

Deadly force research typically does not distinguish between shootings by on-duty and off-duty police. This article uses Philadelphia police shooting data from two time periods (1970-1978 and 1987-1992) and a unique quasi-experimental design to examine the comparative effects upon on- and off-duty police shootings of an administrative policy that limited police shooting discretion but that did not address questions of police weapons carrying and access to firearms. The article draws important distinctions between when to shoot and carry administrative policies and considers their impact on deadly force by on- and off-duty police.

ASSESSING THE IMPACT OF ADMINISTRATIVE POLICY ON USE OF DEADLY FORCE BY ON- AND OFF-DUTY POLICE

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ADMINISTRATIVE POLICY AND DEADLY FORCE

A considerable amount of research has documented that administrative rule making has significant effects on the frequency and nature of police deadly force and firearms use (Fyfe 1979, 1988; Geller and Scott 1992; Walker 1993). This research typically has analyzed the effects of internal policies governing the circumstances in which police officers can shoot. These policies generally have eliminated or restricted discretion to shoot in circumstances deemed not to present imminent danger to the lives of officers or others (i.e., shooting at fleeing felons, shooting at or from moving vehicles, and firing warning shots). Plainly, the most direct policy interventions apply to those incidents that may be grouped at the elective end of a continuum ranging between such nonelective shootings as those at assaultive people armed

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with guns and those clearly elective shootings involving unarmed, fleeing felons.

In 1967, the President's Commission on Law Enforcement and the Administration of Justice (1967, 188-9) expressed its concern over the absence of administrative guidelines to restrict police shooting behavior. In the absence of such administrative rules, police officers' use of deadly force was generally guided by the broad and hard to enforce provisions of criminal homicide statutes. Beginning in the early 1970s, a number of urban police departments began to adopt more restrictive deadly force policies, largely because of community outcry over the shootings of unarmed suspects. Implementation of more practical and restrictive deadly force policies in the 1970s and 1980s allowed for a wealth of social research studying its effects on the prevalence and frequency of deadly force incidents.

In 1972, the New York City Police Department created new, more restrictive guidelines governing the use of deadly force. These generally permitted officers to shoot only in defense of life and greatly limited officer discretion to shoot at fleeing suspects. Fyfe (1978, 1979) examines the impact of that directive on the frequency, nature, and consequences of shootings from 1971 to 1975. His analysis showed significant decreases (after the directive was implemented) in both the use of deadly force, especially in circumstances prohibited by the new rules, and in officer injury and death (Fyfe 1979). The decline in shooting incidents in the face of continuing increases in the number of arrests suggests that the new administrative directive had the intended effects (Fyfe 1979).

In Oakland in 1968, a departmental policy prohibiting the shooting of burglary and theft suspects was imposed and, after an internal research report on all gun discharges by officers from 1968 to 1971, Chief Charles Gain discovered a substantial decrease in the number of shooting incidents per month (Gain 1971). Administrative policies demonstrated similar effects on police shooting behavior in Omaha, Kansas City, Los Angeles, Dallas, and Memphis (Geller and Scott 1992).

Perhaps the clearest example of the effects of administrative policy on police use of deadly force occurred in Philadelphia. In 1974, the Philadelphia Police Department (PPD) took the unique step of abolishing its restrictive deadly force policy, leaving officers free to operate on rarely enforced criminal law provisions. The consequence was that police shootings increased an average of 20% each year until 1980, when a reform administration reinstated the former policy. Fatal shootings then dropped 67% in 1 year. Clearly,

these changes in policy appeared to exert a significant impact on the nature and frequency of police shootings.

Fyfe (1988) concludes that organizational philosophies, expectations, and policies heavily influence the use of deadly force, and levels of community violence and variations in the law only marginally affect police shooting behavior (see also Uelman 1973). Reiss (1980), Blumberg (1989), and Walker (1993) provide further support for evidence regarding the significant relationship between restrictive administrative policies and levels of deadly force. Walker (1993) notes,

Administrative rules have successfully limited police shooting discretion, with positive results in terms of social policy. Fewer people are being shot and killed, racial disparities in shootings have been reduced, and police officers are in no greater danger because of these restrictions. Officers appear to comply with the rules. This is an accomplishment of major significance and one that provides a model for other discretion control efforts. (P. 32)

THE PREVALENCE OF USE OF DEADLY FORCE BY OFF-DUTY POLICE

Most shootings involve on-duty police, but some researchers consider the percentage of off-duty shootings sizeable (Geller and Scott 1992). The percentage of off-duty shootings has been generally consistent across jurisdictions:

- 20% among Philadelphia police shootings during the 1970s (White 1999),
- 17% among New York City police shootings from 1971-1975 (Fyfe 1980b),
- 24% among New York City police shootings in 1990 (Cerar 1990),
- 23% among Chicago police shootings during the mid-1970s (Geller and Karales 1981a), and
- 17% among civilians shot by police in the seven cities studied by the Police Foundation during the 1970s (Milton et al. 1977).¹

Similarly, research shows that a high percentage of off-duty shootings violate administrative policy. Fyfe (1980b) found that the New York City Police Department disapproved 40% of off-duty shootings. Meyer (1980) found that the Los Angeles Police Department disapproved 18% of shootings by off-duty officers. In Chicago, 74% of all shootings that the department disapproved involved off-duty officers (Geller and Karales 1981b).²

POLICIES GOVERNING OFF-DUTY USE AND HANDLING OF FIREARMS

Although policy development among police departments regarding on-duty police conduct has been extensive, off-duty behavior has been somewhat neglected. Many police departments across the country provide their officers with little guidance on what to do with their firearms when they are off-duty. An International Association of Chiefs of Police (IACP) report in 1982 stated that of 53 city departments serving populations of more than 250,000, 28% mandated that officers be armed off-duty, 40% left it to the discretion of the officer, and 32% gave officers no guidance at all (Matulia 1982). None of these departments prohibited carrying firearms while off-duty. However, some departments require that their off-duty officers do not carry guns when they are drinking or taking medication (Fyfe 1980a; Geller and Karales 1981b; Geller and Scott 1992).

In its 1985 model policy, the IACP recommended that

Officers are encouraged, but not mandated, to carry a handgun when off duty. An officer who elects not to carry a handgun while off-duty shall not be subjected to disciplinary action if an occasion should arise in which he could have taken police action if he were armed. (Matulia 1982, 75)

IACP dropped this standard regarding off-duty handling of firearms in its revised 1989 model policy.

ARE DEADLY FORCE INCIDENTS INVOLVING OFF-DUTY POLICE A DIFFERENT PHENOMENON?

Prior deadly force research typically does not distinguish between shootings by on-duty police and by off-duty police. For several reasons, these types of incidents appear to differ significantly. First, the off-duty officer is not in uniform and, in most cases, he or she has no police radio to call for assistance.³ Second, the off-duty officer tends to become involved in incidents that on-duty police do not, such as personal disputes, disputes with strangers, or being the victim of a crime (i.e., robbed at an automatic teller machine [ATM]). Third, the off-duty officer is more likely to discharge his or her firearm in situations that violate departmental policy and criminal law.⁴ Fourth, the off-duty officer also is more likely to use deadly force while under the influence of alcohol, to experience accidental discharges, and to attempt suicide.⁵

When considering these distinctions and their implications for administrative policy, researchers can classify off-duty incidents into two groups. First, there are incidents common to both on- and off-duty police. That is, in many instances, police shootings are similar regardless of officer duty status. For example, a situation where an off-duty officer stumbles upon a bar robbery is not significantly different from an incident where an on-duty officer does the same, except that one may be out of uniform.⁶ Because there are many instances that are common to both on-duty and off-duty shootings, it is reasonable to conclude that administrative policies designed to control certain types of on-duty conduct (i.e., when to shoot) also may affect similar types of off-duty conduct.

The second type of incident is unique to off-duty situations. That is, on-duty police simply do not become involved in these types of encounters. Such situations include incidents where off-duty officers are assaulted or attacked (i.e., victim of a crime); altercations in bars or on the street; and domestic disputes with spouses, significant others, or other family members. In the first two examples, the suspect is most likely unaware that the other person is an off-duty police officer until the officer identifies himself or herself (often not until the encounter has progressed to a critical stage). The last example involves the personal relationships of officers with members of their families.

Mostly as a result of these differences, on- and off-duty shootings vary on the extent to which administrative policies may affect their frequency and nature. Policies governing when officers may shoot apply to both, but one might expect that they would have lesser effects on off-duty officers than on-duty officers. For example, a considerable number of off-duty shootings involve officers' personal disputes rather than legitimate police business. Although they are rare, these types of incidents occur despite criminal prohibitions so that one might not expect purely internal administrative rules governing when to shoot to have much effect on them.

What may affect the frequency and nature of off-duty shootings are policies governing when officers may or may not carry firearms. More specifically, there are two dimensions of off-duty behavior where there is only one dimension for on-duty behavior. The additional dimension of off-duty behavior may help to explain the differential impact. Most administrative policies address the first dimension, when to shoot, for both on-duty and off-duty police. Specifically, these policies prohibit shootings of nonassaultive and fleeing suspects, regardless of officer duty status. The second dimension for off-duty behavior, when to carry the firearm and take action, is not addressed by general when to shoot administrative policies. Such policies are a constant, rather than a variable, where on-duty police are concerned because a

fundamental element of the police job is immediate access to a gun. All police departments require their officers to carry guns on-duty and they have little choice in the matter.

However, such policies do vary where off-duty police officers are concerned. Simply put, officers, whether on- or off-duty, know what types of deadly force incidents to avoid (elective), but a lack of administrative guidance regarding when to carry firearms and take action while off-duty minimizes the discretion control policy's impact on off-duty behavior. In these situations, the provisions of policies related to carrying guns (carry policies) are at least as important as the provisions governing when guns can be fired.

Traditionally, the presumption has been that off-duty police should be armed all of the time. There are several long-standing arguments favoring armed off-duty police. First, traditional philosophy argues that officers should take appropriate action when confronted with criminal activity, regardless of their duty status. The presence of the service revolver facilitates proactive intervention when the officer is off-duty (Geller and Scott 1992).

A second argument for arming off-duty police is that it protects them against retaliation from disgruntled citizens (Fyfe 1980a). If a suspect arrested by an officer gains release, he may subsequently seek revenge against the officer by attacking him or her off-duty. An armed off-duty officer can defend himself or herself. Third, some practitioners argue that arming off-duty police has a deterrent value (Fyfe 1980a), that is, the possibility that armed, off-duty police may be in the area deters criminals from engaging in unlawful behavior.

More recently, support for armed off-duty police has faded in favor of policies that make carrying a firearm off-duty an option for the officer or that prohibit it in certain circumstances. Fyfe's (1980a) critique of arguments supporting armed, off-duty police illustrates, at least in part, some of the reasons for the shift in opinion. First, it is unwise to require that officers take appropriate action against criminal activity when off-duty given the absence of a police radio and fellow officers, the increased likelihood that their reflexes may be dulled by the effects of alcohol, and the fact that they have no time to prepare an approach for the encounter (Fyfe 1980a).

Second, the likelihood that a disgruntled client will retaliate against an off-duty officer is small (Fyfe 1980a).⁷ Last, there is no evidence to support the argument that armed off-duty police have a deterrent value (Fyfe 1980a).

Fyfe (1980a, 81) also argues that even in justified shootings, the off-duty officer frequently causes an escalation of violence: "When off-duty police do use their guns in well-intentioned interventions, it is not at all clear that they reduce violence. Conversely, their actions in threatening situations may even create actual violence where only potential violence exists."

This escalation in violence can occur for a number of reasons, such as the lack of warning of impending danger and back-up by fellow officers. Also, off-duty officers are not in uniform and may be mistaken as suspects by arriving on-duty police (Fyfe 1980a). Consequently, Fyfe (1980a, 81) argues that police departments should consider requiring that off-duty officers "leave their guns in their lockers with the rest of their uniforms."

Although it appears clear that off-duty incidents are unique and should be treated separately, the evidence regarding the impact of general administrative when to shoot policies as a discretion control for off-duty incidents is far from conclusive. Also, the need for specific policies governing off-duty behavior, including when to carry firearms, to guide and control officer discretion remains unclear. This article examines the comparative effects upon on- and off-duty police shootings of a policy that limited police shooting discretion but that did not address questions of police weapons carrying and access to firearms. In doing so, the study seeks to improve our understanding of off-duty police shootings and the potential importance of administrative when to shoot and carry policies as deadly force discretion controls.

DATA AND METHODS

This research examines Philadelphia police shooting data from two time periods: 1970 to 1978 and 1987 to 1992 (see Table 1).⁸ The PPD experienced notable changes in its general administrative when to shoot policy over the period of this study, but the department did not provide any specific formal guidance to its officers for off-duty carrying of firearms during this time. Specifically, the department provided no guidelines regarding when off-duty officers should or should not carry their firearms; when they should or should not intervene; and if they intervened, what procedures they should follow. The changes in the administrative when to shoot policy occurred during the intervening years (1980), and this natural break in the data permits examination of the research questions using an unusual quasi-experimental design.

This analysis looks at the impact of a major administrative policy change on shootings overall and also upon on- and off-duty shootings. The research examines questions regarding the impact of policy and potential variation in impact by deadly force type using a nonequivalent dependent variables design. This quasi-experimental design permits inferences about the nature of variation in deadly force incidents by type (on- or off-duty). If they covary, the research should view on- and off-duty shootings as roughly the same phenomenon (deadly force use). If they vary over time in response to the policy

TABLE 1: Selected Characteristics of Philadelphia Police Shooting Incidents, 1970-1978 and 1987-1992, by Officer Duty Status

<i>Attributes</i>	<i>On-Duty (n = 643)</i>	<i>Off-Duty (n = 164)</i>	<i>Missing Cases</i>
Incident-related attributes			
Percentage on weekends ^a	28.2 (181)	37.2 (61)	0
Percentage 8:00 p.m. to 2:00 a.m.	51.6 (329)	62.6 (102)	1
Percentage citizen-initiated (radio call and advised by civilian)	52.5 (337)	4.3 (7)	1
Percentage officer-initiated	47.2 (303)	90.9 (149)	1
Percentage on-duty	—	—	0
Percentage off-duty	—	—	0
Percentage outdoors	79.2 (504)	65.9 (108)	0
Percentage indoors	20.8 (134)	34.1 (56)	0
Percentage in which officer alone	34.3 (220)	90.9 (149)	2
Percentage in which officer shot at	16.8 (108)	18.3 (30)	0
Percentage in which opponent weapon recovered	93.7 (399)	90.1 (91)	10
Percentage precipitated by robbery	23.2 (149)	22.1 (36)	1
Percentage precipitated by burglary	15.4 (99)	14.1 (23)	1
Percentage precipitated by disturbance	10.3 (66)	8.6 (14)	1
Percentage officer fired to defend self or others	57.9 (372)	61.6 (101)	0
Percentage officer fired to apprehend suspects/prevent escape	30.6 (197)	17.1 (28)	0
Percentage officer fired in unauthorized shooting (e.g., criminal, suicide, no legitimate reason)	0.3 (2)	8.5 (14)	0
Suspect-related attributes			
Percentage male opponents ^b	99.2 (636)	94.5 (154)	1
Percentage female opponents ^b	0.8 (5)	5.5 (9)	1
Percentage White opponents ^b	13.6 (85)	28.1 (45)	21
Percentage Black opponents ^b	80.9 (505)	68.8 (110)	21
Percentage Hispanic opponents ^b	5.3 (33)	3.1 (5)	21
Mean opponent age	25.7 (618)	25.5 (155)	34
Danger-based typology attributes			
Percentage opponents armed with a gun	44.5 (286)	42.7 (70)	0
Percentage opponents armed with a knife	13.7 (88)	11.6 (19)	0
Percentage opponents armed with another weapon	10.3 (66)	11.0 (18)	0
Percentage opponents physically assaultive	11.8 (76)	18.9 (31)	0
Percentage opponents nonassaultive	19.8 (127)	15.9 (26)	0
Percentage opponents not injured ^c	1.4 (9)	1.3 (2)	20
Percentage opponents nonfatally wounded	74.1 (466)	80.4 (127)	20
Percentage opponents killed	24.5 (154)	18.4 (29)	20

TABLE 1: Continued

<i>Attributes</i>	<i>On-Duty</i> (<i>n</i> = 643)	<i>Off-Duty</i> (<i>n</i> = 164)	<i>Missing</i> <i>Cases</i>
Officer-related attributes			
Percentage officers not injured	85.4 (549)	70.7 (116)	0
Percentage officers wounded	14.5 (93)	27.4 (45)	0
Percentage officers killed	0.2 (1)	1.8 (3)	0
Percentage by officers involved in only one shooting ^d	67.5 (434)	70.7 (116)	19
Percentage female officer shooters	0.9 (6)	2.4 (4)	3
Percentage White officer shooters	78.3 (490)	37.9 (61)	20
Percentage Black officer shooters	20.4 (128)	60.9 (98)	20
Percentage Hispanic officer shooters	1.3 (8)	1.2 (2)	20
Percentage officers assigned to patrol	63.4 (408)	61.5 (101)	15
Percentage officers assigned to detective	1.6 (9)	3.6 (6)	15
Percentage officers assigned to narcotics	3.2 (20)	5.6 (9)	15
Percentage officers assigned to stakeout	12.8 (81)	1.9 (3)	15
Percentage officers assigned to anti-crime	6.8 (43)	1.9 (3)	15
Percentage officers assigned to highway patrol	7.1 (45)	2.5 (4)	15
Mean officer age	30.9 (610)	33.2 (160)	37
Mean shots fired by officers (primary only/ all officers)	2.6/5.8 (627)	3.0/3.1 (164)	16
Mean shots that hit opponent	1.3 (523)	1.6 (154)	130

NOTE: Annual rates are calculated per 1,000 officers using 7,388 officers for Time 1 (9 years) and 6,280 for Time 2 (6 years). Rates were not calculated for on- and off-duty shootings because they are presented over time rather than by time period.

a. Saturday and Sunday.

b. Primary opponent only.

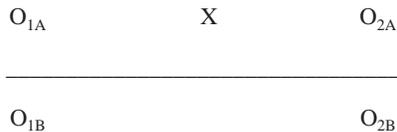
c. All shootings in Time 1 (1970-1978) involved injury to suspects and/or other citizens because noninjurious incidents were not systematically reported. Noninjurious shootings in Time 2 (1987-1992) were removed from the general analysis to ensure comparability. Cases with no injury to the primary opponent involved only injury via police gunshots to another person (i.e., innocent bystander, police personnel, etc.).

d. The Philadelphia Police Department recycles badge numbers after officers leave the department. This confounded the analysis of multiple shooters, which relied primarily on badge numbers. Age, gender, and race of the officer also were used to confirm officer identity.

change, the research should view them as different phenomena with different causal and control implications.⁹

When describing the nonequivalent dependent variables design, Cook and Campbell (1979, 118) note that “the essence of the design is that a single group of persons is involved. These are pre-tested on two scales, one of which is expected to change because of the treatment (OA) and the other is not (OB).”

The design appears below:



The single group of persons involved is, of course, Philadelphia police officers (O), and the treatment or independent variable is the change in general administrative deadly force policy in 1980 (X). There are two dependent variables: on-duty shootings (A) and off-duty shootings (B), and each is measured prior to (1) and after (2) the treatment. The design tests whether parallel measures (on- and off-duty shootings) move as one, despite the treatment intervention, or whether they move differently.¹⁰ As applied to the questions being addressed about the use of deadly force by Philadelphia police, the design measures both change in overall levels of deadly force as well as specific changes in shootings by on-duty and off-duty police.

THE DANGER-BASED TYPOLOGY

A danger-based typology is used to differentiate between elective and nonelective shootings for both types of deadly force incidents. The danger-based typology measures the amount of danger facing the officer (i.e., threat to officer's safety) through a continuum that arranges shootings based on the type of assault/weapon and degree of potential lethality and has been used in prior research (Fyfe 1978, 1981, 1982, 1987; Geller and Karales 1981b). The study assigns each shooting a classification on the danger-based typology. The typology, in descending order of lethality, is as follows:

- gun/assault: shootings at assaultive suspects armed with guns,
- knife/assault: shootings at assaultive suspects armed with knives or other cutting instruments,
- other/assault: shootings at assaultive suspects armed with other weapons (i.e., cars, clubs, chains, etc.),
- physical/assault: shootings at suspects who, alone or in groups, have assaulted police officers or others by use of unarmed physical force, and
- nonassaultive: shootings at suspects who are unarmed and nonassaultive (Fyfe 1981).

This typology resembles similar continua or scales developed by police agencies across the country as training tools for the use of force. As one moves from top to bottom on the typology, the lethality of the encounter or danger facing the police officer generally decreases, giving the officer more options beyond the use of deadly force and making the shooting an elective act rather than one necessary to protect against the threat of imminent serious injury or death (a nonelective act).¹¹

DEFINING ELECTIVE SHOOTINGS

This research classifies both physically assaultive and nonassaultive deadly force incidents as elective. One can reasonably argue that the analysis should only include nonassaultive incidents as elective and that it should treat physical assaults as nonelective. There are a number of scenarios in which physically assaultive suspects can put a police officer in a position where his or her life is in immediate danger and deadly force is a necessary, nonelective response (i.e., if the officer is about to lose consciousness or is greatly outnumbered). However, in most cases, physical assaults are not life-threatening to the officers involved; therefore, deadly force is not necessary to protect officers' lives. Nevertheless, this article presents findings for both definitions of elective shootings, the more inclusive definition in the text and the nonassaultive-only definition in Notes.

Cook and Campbell (1979) note that the nonequivalent dependent variables design is one of the weakest quasi-experimental designs and that researchers should interpret findings with caution. However, given the nature of the data, the application of this design is entirely appropriate. Nevertheless, a qualitative case-by-case review supplements this analysis to identify important similarities and differences among officer-, suspect-, and incident-related variables for the two types of deadly force.

THE EVOLUTION OF DEADLY FORCE POLICY IN PHILADELPHIA

Against the background of emergence of deadly force policy on a national level, the direction of deadly force policy in Pennsylvania and Philadelphia was quite distinctive. In fact, the two time periods included in these data are

separated by a period of dramatic change in PPD administrative policy. Prior to 1973, Pennsylvania law adhered to the fleeing felon rule, allowing police to shoot at all fleeing suspected felons. However, the PPD had a restrictive administrative policy in place. The manual laid out three instances in which a police officer could lawfully use deadly force (Waegel 1984, 127):

1. To protect his or her own life when it is in imminent danger;
2. to protect the life of another; and
3. in an effort to prevent the commission of certain violent felonies or to prevent the escape of a violent felon, but only after all other means have been exhausted.

Although PPD had a policy in place that met the national minimum requirements established by the *Tennessee v. Garner* (471 U.S. 1 [1985]) decision more than a decade before the case came before the Supreme Court, the degree to which the department followed and enforced the policy is questionable (White 1999). Certainly, this restrictive shooting policy did not follow Mayor Frank Rizzo's personal philosophy on the treatment of criminals: "*spacco il cappia*" or "bust their heads" (It was a long and colorful career 1991, 1-A).

In June 1973, Pennsylvania adopted a near defense-of-life standard governing justifiable homicide by police. This law change was, at least in part, a response to allegations of brutality and excessive force by Philadelphia police, which also had resulted in the issuance of a federal District Court injunction detailing specific requirements for use of force and investigating civilian complaints (see *Rizzo v. Goode* 423 U.S. 362 [1976]).¹² More specifically, the new statute said that a law enforcement officer

is justified in using deadly force when he believes that such force is necessary to prevent death or serious bodily injury to himself or such other person, or when he believes both that: (i.) such force is necessary to prevent the arrest from being defeated by resistance or escape; and (ii.) the person to be arrested has committed or attempted a forcible felony or is attempting to escape and possesses a deadly weapon, or otherwise indicates that he will endanger human life or inflict serious bodily injury unless arrested without delay. (*Pennsylvania Crimes Code* 18 C.P.S.A. Section 508)

Clearly, the intent of the new statute was to restrict police officers' use of deadly force to encounters where it was necessary to protect human life. In December 1974, PPD responded to the law change and removed all ambiguity by abolishing their restrictive policy. Police Commissioner Joseph O'Neill and Mayor Frank Rizzo argued that the State Legislature failed to adequately define *forcible* or *violent* felonies and that, until they did so, the

state law was invalid (United States Civil Rights Commission 1979, 181-3, 215-8). Consequently, the PPD and city leadership abolished the restrictive deadly force policy and PPD operated without a formal policy for the next 6 years.

In addition to removing the restrictive shooting policy in 1974, Police Commissioner O'Neill also assigned investigation of police shootings to the Homicide Bureau rather than Internal Affairs (Skolnick and Fyfe 1993). Interestingly, the Detective Bureau, headed by Chief Golden, also was in charge of investigating allegations of police brutality (Skolnick and Fyfe 1993). According to the Justice Department,

[Chief Golden] dismisses all suggestions of on-duty abuse as the product of perjured or fabricated testimony and media distortions. . . . Golden refuses to discipline or even admonish officers for "bad" on-duty shootings. The investigations into shootings are inadequate. (Thrasher et al. 1979, 9)

Fyfe (1980c) studied the consequences of the operating philosophy and found that Philadelphia police officers were 37 times more likely than New York City police officers to shoot at nonassaultive, unarmed suspects and that even though the majority of such shootings violated Pennsylvania state law, none of the officers were arrested or charged criminally.

In 1979, the voters elected reformer Bill Green as mayor of Philadelphia. Green's reform police commissioner (Morton Solomon) initiated several organizational changes, including restrictions on the use of deadly force. The new administrative policy adopted in 1980 was essentially the same restrictive policy that had been abolished 6 years earlier. It authorized officers to use deadly force in the following circumstances:

1. in defense of life and
2. when no alternative exists, to apprehend fleeing felons known to be in possession of deadly weapons that they have used or threatened to use, or who have committed forcible felonies (such as murder, voluntary manslaughter, rape, robbery, kidnapping, involuntary deviate sexual intercourse, arson, burglary, and aggravated assault).

Although the policy did not meet the immediacy requirement of the defense-of-life standard, it certainly was a vast change from the nonexistent policy that characterized the Rizzo years. The policy brought PPD into compliance before the Supreme Court handed down the Garner decision; as a result, there were no required changes in PPD deadly force policy in 1985.

Although PPD brought itself into alignment with the state of the art of evolving national standards relating to use of deadly force by on-duty police,

it had not done so with off-duty incidents. Although the changes in law and administrative policy addressed police shooting behavior, none sufficiently addressed when off-duty officers should carry their firearms. Throughout both time periods studied here, Philadelphia police officers received no guidance regarding when to leave their guns at home; when to carry them; when to intervene and take police action; and if should they intervene, what action they should take. Partly as a result, Philadelphia experienced a continuous flow of civil litigation throughout the 1980s and 1990s against the city, the police department, and its officers for inappropriate and illegal conduct by off-duty officers.¹³

A COMPARISON OF OFF-DUTY AND ON-DUTY DEADLY FORCE INCIDENTS

Table 1 illustrates that despite some common themes, there are important differences between off-duty and on-duty shootings in Philadelphia. By their nature, off-duty shootings almost exclusively began when officers became proactively involved in incidents. The percentage of on-duty incidents that began through proactive intervention is also high, but about half began as a result of a radio call. Thus, officers involved in off-duty incidents typically have much less time to prepare an approach to an incident than do on-duty officers who respond to radio calls.

Off-duty shootings more frequently occurred in bars or social clubs. Nearly one quarter of the off-duty shootings in the first time period occurred in bars. The percentage of officers firing their guns in unauthorized situations is substantially higher for off-duty incidents. Unauthorized situations include suicides, criminal activity (officers committing offenses such as robbery or homicide), and warning shots.¹⁴ These findings support Fyfe's (1980b) earlier research, which suggests that off-duty shootings are more likely than on-duty shootings to warrant department censure.

Also, the percentage of officers injured is higher in off-duty incidents than on-duty incidents. This finding may be associated with the fact that a much greater percentage of off-duty shootings occur when the officer is alone. The off-duty officer typically does not have a radio to call for assistance and must deal with the encounter by himself or herself. This finding also may be associated with off-duty officers' greater likelihood of using deadly force against physically assaultive suspects. In on-duty situations, physically assaultive suspects may be more easily restrained because of the presence of multiple

officers. Off-duty encounters are more likely to be a one-on-one battle, with a greater chance that the suspect will get the best of the officer. This same trend is reflected in the percentage of officers killed, although the percentages for both on-duty and off-duty incidents is low.

Off-duty incidents involved a greater percentage of female suspects and officers, although the overall numbers remain small. This finding may reflect domestic disputes between officers and their significant others, which are more likely to occur in the home while the officer is off-duty (for both male and female officers). Table 1 also shows that off-duty incidents are more likely to occur in the evening and early morning hours as well as on the weekend.

Table 1 also illustrates interesting differences associated with officer and suspect race. For off-duty incidents, the percentage of Black officers is substantially higher than for on-duty incidents.¹⁵ Conversely, for off-duty encounters, the percentage of White suspects is higher and the percentage of Black suspects is lower than in on-duty incidents. There also appears to be an association between officer and suspect race among off-duty incidents. That is, Black off-duty officers shoot mostly Black suspects and White off-duty officers shoot mostly White suspects. On-duty officers, regardless of their race, tend to shoot Black suspects. One possible explanation for these findings involves officer residential patterns. White officers work in all areas of the city but they live in areas populated predominantly by White people, and a good number of off-duty incidents occur near where the officers live.

Although there are commonalities among some attributes, several notable differences emerge between on-duty and off-duty police shootings. These findings suggest that in Philadelphia, off-duty deadly force encounters are separate and distinct events from on-duty incidents and that off-duty shootings account for a considerable percentage of PPD weapons use (20%). The implications of these findings for the impact of administrative policy as a deadly force discretion control remain unclear but certainly raise concern regarding the potential for a differential impact on off-duty and on-duty incidents.

The nonequivalent dependent variables design helps to investigate questions regarding the impacts of both the absence of an off-duty carry policy and the presence of a general administrative shooting policy. First, the study tests the general impact of the administrative shooting policy on use of deadly force by police. Second, it tests whether such an administrative approach has a differential impact on shootings by on-duty and off-duty police and considers the findings in the context of the importance of off-duty carry policies.

TABLE 2: Use of Deadly Force by Philadelphia Police Over Time by Type of Shooting (nonelective or elective) and Annual Rate per 1,000 Officers

<i>Premeasurement</i>		<i>Postmeasurement</i>		<i>Percentage Change</i>
Nonelective	64% (409)	Nonelective	84% (138)	+31%
Elective	36% (234)	Elective	16% (26)	-56%
Annual rate		Annual rate		
Nonelective	6.2	Nonelective	3.7	-40%
Elective	3.5	Elective	0.7	-80%
Total	9.7	Total	4.4	-55%

NOTE: The distinction between nonelective and elective shootings is drawn based on the danger-based typology. Gun assaults, knife assaults, and other weapon assaults are considered nonelective. Physical assaults and nonassaults are considered elective. Annual rates are calculated per 1,000 officers using 7,388 for Time 1 (9 years) and 6,280 for Time 2 (6 years).

RESULTS

Table 2 illustrates the application of the nonequivalent dependent variables design to the deadly force data, from 1970 to 1978 and 1987 to 1992. There appears to be a dramatic decrease in overall use of deadly force, which White (1999) attributes to the 1980 policy change.¹⁶ The actual number of incidents dropped dramatically over time, from 643 incidents in the earlier time period to 164 in the later. The average annual number of police shootings dropped from 71 per year to 27 per year, and the annual overall shooting rate per 1,000 officers dropped from 9.7 to 4.4. Both nonelective and elective shootings experience reductions in annual rates, although the rate decrease is far greater among elective shootings (from 3.5 to 0.7, or an 80% reduction) than among nonelective shootings (from 6.2 to 3.7, or a 40% reduction).¹⁷

The second research question involves an examination of how on-duty and off-duty shootings responded separately, and there are three important findings here. First, Table 3 shows that rates of on-duty shootings decreased more than rates of off-duty shootings. The overall rate of on-duty shootings per 1,000 officers (add nonelective and elective) dropped from 7.8 to 3.3 (a 58% reduction). The overall rate of off-duty shootings per 1,000 officers also dropped, but only from 1.8 to 1.1 (a 39% reduction).

Second, Table 3 also shows that despite similar increases in the percentage of nonelective shootings over time, the annual rates of nonelective shootings per 1,000 officers responded differently among on-duty and off-duty incidents. The rate of nonelective, on-duty incidents decreased by nearly half, from 5.0 to 2.8. The rate of nonelective, off-duty incidents also decreased, but

TABLE 3: The Nonequivalent Dependent Variables Design With Use of Deadly Force in Philadelphia Over Time by Type of Shooting (nonelective or elective) and Duty Status

<i>Premeasurement</i>		<i>Postmeasurement</i>		<i>Percentage Change</i>
Dependent variable 1: on-duty shootings (<i>n</i> = 521)		Dependent variable 1: on-duty shootings (<i>n</i> = 122)		
Nonelective	64% (335)	Nonelective	86% (105)	+35%
Elective	36% (186)	Elective	14% (17)	-55%
Annual rate		Annual rate		
Nonelective	5.0	Nonelective	2.8	-44%
Elective	2.8	Elective	0.5	-82%
Dependent variable 2: off-duty shootings (<i>n</i> = 122)		Dependent variable 2: off-duty shootings (<i>n</i> = 42)		
Nonelective	61% (74)	Nonelective	79% (33)	+30%
Elective	39% (48)	Elective	21% (9)	-46%
Annual rate		Annual rate		
Nonelective	1.1	Nonelective	0.9	-18%
Elective	0.7	Elective	0.2	-71%

NOTE: Annual rates are calculated per 1,000 officers using 7,388 for Time 1 (9 years) and 6,280 for Time 2 (6 years).

only by 18% (from 1.1 to 0.9). Consequently, nonelective, off-duty incidents appear to have been the least responsive to the change in administrative shooting policy in comparison to both nonelective incidents among on-duty police and elective incidents (both on- and off-duty).¹⁸

Third, the annual rates of elective shootings per 1,000 officers decreased substantially more than rates of nonelective shootings, and both on-duty and off-duty elective incidents seem to have responded similarly to the policy change. The annual rate of on-duty, elective encounters dropped dramatically over time, from 2.8 to 0.5 (an 82% decrease). The annual rate of off-duty, elective encounters dropped from 0.7 per 1,000 officers to 0.2 per 1,000 officers (a 71% decrease).¹⁹ Consequently, the when to shoot policy change appears to have had a greater impact on elective deadly force incidents, regardless of officer duty status, than on incidents involving armed suspects.

DISCUSSION AND CONCLUSIONS

This set of findings raises some interesting questions for deadly force discretion and its control, particularly among off-duty police. First, the analysis

suggests that the change in the administrative when to shoot policy served as an effective discretion control on the shooting behavior of Philadelphia police officers.²⁰ This finding supports prior research regarding the effectiveness of administrative policy as a control on the discretion afforded to police officers to use deadly force.

Second, the analysis of elective incidents indicates that both on-duty and off-duty incidents responded similarly to the intervention or policy change. This finding suggests that there is little difference between on- and off-duty elective incidents and the impact of administrative discretion control; however, for a number of reasons, caution is urged in interpreting this finding. First, there are very few off-duty, elective incidents throughout the study period, which limits the analysis and the conclusions. The number of off-duty, elective incidents per year ranges only from 0 to 10, with most years experiencing fewer than 5 incidents. There are only 9 such incidents in the entire second time period.

Second, because of the small *ns* involved, the analyses suffer from floor effects. That is, the number of off-duty, elective incidents throughout the time period is so small that any decrease that occurred in the later years is necessarily limited. Essentially, the numbers are so small to begin with that they can only reasonably go a little lower. Thus, the decrease in off-duty, elective shootings in the second time period is constrained by the overall rare occurrence of such events.

Although the floor effect makes it more difficult to see notable change, one could argue that this makes observed differences even more compelling. That is, because there are so few incidents, even small changes (such as those seen here) are worth noting. Nevertheless, closer examination of elective, off-duty incidents shows that there are clearly inappropriate and illegal uses of deadly force in the later time period, despite a restrictive when to shoot policy.²¹

#89-48: Officer observed defendant breaking into his personal vehicle. Officer confronted suspect, who then fled on foot. Officer fired shots, striking defendant in the back of the neck. Defendant was unarmed and nonassaultive at the time of the shooting.

#90-23: Upon returning home, officer heard a message on the answering machine for his girlfriend from another man. Officer and girlfriend argued, and the officer attempted to leave premises. When the girlfriend blocked his exit, he grabbed his service revolver and shot her in the face.

#90-97: Officer got into an altercation with another patron outside a bar. The patron pulled a gun and fired a shot at the officer, striking him in the foot. The suspect fled, and the officer returned fire. The officer fired 14 rounds, killing the suspect. However, several of the shots were fired into the suspect's back as he lay face down on the street critically wounded.²²

All of the incidents fall into the category of off-duty shootings that on-duty officers do not encounter. The ability of general administrative when to shoot policies to govern and control deadly force discretion in these types of encounters remains unclear, given the unique nature of off-duty incidents, and suggests the need for more specific guidance regarding when off-duty officers should take action and what action they should take.

Third, evidence regarding the distinction between on- and off-duty incidents is more complex. The administrative policy seemed to have had a differential impact on nonelective encounters. Although the annual rate of on-duty, nonelective encounters per 1,000 officers decreased substantially following the policy change (by nearly half), the annual rate of off-duty, nonelective shootings per 1,000 changed little. This finding may suggest that general administrative when to shoot policies are not a sufficient discretion control for off-duty, nonelective encounters. One possible explanation for the differential impact of administrative deadly force policy involves the basic difference in regulation of the two types of shooting incidents. That is, the 1980 administrative policy addressed when officers should shoot, regardless of duty status, but it did not sufficiently address when off-duty officers should carry their firearms and take action.

One might argue that the nonelective, off-duty shootings presumably are justified and necessary. After all, armed suspects (either a gun, knife, or other type of weapon) assaulted the off-duty officers. Therefore, it may not be possible to reduce these types of shootings without endangering the lives of the officers. However, Fyfe (1980a) argues that off-duty officers who proactively engage suspects might frequently escalate an encounter and increase the likelihood of violence. By intervening rather than calling for assistance from on-duty police, the off-duty officer creates violence where only potential violence existed before (Fyfe 1980a). Consider the following cases²³:

#88-70: Four suspects stole an off-duty officer's private vehicle. The officer witnessed the theft and pursued on foot. The officer caught up to the vehicle as it stopped on the side of the road. The officer physically assaulted one of the suspects, then fired on them as they fled. Two of the suspects were struck by gunfire.

#90-108: An off-duty officer was at an ATM machine when a suspect approached with a knife. The officer gave the money to the suspect, who then fled without hurting the officer. The officer fired one shot at the fleeing suspect, striking him in the rear near his right hip.

#91-95: An off-duty officer became involved in a fistfight in the bathroom of a crowded bar. Reportedly fearing for his life, the officer fired at the suspect who was getting the better of him. The suspect fled into the crowded bar area and the officer pursued and continued to fire at the suspect. The officer also fired shots outside the bar as the suspect fled down the street. An off-duty New Jersey State Trooper tried to intervene but the officer fired on him as well.

#92-85: An off-duty officer confronted a suspect burglarizing the officer's personal vehicle. The suspect reportedly attacked the officer with a screwdriver but the officer successfully fended off the attack. The suspect then fled and the officer fired on him, striking him in the back.

In all four of the above cases, the officer escalated the encounter with his gun, creating additional risk to himself or herself, the suspect, and innocent bystanders. Officers in #88-70, #90-108, and #92-85 fired at suspects who were already fleeing the scene. If the officers had not used deadly force and had instead given chase or simply called for on-duty police, the incidents likely would have ended without further violence. Finally, the officer in #91-95 opened fire in a crowded bar and then on the street, putting an untold number of innocent lives at risk. All of these officers created violence where none was likely to occur, which suggests that use of deadly force was the result of encounters in which they either should have played a less proactive role or that they should not have become involved in the first place.

Perhaps another issue to consider involves officer training in how to approach and resolve potentially violent encounters before deadly force decisions are made. The use of concealment and tactical knowledge, for example, can be employed by both on- and off-duty police to reduce the likelihood of a violent outcome (see Fyfe 1986). Although data on potentially violent encounters that did not result in deadly force were not available, it would be interesting to examine the number of fatal force opportunities for both on- and off-duty police and to consider the impact of preencounter and approach behavior of officers on the likelihood that deadly force is employed.

In sum, the analyses in general highlight the importance of administrative policy as a deadly force discretion control. On closer examination, however, the findings suggest an important differential impact based on officer duty status and type of incident. The study highlights the difficulty of applying general administrative shooting policies to control officer discretion in both types of deadly force encounters. Consequently, although the findings are far from definitive, this research suggests that specific administrative policies governing officers' discretion to carry firearms while off-duty may be needed. Such policies also can provide guidance to off-duty officers regarding when to take action and which action is appropriate.

The idea that police should not be on-duty 24 hours a day, 7 days a week, but rather simply should be good Samaritans and witnesses while off-duty seems to be the logic of other police departments that long ago affected off-duty officers' access to guns through restrictive carry policies. That the PPD has upheld the more traditional view of armed off-duty police and not provided any departmental guidance until recently presents interesting

research opportunities. A particularly interesting subject of future research would be a comparative analysis of the Philadelphia shooting data with data during the same time period from another department that had restricted off-duty officers' discretion to carry firearms. In addition, the logic of the PPD regarding the off-duty carrying issue has recently shifted toward a restriction of gun access, and an interesting research endeavor would involve a before and after analysis of their new off-duty carry policy. Both types of research would likely shed further light on the consequences that departments will experience because of the absence of clearly delineated administrative policies governing both dimensions of off-duty police conduct: when to carry and when to shoot.

NOTES

1. Alpert (1989) found that only 1% of shootings by Metro-Dade police involved off-duty officers.

2. However, the department disapproved of only 13% of all shootings. This would seem to indicate that the Chicago Police Department disapproved of few shootings, but most involved off-duty officers.

3. In some cases, the officer may not even have police identification.

4. See the earlier discussion of off-duty shootings and the percentage disapproved by departments.

5. Generally, police officers do not drink while on-duty. Accidental discharges can occur, regardless of officer duty status, but they are common when the officer is cleaning his gun, a task usually undertaken while off-duty. As for suicides, 27 Philadelphia police officers committed suicide during the study period, and only 1 was on-duty at the time of the incident.

6. Other examples include burglaries in progress, investigating suspicious persons, and responding to disturbances.

7. For example, White (1999) used police shooting data spanning 23 years (more than 1,200 officer discharges resulting in injury or death), and there is not a single case where this type of retaliation took place.

8. The data are based on Philadelphia Police Department Internal Shooting Investigations obtained through discovery in civil litigation. Reports for the intervening years, 1979 to 1986, could not be located. Efforts to obtain data for additional years (after 1992) were unsuccessful. The PPD has traditionally been reluctant to provide police shooting data to researchers and has only done so when required to under rules of discovery in brutality lawsuits against its officers.

9. For example, if on- and off-duty shootings do not appear different, then one would not expect administrative policy to have a differential impact. If shootings do appear different based on duty status, the likelihood of a differential impact is greater.

10. Although Cook and Campbell (1979) generally note that the independent variable is expected to influence one dependent variable but not the other, the design can be employed whenever there is a differential impact expected (i.e., the impact can be expected to influence both dependent variables but one more than the other).

11. The classification is determined on the basis of the police officer's perspective during the incident. As a result, if the suspect's weapon is a metallic object thought to be a gun, the incident is coded as a gun assault (even if the metallic object is subsequently found to have been a screwdriver).

12. Two complaints were filed in District Court separately in 1970, alleging widespread abuse and brutality among Philadelphia police officers. The District Court handed down its decision in March 1973, which placed PPD under federal injunction and stipulated specific requirements for investigating civilian complaints and engaging in use of force. The injunction was later lifted by the United States Supreme Court in 1976.

13. Only in February 1998 did the PPD adopt a clear policy relating specifically to off-duty behavior and handling of firearms. The policy states that, in most cases, off-duty police should act as good witnesses only. The policy also provides guidelines for making arrests while off-duty and leaves the decision of whether to carry a firearm up to the officer (although it does forbid carrying when drinking or taking medication).

14. In the earlier time period (1970-1978), the determination of whether a shooting was unauthorized was made by the author, based on the facts of the case. In the later time period, Internal Affairs reports of deadly force incidents included a preliminary finding of whether the shooting was justified, which helped to guide the author in his determinations.

15. This finding parallels Fyfe's (1978) findings in New York.

16. Fyfe (1988) supports White's (1999) assertions regarding the impact of the administrative policy on use of deadly force.

17. The lesser impact on nonelective shootings is partly explained by the shift, over time, in types of deadly force incidents. The percentage of nonelective shootings actually increased in the second time period, suggesting that, following the policy change, Philadelphia police officers began using their firearms less in elective situations.

18. Although formal tests of significance are not justified with data that are either a population (such as these data) or a convenience sample, they are provided here for readers who find them useful nevertheless. Results show that the difference between change in on- and off-duty shootings over time (in percentage), for both elective and nonelective incidents, is statistically significant at $p < .05$.

19. If only nonassaultive incidents are defined as elective, then the annual rate of on-duty, elective shootings drops from 1.8 per 1,000 officers to 0.2 per 1,000 officers. The annual rate of off-duty, elective shootings drops from 0.3 per 1,000 officers to 0.1 per 1,000 officers.

20. The decrease was evident in overall number of incidents, the percentage of elective incidents, and the annual rate of incidents per 1,000 officers.

21. There were a total of nine off-duty, elective shootings in the second time period.

22. This officer used deadly force in a subsequent encounter in March 1991. In that encounter, the officer got into an altercation at a wedding and killed the other person. The officer was arrested and tried for his actions in #90-97. He was acquitted and fired but won at arbitration and still works for PPD.

23. All four of these encounters are classified as nonelective; they were selected because the officers' actions escalated the encounter. They are not necessarily representative of all off-duty, nonelective encounters.

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