killed by criminal action: 1961-1963. The Journal of Criminal Law, Criminology, and Police Science 59(3): 447-453.
- (1976). Police Murders and Effective Countermeasures. Santa Cruz: Davis.
- (1986). Cops, Killers and Staying Alive: The Murder of Police Officers in America. Springfield, IL: Charles C. Thomas.

Chapman, S.G.; C.G. Swanson; and C.K. Meyer (1974a). A Descriptive Profile of the Assault Incident. Norman, Oklahoma: Bureau of Government Research, University of Oklahoma.

----- (1974b). Introduction and Methodology to the Study of Police Assaults in the South Central United States. Norman, Oklahoma: Bureau of Government Research, University of Oklahoma.

Clark, C. (1992). The Making of a Memorial: The People Behind the National Law Enforcement Officers Memorial Fund. Washington, DC: National Law Enforcement Officers Memorial Fund.

Durkheim, E. (1987, 1951). Suicide. New York: Free Press.

Federal Bureau of Investigation (1971). Uniform Crime Reports: Law Enforcement Officers Killed and Assaulted. Washington, D.C.: U.S. Department of Justice.

----- (1972). Uniform Crime Reports: Law Enforcement Officers Killed and Assaulted. Washington, D.C.: U.S. Department of Justice.

----- (1973). Uniform Crime Reports: Law Enforcement Officers Killed and Assaulted. Washington, D.C.: U.S. Department of Justice.

----- (1974). Uniform Crime Reports: Law Enforcement Officers Killed and Assaulted. Washington, D.C.: U.S. Department of Justice.

----- (1975). Uniform Crime Reports: Law Enforcement Officers Killed and Assaulted. Washington, D.C.: U.S. Department of Justice.

----- (1976). Uniform Crime Reports: Law Enforcement Officers Killed and Assaulted. Washington, D.C.: U.S. Department of Justice.

----- (1977). Uniform Crime Reports: Law Enforcement Officers Killed and Assaulted. Washington, D.C.: U.S. Department of Justice.

----- (1978). Uniform Crime Reports: Law Enforcement Officers Killed and Assaulted. Washington, D.C.: U.S. Department of Justice.

----- (1979). Uniform Crime Reports: Law Enforcement Officers Killed and Assaulted. Washington, D.C.: U.S. Department of Justice.

----- (1980). Uniform Crime Reports: Law Enforcement Officers Killed and Assaulted. Washington, D.C.: U.S. Department of Justice.

----- (1981). Uniform Crime Reports: Law Enforcement Officers Killed and Assaulted. Washington, D.C.: U.S. Department of Justice.

----- (1982). Uniform Crime Reports: Law Enforcement Officers Killed and Assaulted. Washington, D.C.: U.S. Department of Justice.

----- (1983). Uniform Crime Reports: Law Enforcement Officers Killed and Assaulted. Washington, D.C.: U.S. Department of Justice.

----- (1984). Uniform Crime Reports: Law Enforcement Officers Killed and Assaulted. Washington, D.C.: U.S. Department of Justice.

----- (1985). Uniform Crime Reports: Law Enforcement Officers Killed and Assaulted. Washington, D.C.: U.S. Department of Justice.

----- (1986). Uniform Crime Reports: Law Enforcement Officers Killed and Assaulted. Washington, D.C.: U.S. Department of Justice.

----- (1987). Uniform Crime Reports: Law Enforcement Officers Killed and Assaulted. Washington, D.C.: U.S. Department of Justice.

----- (1988). Uniform Crime Reports: Law Enforcement Officers Killed and Assaulted. Washington, D.C.: U.S. Department of Justice.

----- (1989). Uniform Crime Reports: Law Enforcement Officers Killed and Assaulted. Washington, D.C.: U.S. Department of Justice.

----- (1990). Uniform Crime Reports: Law Enforcement Officers Killed and Assaulted. Washington, D.C.: U.S. Department of Justice.

----- (1991). Law Enforcement Officers Killed and Assaulted data for 1980-1991. Washington, D.C.: U.S. Department of Justice.

Fridell, L. (1990). Justifiable use of measures in research on deadly force. Journal of Criminal Justice 17(3):157-166.

Fridell, L. and A. Binder (1992). Police officer decisionmaking in potentially violent confrontations. Journal of Criminal Justice 20(5):385-399.

Fyfe, J.J. (1978). Shots fired: A typological examination of New York City police firearms discharges, 1971-1975. Ph.D. Dissertation, State University of New York at Albany.

----- (1979). Administrative interventions on police shooting discretion. Journal of Criminal Justice 7(Winter): 313-335.

----- (1980). Always prepared: Police off-duty guns. Annals of the American Academy of Political and Social Science 452(November): 72-81.

----- (1981). Race and extreme police-citizen violence. In Race, Crime and Criminal Justice, edited by R. McNeely and C. Pope, pp. 89-108. Beverly Hills, CA: Sage.

----- (1987). The Metro-Dade Police/Citizen Violence Reduction Project. An unpublished report submitted to the Metro-Dade Police Department by the Police Foundation.

Garner, J. and E.Clemmer (1986). Research in Brief: Danger to police in domestic disturbances--A new look. Washington, D.C.: U.S. Department of Justice, National Institute of Justice, November. Reprinted in Critical Issues in Policing: Contemporary Readings Dunham, R.G. and G.P. Alpert (1989) pp. 517-530. Prospect Heights, IL: Waveland Press.

Gastil, R.D. (1971). Homicide and a regional culture of violence. American Sociological Review 36(3):412-427.

Geller, W.A. and K.J. Karales (1981). Split-Second Decisions: Shootings of and by Chicago Police. Chicago, IL: Chicago Law Enforcement Study Group.

Geller, W.A. and M.S. Scott (n.d.). Deadly force: What we know. Unpublished manuscript. Washington, D.C.: Police Executive Research Forum.

Guralnick, L. (1963). Mortality by occupation and cause of death among men 20-64 years of age: United States, 1950. Vital Statistics, Special Reports Volume 53(3). Bethesda, MD: US Department of Health, Education, and Welfare.

Hackney, S. (1969). Southern Violence. American Historical Review 74(3):906-25.

Hill, K.Q. and M. Clawson (1988). The health hazards of "street level" bureaucracy: Mortality among the police. Journal of Police Science and Administration 16(4):243-248.

John Jay College of Criminal Justice (1991). National Body Armor Survey Summary. New York: John Jay College.

Konstantin, D. (1984). Homicides of American law enforcement officers. Justice Quarterly 1(1): 29-45.

Kowalski, G.S.; R.L. Dittmann; and W.L. Bung (1980). Spatial distribution of criminal offenses by states, 1970-1976. Journal of Research in Crime and Delinquency 17 (Jan.):4-25.

Lester, D. (1978a). A study of civilian-caused murders of police officers. International Journal of Criminological Penology 6:373-378.

----- (1978b). Predicting murder rates of police officers in urban areas. Police Law Quarterly 7(3): 20-25.

----- (1982). Civilians who kill police officers and police officers who kill civilians: A comparison of American Cities. Journal of Police Science and Administration 10(4):384-387.

----- (1984). The murder of police officers in American cities. Criminal Justice and Behavior 11(1):101-113.

Little, R. (1984). Cop-killing: A descriptive analysis of the problem. Police Studies: The International Review of Police Development 7(2): 68-75.

Little, R. and M. Boylen (1990). Facing the gun: The firearms threat to police officers. Journal of Police Science and Administration 17(1):49-54.

Loftin, C. and R.H. Hill (1974). Regional subculture and homicide: An examination of the Gastil-Hackney thesis. American Sociological Review 39 (October):714-724.

Margarita, M. (1980). Killing the police: Myths and motives. Annals of the American Society of Political and Social Science 452 (November): 63-71.

Mayhew, B.H. and R.L. Levinger (1976). Size and density of interaction in human aggregates. American Journal of Sociology 82(1): 86-110.

Meyer, C.K.; T. Magedanz; S. Chapman; D. Dahlin; and C. Swanson (1982a). An analysis of factors related to robbery-associated assaults on police officers--Part I. Journal of Police Science and Administration 10(1):1-27.

----- (1982b). An analysis of factors related to robbery-associated assaults on police officers--Part II. Journal of Police Science and Administration 10(2):127-50.

----- (1982c). An analysis of factors related to robbery-associated assaults on police officers--Part III. Journal of Police Science and Administration 10(3): 249-72.

Meyer, C.K.; T. Magedanz; D. Dahlin; and S. Chapman (1981). A comparative assessment of assault incidents: Robbery-related ambush and general police assaults. Journal of Police Science and Administration 9(1): 1-18.

Meyer, C.K.; T. Magedanz; D. Kieselhorst; and S. Chapman (1979). Violence and the police: The special case of the police assailant. Journal of Police Science and Administration 7(2):161-71.

Meyer, C.K.; T. Magedanz; S. Feimer; S. Chapman; and W. Pammer (1986). Ambush Related Assaults on Police: Violence at the Street Level. Springfield, IL: Charles C. Thomas.

Meyer, C.K.; C.G. Swanson; C.D. Hale; and J.L. Regens (1974). An Analysis of Officer Characteristics and Police Assaults Among Selected South Central Cities. Norman, OK: Bureau of Government Research.

Meyer, C.K., et al. (1983). Violence and the Police: An Analysis of Robbery-Related Assault Events. Norman, OK: Bureau of Government Research.

Moorman, C.B. and R.C. Wemmer (1983). Law enforcement officers murdered in California: 1980-81. The Police Chief May: 42-44,54.

Morrison, P. and K. Meyer (1974). A Microanalysis of Assaults on Police in Austin, Texas. Norman, OK: Bureau of Government Research, University of Oklahoma.

Peterson, R.D. and W.C. Bailey (1988). Structural influences on the killing of police: A comparison with general homicides. Justice Quarterly 5(2):207-233.

Porterfield, A.L. (1949). Indices of suicide and homicide in states and cities: Some southern-non-southern contrasts with implications for research. American Sociological Review 14 (August):481-490.

Regens, J.; K. Meyer; C. Swanson; and S. Chapman (1974). An Analysis of Assaults on Municipal Police Officers in 46 South Central Cities. Norman, OK: Bureau of Government Research, University of Oklahoma.

Scharf, P. and A. Binder (1983). The Badge and the Bullet: Police Use of Deadly Force. New York: Praeger Publishers.

Sherman, L.W. (1980). Perspectives on police and violence. Annals of the American Academy of Political and Social Science 452(November): 1-12.

Sherman, L.W.; C. DeRiso; D. Gaines; D. Rogan; and E. Cohn (1989). Police Murdered in Drug-Related Situations, 1972-1988. Washington, D.C.: Crime Control Institute.

Stobart, R.M. (1972). Serious assaults on police. The Police Journal XLV(2):108-127.

Swanton, B. (1983). Shootings of police officers: American and Australian Hypotheses. Police Studies 8:231-240.

Toch, H. (1969). Violent Men. Chicago, IL: Aldine Publishing.

Toch, H. (1980). Mobilizing police expertise. Annals of the American Academy of Political and Social Science 452(November): 53-62.

Uchida, C.D.; L.W. Brooks; and C.S. Kopers (1987). Danger to police during domestic encounters: Assaults on Baltimore County Police, 1984-86. Criminal Justice Policy Review 2(4):357-371.

U.S. Congress, Office of Technology Assessment (n.d.). OTA Project Proposal: Police Body Armor Standards and Testing. Washington, DC: Office of Technology Assessment.

U.S. Congress, Office of Technology Assessment (1992a). Police Body Armor Standards and Testing: Volume I, OTA-ISC-534. Washington, D.C.: U.S. Government Printing Office.

U.S. Congress, Office of Technology Assessment (1992b). Police Body Armor Standards and Testing: Volume II: Appendices, OTA-ISC-535. Washington, D.C.: U.S. Government Printing Office.

Vaughn, J.B. and V.E. Kappeler (1986). A descriptive study of law enforcement officers killed: 1974-1984. Paper presented at the Academy of Criminal Justice Sciences, Orlando, Florida.

Violanti, J.M.; J.E. Vena; and J.R. Marshall (1986). Disease risk and mortality among police officers: New evidence and contributing factors. Journal of Police Science and Administration 14(1): 17-23.

1. The varying quality and consistency of data within categories of information over time explains the use of various reference periods in this article. We attempt, for each category of data, to provide the longest meaningful, reference period for which there were quality data reported in consistent categories. The UCR-FBI supplied the authors with a set of data for the incidents which occurred during 1980 through 1991. This supplied yet unpublished 1991 data for many variables.

2. Accidental duty-related deaths are included in a separate data base. These accidental deaths include situations in which officers accidentally kill fellow officers during incidents with citizens (e.g., during arrests), despite the fact that the offenders in these incidents could be charged with "felony murder."