

PREDICTORS OF THE POLICE USE OF FORCE: The Application of a Continuum Perspective in Phoenix

CHARLES CRAWFORD
Western Michigan University

RONALD BURNS
Texas Christian University

There is a volume of research that has analyzed the police use of force—particularly the use of deadly force. Past research has been limited by employing only a dichotomous measurement of force. This paper explores predictors of the police use of force in Phoenix by analyzing 1,220 arrests. In addition, the paper employs the concept of a continuum of force. Logistic regression results show the strongest predictors of police use of force are length of time on the force, suspect race, chemical impairment, attempt to flee and possession of a weapon. Relevant literature and research implications are discussed.

Numerous researchers have observed the relationships between police officer use of force and officer traits, suspect traits and situational variables. Too often, such research has utilized dichotomous-level analyses of police force, including measurements of force/no force and deadly/nondeadly force. Based on the limitations of such studies, recent research (e.g., Garner et al. 1995) has suggested using a continuum of force to provide a more accurate understanding of the situations and to encourage development of more advanced measurements of such complex events.

Previous research suggests that a continuum of force exists in police-suspect encounters (e.g., Sykes and Brent 1980; Americans for Effective Law Enforcement 1988; Clede and Parsons 1987; Connor 1991; Desmedt 1984; Schultz 1990; Garner et al. 1995). For example, Garner et al. (1995) describe it as multiple categories of progressively increasing suspect resistance matched to progressively increasing officer responses. Yet this notion of a

POLICE QUARTERLY, VOL. 1, NO. 4 1998

©1998 Police Executive Research Forum

42 Predictors of the Police Use of Force

continuum is not merely descriptive; it is intentionally used to specify the highest level of appropriate response for a given level of suspect resistance.

Levels of the continuum include (in ascending order) no force, verbal commands, physical restraints, chemical spray, tactics and weapons (nonlethal), and deadly force. "No force" is the ideal police response, but the nature of such encounters prevents idealism. Given the power to use necessary force, police officers face the difficult task of recognizing the appropriate level of force for each situation and reacting accordingly.

Several researchers have noted the limitations of previous research measuring police use of force (e.g., Adams 1995; Reiss 1980; Garner et al. 1995; Toch 1969; Geller and Toch 1995). Noted limitations include the lack of variation in dependent variables (e.g., Reiss 1980; Toch 1969; Geller and Toch 1995), the use of nonsystematic samples (e.g., Adams 1995) and limited success in defining reasonable or excessive force (e.g., Adams 1995). (For a more detailed account of the limitations regarding historical measurement of the use of force and the continuum of force, the reader is referred to Garner et al. 1995). The present research attempts to overcome such limitations by observing the continuum of force in relation to officer, suspect and situational variables. Put simply, the amount of force used by police officers is measured in relation to officer characteristics, suspect characteristics and situational circumstances.

Police Use of Force: Prior Research

Numerous researchers have attempted to classify the factors influencing different types of police officer behavior. For example, Worden (1989) suggests that the likelihood of formal police action is related to the severity of the offense, visibility of the encounter, characteristics of the suspect, characteristics of the victim and the relationship between the parties. Sherman (1980) argues that approaches to explaining the variation in police behavior include individual, situational, organizational, community and legal levels of analysis. Brown (1981:24–31) notes that police action is not completely based on police officer beliefs, but also on such other factors as organizational and environmental characteristics. Similarly, Ericson (1982:25) contends that officers develop a "recipe of rules" that guides their behavior. The recipe is provided by communities, laws and policing organizations. Finally, Smith (1984) notes that the typical study regarding the determinants of police arrest decisions focuses on the influence of suspect characteristics, dispositional preferences of complainants and type and seriousness of the offense.

Common among most research regarding the influences on police behavior, especially police use of force, are discussions of the individual officer, suspect and situational variables. The individual approach attempts to ex-

plain variation in police behavior with the characteristics of officers themselves, such as length of service, gender, age and race. The suspect approach attempts to explain variation in police behavior with the characteristics of suspects, including suspects' gender, age, race, physical size, demeanor, possession of a weapon, attempt to flee and impairment by alcohol or drugs. The situational approach attempts to explain the outcomes of citizen-police encounters through the characteristics of the situation, including whether the officers were investigating a domestic dispute, whether the situation occurred at night, if there was a witness and if the offense occurred in a location known to be hazardous. A brief observation of the literature involving each of the approaches provides the background for the present research.

Individual Variables

Researchers have examined characteristics of police officers to determine how they may influence police behavior. It has long been argued that such individual officer characteristics as race, age and gender relate to their behavior (Fogelson 1977). Yet some research suggests that individual characteristics do not exert strong influences on police discretionary behavior (Riksheim and Chermak 1993). A closer look at several specific variables provides greater insight.

The previous research suggests that less experienced officers are more likely to use force than their more experienced counterparts. For example, Sherman (1980) and Crank (1993) have shown that less experienced officers are more aggressive, stop and frisk more often, and make more arrests. Similarly, Blumberg (1983) notes that officers with fewer years of police experience were significantly more likely to become involved in a shooting (controlling for assignment). In accordance, several researchers have noted that younger officers are more likely to use force than their elder counterparts. For example, Cohen and Chaiken (1972:15) find that officers in a single cohort who were oldest at their time of appointment were less likely to have civilian complaints filed against them for excessive use of force. Blumberg (1983) observes that younger officers were significantly more likely to become involved in a shooting (controlling for assignment).

The literature includes conflicting results regarding the relationship between officer gender and police use of force. While some suggest the gender of an officer exerts no influence on police behavior (Worden 1989), others found that females were less likely to make arrests, use deadly force and be involved in deadly force situations (Sherman 1980; Horvath 1987; Grennan 1987).

Examination of the effects officer race has on police use of force has provided little conclusive evidence. For example, the deadly force literature generally suggests that African-American officers are overrepresented in po-

44 Predictors of the Police Use of Force

lice shootings of citizens due to differential deployment of African-American officers in high crime areas and the higher rate of African-American officers residing in these areas (Geller and Karales 1981; Fyfe 1978). Others found evidence that an officer's race is not related to shooting behavior (e.g., Blumberg 1983:Chapter IV).

Suspect Variables

In understanding police use of force, it is necessary to address the influences of the offenders with whom they come into contact. For example, Wilson (1968:38) contends that police pass judgments concerning situations and individuals and practice distributive justice. Their evaluations regarding the moral character of suspects ultimately determine their action. Thus, several suspect characteristics have been found to influence police behavior.

The influence of suspect race, particularly African-Americans, upon police use of force has generated much research. There is ample evidence that African-Americans are the victims of deadly force by the police disproportionately to their numbers in the general population (Jacobs and O'Brien 1998; Binder, Scharf and Galvin 1982; Matulia 1982; Blumberg 1981; Geller and Karales 1981; Meyer 1980; Milton et al. 1977; Jenkins and Faison 1974; Takagi 1974; Robin 1963). Still, causes of this pattern of discrimination are debated. For instance, Fyfe (1988) suggests that what is true in one department may not be true in others and that racial discrimination is more likely to be a factor in police shootings in departments permitting a wider degree of discretion with regard to deadly force. Reiner (1981:466) suggests that Mexican-Americans appear to face a similar situation.

Suspect gender also appears to have an influence on police use of force. On average, women generally are less likely than men to be the targets of police use of force (Robin 1963; Milton et al. 1977:17; Fyfe 1978). Accordingly, Reiss (1972:305) cited only two women out of 37 victims of excessive force in one particular study, whereas females composed 17 percent of the suspects the police encountered.

Research is somewhat mixed regarding the effect of a citizen's age on police use of force. Some research suggests that young suspects are more likely to be the recipients of deadly force by police, while other research indicates that suspect age is not an important predictor of police behavior (Klinger 1996; Smith and Visher 1981; Smith and Davidson 1984; Smith 1984; Visher 1983). For example, archival studies consistently suggest that the majority of the people shot or killed by police are under age 30 (Robin 1963; Kobler 1975), but studies that compare the age of shooting victims with the age of arrestees provide conflicting results regarding whether the proportions match (Milton et al. 1977:21; Fyfe 1978:xv).

Suspect demeanor or attitude has recently received considerable attention in the research literature. Most research suggests that disrespectful or uncooperative citizens are more likely to be treated punitively (Black and Reiss 1970; Black 1971; Piliavin and Briar 1964; Smith and Visser 1981; Ericson 1982; Sherman 1980; Visser 1983; Smith 1986; Smith 1987). But questions concerning the measurement of demeanor have been raised by Klinger (1994), who argues that previous studies examining the effect of suspect demeanor on police behavior are flawed, due in part to the failure to measure demeanor properly.

In their analyses, Garner et al. (1995) noted that the single best predictor of police use of force was suspect use of force.

Situational Variables

Research regarding the impact of situational variables upon officer behavior has led to the conclusion that behavior is largely a response to situational cues. Situational explanations suggest that officers' behavior in police-citizen encounters is influenced by structural characteristics of the immediate situation: the nature of the problem, the attributes and actions of the citizens and contextual variables (Berk and Loseke 1981). For example, Worden (1995) suggests that most empirical tests of situational explanations have focused on officers' decisions to take formal action (specifically arrest), and they convincingly demonstrate that the arrest decision is influenced by these factors (e.g., Black 1971; Lundman 1974; Smith and Visser 1981).

Several situational variables have been found to affect police use of force. For instance, most research suggests that when an encounter is highly visible or when others are present (including supervisors), police are more likely to either write a report, make an arrest or use force (Reiss 1971; Smith and Visser 1981; Smith and Klein 1983; Smith 1984). Reiss (1972:305), however, finds that most instances of excessive police use of force took place in private places.

Similarly, police involvement in areas known to be dangerous or violent has been shown to increase the likelihood of using force. Kania and Mackey (1977) note that police violence is related to the extent of violence in and the cultural attributes of the community. Fyfe (1980) supports such findings and concludes that police use of violence is reflected by their exposure to violence by citizens and the rates of negligent and non-negligent manslaughter in the surrounding area. Similarly, Bayley and Mendelsohn (1969) observe that officers generally feel greater danger in minority neighborhoods and thus are likely to react more forcefully to prevent injury to themselves.

It must be noted that the present study is exploratory. Although the variables selected and measured have been identified by previous research-

ers, they are being measured and analyzed at various levels of the continuum of police use of force. Through this unique application of the continuum perspective of the police use of force, we attempt to progress from the traditional dichotomous "force/no force" approaches to gain a better understanding this area of police officer behavior.

The Present Research

The present research is based upon the data collected by Garner et al. in their Phoenix [Arizona] Use of Force Project.¹ The data come primarily from a two-page survey that Phoenix police officers completed after adult arrests during the two weeks beginning on June 13, 1994 (1,585 arrests).² The sample for the current research differs from Garner et al. (1995) in the removal of data involving the continuum option POLICE PRESENCE (having two or more officers present); it was not clear if the officers were dispatched or if backup was called ($n=150$). It is felt that the concept of the continuum of force and the options an officer may choose are still captured despite these changes. In addition, there were 215 missing cases for the variable LENGTH OF TIME ON FORCE (the number of years the arresting officer has been on the Phoenix Police Department); these cases were therefore removed.

After removing the cases, the remaining sample size was 1,220. In addition to the sample changes, one other difference must be noted: The original Garner et al. (1995) study employed only descriptive statistics, as researchers were mainly concerned with the development of a continuum. The current study uses a logistic regression model to examine the key predictors for each option along the continuum of force.

Dependent and Independent Variables

The dependent variables in this analysis are the six levels on the continuum of force³ as outlined by Garner et al. (1995). They include NO FORCE, VERBAL COMMANDS, RESTRAINTS, CHEMICAL AGENTS, TACTICS/NONLETHAL WEAPONS and FIREARMS (actual or threatened use).⁴ (See Appendix A for frequency of arrest and continuum options.) If the arresting officer employed one of the options on the continuum during the arrest, it is coded 1.

There are three types of independent variables in this analysis of the predictors of police use of force: officer variables, suspect variables and situational variables. Table 1 provides descriptive statistics for each. The average arresting officer was white, male, over the age of 30 and had a little more than seven years on the Phoenix police force. The average suspect was male, White and over the age of 30.

Table 1
Means, Standard Deviations, Ranges and Descriptions for Variables in Logistic Regression Models

Variables	Mean	Std Deviation	Minimum	Maximum	Description
LENGTH OF TIME ON FORCE	7.44	6.0100	1	51	Number of years in Phoenix P.D.
OFFICER MALE	0.83	0.3727	0	1	Officer gender male = 1
OFFICER YOUNG	0.17	0.3772	0	1	Officer less than 30 years of age = 1
OFFICER WHITE	0.74	0.4400	0	1	Officer White = 1
SUSPECT MALE	0.15	0.3600	0	1	Suspect race Black = 1
SUSPECT YOUNG	0.24	0.4300	0	1	Suspect ethnicity Hispanic = 1
SUSPECT HISPANIC	0.74	0.4398	0	1	Suspect gender male = 1
SUSPECT BLACK	0.30	0.4577	0	1	Suspect less than 30 years of age = 1
SUSPECT ANGRY OR AGGRESSIVE	0.23	0.4183	0	1	Suspect demeanor angry or aggressive = 1
SUSPECT POSSESSED WEAPON	0.07	0.2616	0	1	Suspect possessed weapon = 1
SUSPECT FLEES	0.07	0.2510	0	1	Suspect attempted to flee on foot or by car = 1
SUSPECT IMPAIRED BY ALCOHOL	0.26	0.4400	0	1	Suspect impaired by alcohol = 1
SUSPECT IMPAIRED BY DRUGS	0.09	0.2900	0	1	Suspect impaired by drugs = 1
SUSPECT TALLER THAN OFFICER	0.13	0.3350	0	1	Suspect 4 or more inches taller than officer = 1
RESPOND TO DOMESTIC VIOLENCE	0.13	0.3400	0	1	Call dispatched as domestic violence = 1
WITNESSES PRESENT	0.06	0.2300	0	1	Bystanders present at arrest = 1
LOCATION HAZARDOUS	0.42	0.4900	0	1	Location known to be hazardous = 1
ARREST AT NIGHT	0.51	0.5000	0	1	Arrest took place at night = 1

N of Arrests= 1,220

Data Analysis

The principal analytic technique employed in this research is a logistic regression, an appropriate method given the dichotomous nature of the dependent variables. Logistic regression also allows for the logit coefficients to be interpreted as an odds ratio indicating the increase in an event occurring given a one-unit change in the independent variable. This technique provides for the simultaneous control and evaluation of each independent variable. The interest in this research is to assess which of the numerous independent variables or predictors of police use of force cited in the literature have the greatest impact on the continuum decision. Therefore, the full model is reported for each dependent variable (i.e., each step on the continuum of the use of force). As each significant variable is discussed, it must be kept in mind that all the other independent variables are still included and are being controlled.⁵

Limitations

The present study does have several limitations, including the use of arrests as a sampling frame. Police-suspect encounters that do not result in arrest are not included in the analysis. To address this problem, Garner et al. (1995) suggest the use of other sampling designs, such as systematic field observations—although they cite research suggesting that such designs are expensive and rarely implemented (Mastrofski et al. 1995). Another limitation of the present research involves the representativeness of using only one police department in the sample, and for only a two-week time period. Garner et al. (1995) suggest (and we concur) that additional research is needed to determine if the results of the present study are unique to the Phoenix Police Department or representative of police departments in general. Finally, the use of self-reports by officers could be problematic, as officers are only one participant in the encounters currently under study and are subject to biased responses. Alpert and Dunham (1997:1) point out that both conventional wisdom and research suggest that the majority of police use of force is a result of citizens not following lawful orders. As citizens resist, officers escalate the level of force accordingly. Thus, suspects may increasingly reject the officers' attempts to subdue them.

Alpert and Dunham (1997) addressed this limitation by creating a "force factor"⁶ that measures both officer and suspect use of force. Garner et al. (1995) also recognized this limitation and interviewed a subsample of suspects about the levels of force used by police and the suspects themselves. They found roughly comparable levels of police use of force reported by suspects and police. Garner et al. (1995) recognize (as do we) the importance in such a design of reverse record checks on self-reports of officers and

suspects, incidents reported in official records and accounts by independent observers. Although this is a valid issue—and Alpert and Dunham (1997) offer a valid and interesting solution—we chose not to include a “force factor” measure. We account for suspect resistance and escalation of force by including variables that relate to suspect demeanor, possession of a weapon, attempts to escape and impairment by alcohol or drugs.

Findings

Table 2 presents the results of the full model employed throughout this study for the dependent variable NO FORCE. The key predictors of an officer using no force was LENGTH OF TIME ON FORCE; as an officer’s time on the force increases, he or she is less likely to use force in an arrest. SUSPECT ANGRY OR AGGRESSIVE (suspect demeanor) significantly decreased the odds of the arresting officer using no force. In addition, arrests in which the officers

Table 2
Logit Results for the Use of NO FORCE on the Continuum of
Police Use of Force in Phoenix

Variable	B	S.E.	Logit
LENGTH OF TIME ON FORCE	.0414	.0187	1.04**
OFFICER MALE	-.0068	.3372	0.99
OFFICER YOUNG	-.0692	.3517	0.93
OFFICER WHITE	.0103	.2747	1.01
SUSPECT MALE	-.5411	.2692	0.58**
SUSPECT YOUNG	-.0304	.2653	0.97
SUSPECT HISPANIC	-.3812	.3172	0.68
SUSPECT BLACK	.0630	.3296	1.07
SUSPECT ANGRY OR AGGRESSIVE	-1.4816	.4792	0.23*
SUSPECT POSSESSED WEAPON	-.9118	.6132	0.40
SUSPECT FLEES	-6.4675	9.7871	0.00
SUSPECT IMPAIRED BY ALCOHOL	-.1174	.3238	0.89
SUSPECT IMPAIRED BY DRUGS	-.2501	.4538	0.78
SUSPECT TALLER THAN OFFICER	-.4578	.4275	0.63
RESPOND TO DOMESTIC VIOLENCE	-1.3572	.6037	0.26*
WITNESSES PRESENT	-.8113	.2490	0.44*
LOCATION HAZARDOUS	-.5642	.6248	0.57
ARREST AT NIGHT	-.1298	.2494	0.88
Constant	-1.4939	.3976	

N=1,220

-2 Log-likelihood 540.600

* p<.01

** p<.05

*** p<.10

50 Predictors of the Police Use of Force

responded to a domestic violence dispatch (RESPOND TO DOMESTIC VIOLENCE), witnesses were present (WITNESSES PRESENT) or the suspect was male (SUSPECT MALE) all significantly reduced the odds of no force being employed. Other variables of theoretical interest, such as officer and suspect race, had no significant impact on the use of no force.

Table 3 shows the results for the option of VERBAL COMMANDS. African-American suspects (SUSPECT BLACK) were more than twice as likely to have verbal commands used against them than Whites or other minorities. The line between verbal commands and verbal abuse may be quite fine in terms of citizen perception, with a great deal of disagreement about what constitutes verbal abuse. Sharp tones and a refusal to answer citizen questions may be interpreted as police verbal abuse. This has been a complaint from minority communities for decades. Walker, Spohn and Delone (1995) point out that in New York City, 40 percent of citizen complaints involved discourtesy or ethnic slurs.

Table 3
Logit Results for the Use of VERBAL COMMANDS on the Continuum of Police Use of Force in Phoenix

Variable	B	S.E.	Logit
LENGTH OF TIME ON FORCE	.0039	.0265	1.00
OFFICER MALE	-.1329	.4337	0.88
OFFICER YOUNG	-.2772	.4745	0.76
OFFICER WHITE	.0644	.3624	1.07
SUSPECT MALE	-.6999	.3567	0.50**
SUSPECT YOUNG	.2969	.3295	1.35
SUSPECT HISPANIC	.0557	.4081	1.06
SUSPECT BLACK	.8260	.3771	2.28**
SUSPECT ANGRY OR AGGRESSIVE	-.3130	.3810	0.73
SUSPECT POSSESSED WEAPON	.0054	.5505	1.01
SUSPECT FLEES	.2805	.5313	1.32
SUSPECT IMPAIRED BY ALCOHOL	.7524	.3506	2.12**
SUSPECT IMPAIRED BY DRUGS	.2904	.4713	1.34
SUSPECT TALLER THAN OFFICER	.1331	.4801	1.14
RESPOND TO DOMESTIC VIOLENCE	-.3903	.5463	0.68
WITNESSES PRESENT	-.6938	.3186	0.50**
LOCATION HAZARDOUS	.8056	.4609	2.24**
ARREST AT NIGHT	-.1992	.3203	0.82
Constant	-2.7909	.5274	

N=1,220

-2 Log-likelihood 373.615

* p<.01

** p<.05

*** p<.10

Sharp tones, harsh language and profanity may all be used to control citizens, create distance and dominate suspects.

If suspects were impaired by alcohol (SUSPECT IMPAIRED BY ALCOHOL), or if the location was known to be hazardous by the police (LOCATION HAZARDOUS), the arresting officer was more than twice as likely to issue verbal commands. Such previous researchers as Fyfe (1980) and Kania and Mackey (1977) support the latter finding. If witnesses were present (WITNESSES PRESENT) or if the suspect was male (SUSPECT MALE), officers were less likely to issue verbal commands.

The results for the next step on the continuum (use of RESTRAINTS) are presented in Table 4. The first key variable is LENGTH OF TIME ON FORCE—as their number of years on the force increased, officers were less likely to restrain suspects. Suspects under the age of 30 (SUSPECT YOUNG) were less likely to be restrained than those older. If the suspect's demeanor was

Table 4
Logit Results for the Use of RESTRAINTS on the Continuum of Police Use of Force in Phoenix

Variable	B	S.E.	Logit
LENGTH OF TIME ON FORCE	-.0328	.0116	0.97*
OFFICER MALE	.1760	.1926	1.19
OFFICER YOUNG	-.0144	.1892	0.99
OFFICER WHITE	.0237	.1579	1.02
SUSPECT MALE	.2079	.1637	1.23
SUSPECT YOUNG	-.2916	.1428	0.75**
SUSPECT HISPANIC	-.0560	.1625	0.95
SUSPECT BLACK	-.1497	.1864	0.86
SUSPECT ANGRY OR AGGRESSIVE	-1.2355	.1520	0.29*
SUSPECT POSSESSED WEAPON	-.6768	.2266	0.51*
SUSPECT FLEES	-.9715	.2432	0.38*
SUSPECT IMPAIRED BY ALCOHOL	-.1763	.1566	0.84
SUSPECT IMPAIRED BY DRUGS	-.3627	.2197	0.70***
SUSPECT TALLER THAN OFFICER	-.1122	.1984	0.89
RESPOND TO DOMESTIC VIOLENCE	.0486	.1920	1.05
WITNESSES PRESENT	.4590	.1346	1.58*
LOCATION HAZARDOUS	-.5488	.2733	0.58**
ARREST AT NIGHT	-.2794	.1357	0.76**
Constant	1.1946	.2451	

N=1,220

-2 Log-likelihood 1411.504

* p<.01

** p<.05

*** p<.10

52 Predictors of the Police Use of Force

angry or aggressive (SUSPECT ANGRY OR AGGRESSIVE), the arresting officer was less likely to use restraints. In all likelihood, the officer would be inclined to step up the continuum for a noncomplying, angry suspect.

If the suspect possessed a weapon (SUSPECT POSSESSED WEAPON), was impaired by drugs (SUSPECT IMPAIRED BY DRUGS) or was arrested at night (ARREST AT NIGHT), the arresting officer was less likely to choose this option and would more than likely escalate the use of force. If witnesses were present (WITNESSES PRESENT), the arresting officer was more likely to use restraints. This result is supported by the previous literature on public presence at an arrest; the arresting officer may need to establish control and authority in an arrest situation with witnesses present. Suspect who attempted to elude the officers (SUSPECT FLEES) were much less likely to have restraints used against them. Finally, if the location was known to be hazardous (LOCATION HAZARDOUS), the arresting officer was less likely to use restraints.

Table 5
Logit Results for the Use of CHEMICAL AGENTS on the Continuum of
Police Use of Force in Phoenix

Variable	B	S.E.	Logit
LENGTH OF TIME ON FORCE	-.1359	.0949	0.87
OFFICER MALE	.4330	.9143	1.54
OFFICER YOUNG	.1694	.7943	1.18
OFFICER WHITE	-.6662	.7467	0.51
SUSPECT MALE	.1290	.8958	1.14
SUSPECT YOUNG	-.0410	.6676	0.96
SUSPECT HISPANIC	1.1047	.7073	3.02
SUSPECT BLACK	-.4789	1.1184	0.62
SUSPECT ANGRY OR AGGRESSIVE	2.2361	.7161	9.36*
SUSPECT POSSESSED WEAPON	2.2402	.7472	9.40*
SUSPECT FLEES	.8152	.8579	2.26
SUSPECT IMPAIRED BY ALCOHOL	-.2618	.7145	0.77
SUSPECT IMPAIRED BY DRUGS	-.1460	1.0949	0.86
SUSPECT TALLER THAN OFFICER	.1476	.8775	1.16
RESPOND TO DOMESTIC VIOLENCE	1.0218	.7045	2.78
WITNESSES PRESENT	.1747	.6619	1.19
LOCATION HAZARDOUS	.2399	1.1398	1.27
ARREST AT NIGHT	-.5705	.6583	0.57

Constant

N=1,220

-2 Log-likelihood 104.673

* p<.01

** p<.05

*** p<.10

Table 5 shows the results for the use of CHEMICAL AGENTS. This option produced some of the strongest findings—suspects who had an angry or aggressive demeanor or possessed a weapon were more than nine times as likely to have chemical agents employed against them. These findings must be taken with caution, as chemical agents were used against only 12 suspects. An interesting finding involved Hispanic suspects (n=5): Although the variable reached only a marginal significance level ($p < .11$), these suspects were more than 3 times as likely to have chemical agents used against them.

Table 6 shows the results for the use of TACTICS and NONLETHAL WEAPONS. Young suspects (SUSPECT YOUNG) were 45 percent more likely to have tactics and nonlethal weapons used against them. The most striking result for this table was suspect demeanor (SUSPECT ANGRY OR AGGRESSIVE). Suspects whose demeanor was angry or aggressive were nearly six times as likely to have tactics and nonlethal weapons used against

Table 6
Logit Results for the Use of NONLETHAL WEAPONS on the Continuum of Police Use of Force in Phoenix

Variable	B	S.E.	Logit
LENGTH OF TIME ON FORCE	.0209	.0149	1.02
OFFICER MALE	-.2620	.2430	0.77
OFFICER YOUNG	-.0668	.2469	0.94
OFFICER WHITE	-.0186	.2028	0.98
SUSPECT MALE	.1369	.2136	1.15
SUSPECT YOUNG	.3742	.1780	1.45**
SUSPECT HISPANIC	.0755	.2032	1.08
SUSPECT BLACK	-.0447	.2402	0.96
SUSPECT ANGRY OR AGGRESSIVE	1.7718	.1757	5.88*
SUSPECT POSSESSED WEAPON	.2102	.2813	1.23
SUSPECT FLEES	1.0840	.2626	2.96*
SUSPECT IMPAIRED BY ALCOHOL	.2861	.1873	1.33
SUSPECT IMPAIRED BY DRUGS	.8101	.2517	2.25*
SUSPECT TALLER THAN OFFICER	.1821	.2462	1.20
RESPOND TO DOMESTIC VIOLENCE	.3225	.2249	1.38
WITNESSES PRESENT	-.1941	.1712	0.82
LOCATION HAZARDOUS	.3922	.3144	1.48
ARREST AT NIGHT	.5484	.1722	1.73*
Constant	-2.8493	.3255	

N=1,220
 -2 Log-likelihood 978.572

* $p < .01$
 ** $p < .05$
 *** $p < .10$

54 Predictors of the Police Use of Force

them. In addition, suspects who tried to flee on foot or by car (SUSPECT FLEES) or who were impaired by drugs (SUSPECT IMPAIRED BY DRUGS) were between two to nearly three times as likely to have tactics employed on them. Officers who made an arrest at night (ARREST AT NIGHT) were also more likely to use tactics/nonlethal weapons.

Table 7 presents the results for the final and most serious use of force on the continuum, FIREARMS. As the variable LENGTH OF TIME ON FORCE increased, officers were more likely to use or threaten the use of firearms. This finding is contrary to some of the accepted research on police experience and use of force. Blumberg (1983) notes that officers with less experience were more likely to employ force. This does not appear to be the case for the present study. Perhaps this is a situation where officers with more experience recognize the need to escalate the use of force to the extreme option of firearms.

Table 7
Logit Results for the Use of FIREARMS on the Continuum of
Police Use of Force in Phoenix

Variable	B	S.E.	Logit
LENGTH OF TIME ON FORCE	.0552	.0231	1.06**
OFFICER MALE	.1065	.4623	1.11
OFFICER YOUNG	.4746	.4251	1.61
OFFICER WHITE	-.2193	.3552	0.80
SUSPECT MALE	.2047	.4246	1.23
SUSPECT YOUNG	-.0044	.3264	1.00
SUSPECT HISPANIC	.2584	.3812	1.29
SUSPECT BLACK	-.1086	.4174	0.90
SUSPECT ANGRY OR AGGRESSIVE	.4474	.3356	1.56
SUSPECT POSSESSED WEAPON	1.8801	.3408	6.56*
SUSPECT FLEES	1.1551	.3919	3.17*
SUSPECT IMPAIRED BY ALCOHOL	-.7578	.4308	0.47***
SUSPECT IMPAIRED BY DRUGS	-1.1948	.7480	0.30
SUSPECT TALLER THAN OFFICER	.5106	.4108	1.67
RESPOND TO DOMESTIC VIOLENCE	-.2097	.5076	0.81
WITNESSES PRESENT	.2615	.3104	1.30
LOCATION HAZARDOUS	.3034	.5289	1.35
ARREST AT NIGHT	.3523	.3203	1.42
Constant	-4.5666	.6254	

N=1,220

-2 Log-likelihood 369.259

* p<.01

** p<.05

*** p<.10

The key predictor for the arresting officer's use of firearms was if the suspect possessed a weapon (SUSPECT POSSESSED WEAPON). In this situation officers were more than six times as likely to use or threaten the use of firearms. If the suspect tried to flee on foot or by car (SUSPECT FLEES), the arresting officer was more than three times as likely to employ firearms. If a suspect was impaired by alcohol (SUSPECT IMPAIRED BY ALCOHOL), however, the arresting officer was less likely to use firearms.

Summary and Conclusions

There has been a considerable amount of research devoted to police use of force. The findings of the current research add to this body of literature by examining the predictors of police use of force through officer characteristics, suspect characteristics and the situational context in which the two come together. The present research also emphasizes the application of a continuum perspective to assess the range of options available to an officer. The results of this study are discussed in the three main predictor areas: officer characteristics, suspect characteristics and situational variables.

Table 8 summarizes all the significant findings in this study. Although a great deal of research is devoted to officer characteristics, the only variable in this category to reach significance for any option was LENGTH OF TIME ON FORCE. As the length of time on the force increased, officers were more likely to employ the options of NO FORCE and FIREARMS. As length of time on the force increased, officers were also less likely to employ RESTRAINTS. Perhaps officers with more experience are better able to predict when force is not needed and when to escalate to the final option on the continuum of force. Officer gender, age and race do not appear to be good predictors of police use of force along this continuum.

Among the suspect variables, male suspects (SUSPECT MALE) were more likely to have some type of force used against them and less likely to receive VERBAL COMMANDS. Suspect race and ethnicity were key predictors for two options on the continuum, VERBAL COMMANDS (against African-American suspects) and CHEMICAL AGENTS (against Hispanic suspects; this finding is not reflected in Table 8 as it was only marginally significant, with $p < .11$). Neither suspect race nor suspect ethnicity were key predictors of the use of extreme options on the continuum of force (i.e., tactics or firearms). As mentioned earlier, there is a large volume of literature regarding minorities and police use of force. Coramae Richey Mann points out that "Since the early days of this nation, peoples of color have complained of differential, primarily disrespectful and brutal treatment by the police, particularly white police officers" (1993:133). Given this history and such recent events as the racially motivated abuse of a Haitian suspect in a

Table 8
Summary of Significant Findings for Police Use of Force in Phoenix

Dependent Variables	NO FORCE	VERBAL COMMANDS	RESTRAINTS	CHEMICAL AGENTS	TACTICS/ NONLETHAL WEAPONS	FIREARMS
LENGTH OF TIME ON FORCE	1.04**		0.97*			1.06**
OFFICER MALE						
OFFICER YOUNG						
OFFICER WHITE						
SUSPECT MALE	0.58**	0.50**	0.75**		1.45**	
SUSPECT YOUNG						
SUSPECT HISPANIC						
SUSPECT BLACK		2.28**				
SUSPECT ANGRY OR AGGRESSIVE	0.23*		0.29*	9.36*	5.88*	6.56*
SUSPECT POSSESSED WEAPON			0.51*	9.40*		3.17*
SUSPECT FLEES			0.38*		2.96*	0.47***
SUSPECT IMPAIRED BY ALCOHOL						
SUSPECT IMPAIRED BY DRUGS		2.12**			2.25*	
SUSPECT TALLER THAN OFFICER			0.70***			
RESPOND TO DOMESTIC VIOLENCE	0.26*					
WITNESSES PRESENT	0.44*	0.50**	1.58*			
LOCATION HAZARDOUS		2.24***	0.58**			
ARREST AT NIGHT			0.76**		1.73*	

N=1,220

* p<.01

** p<.05

*** p<.10

New York City police precinct,⁷ this was a surprising yet welcomed result. It must be understood, however, that this does not deny the personal histories not only of minorities, but also of all citizens who have suffered legitimized violence at the hands of the police.

Among the other suspect variables, suspects who were under the age of 30 (SUSPECT YOUNG) were less likely than those over 30 to have restraints used against them and more likely to have TACTICS/NONLETHAL WEAPONS employed. Suspect demeanor (being ANGRY OR AGGRESSIVE toward the arresting officer) was one of the strongest predictors of the officer choosing to use CHEMICAL AGENTS or TACTICS/NONLETHAL WEAPONS. This is reflected in the small likelihood of the arresting officer employing NO FORCE or RESTRAINTS against angry or aggressive suspects.

The variable that had the strongest result for this study was SUSPECT POSSESSED WEAPON. These suspects had the highest odds of having CHEMICAL AGENTS and FIREARMS employed against them. This was a logical result, as reflected in the insignificant findings for the other options and the small odds of having restraints employed against them.

Suspects who attempted to flee from the officers (SUSPECT FLEES) also provided some of the stronger findings of this research, as they were roughly three times as likely to have TACTICS/NONLETHAL WEAPONS and FIREARMS employed against them.

A SUSPECT IMPAIRED BY ALCOHOL was more than twice as likely to receive VERBAL COMMANDS and least likely to have the more serious options invoked.

A SUSPECT IMPAIRED BY DRUGS had increased odds for the use of TACTICS/NONLETHAL WEAPONS. Two key predictors for an officer using a higher level of force were an angry or aggressive demeanor (SUSPECT ANGRY OR AGGRESSIVE) for TACTICS/NONLETHAL WEAPONS and possession of a weapon (SUSPECT POSSESSED WEAPON) for the option of FIREARMS. These two suspect variables produced the strongest results for this research. Furthermore, suspects who attempted to flee (SUSPECT FLEES) increased their odds of having a more serious level of force used against them. The police response of force to most of these suspect variables is logical and supported by previous research. In general, it appears that suspect variables play the most significant role in determining police use of force. Similar to the findings of Garner et al. (1995), the present research suggests that the best predictor of police force was suspect use of force.

The situational context in which police and suspects come together can be a powerful determinant in the use of force. Although responding to a domestic violence call can be both exasperating and dangerous for police

officers, this type of dispatch did not significantly predict increased uses of force on the continuum. If witnesses were present at the arrest, officers were more likely to choose options other than NO FORCE and employ the use of RESTRAINTS. Furthermore, if witnesses were present the arresting officer was less likely to issue VERBAL COMMANDS.

If a location was known to be hazardous to police (LOCATION HAZARDOUS), the arresting officer was more than twice as likely to issue VERBAL COMMANDS. Finally, if the arrest took place at night (ARREST AT NIGHT) the likelihood of the arresting officer using TACTICS/NONLETHAL WEAPONS against the suspect increased. Perhaps these findings will encourage police departments to examine the context in which officers must choose among options of force and to develop appropriate training procedures addressing this issue.

This research must be taken with a note of caution. As mentioned earlier, the analysis involved data from police officer self-reports on the amount of force applied. It is quite possible that the reason such individual variables as officer and suspect race are not stronger predictors is that they occurred in situations in which there was no arrest. In addition, the interactions of race and criminal justice practices are often contextual—that is, they are tied to local institutions and histories as well and racial and economic relations. The fact that race and other individual characteristics are not significant within these research models may simply reflect this fact.⁸

Overall, the continuum perspective of assessing the police use of force offers a valid method of measuring which key independent variables are most likely to predict the use of force against a suspect. It is a superior measure to the often-used dichotomy of Force/No Force. It is hoped that this research will stimulate others to apply the continuum perspective in examining the use of force in police departments nationwide.

References

- Adams, K. 1995. "Measuring the Prevalence of Police Abuse of Force." Pp. 61–98 in *And Justice for All: Understanding and Controlling Abuse of Force*, edited by W. Geller and H. Toch. Washington, DC: Police Executive Research Forum.
- Alpert, G. and R. Dunham. 1997. *The Force Factor: Measuring Police Use of Force Relative to Suspect Resistance*. Washington, DC: Police Executive Research Forum.
- Americans for Effective Law Enforcement. 1988. *Use of Force Tactics and Non-Lethal Weaponry*. Prospect Heights, IL: Waveland Press.
- Bayley, D.H. and H. Mendelsohn. 1969. *Minorities and the Police*. New York: Free Press.

- Berk, S.F. and D. Loseke. 1981. "Handling Family Violence: Situational Determinants of Police Arrest in Domestic Disturbances." *Law and Society Review* 15(2): 317-46.
- Binder, A., P. Scharf and R. Galvin. 1982. *Use of Deadly Force by Police Officers. Final Report*. Washington, DC: National Institute of Justice.
- Bittner, E. 1970. *The Functions of the Police in Modern Society*. Rockville, MD: National Institute of Mental Health.
- Black, D. 1971. "The Social Organization of Arrest." *Stanford Law Review* 23: 1087-1111.
- Black, D. and A.J. Reiss Jr. 1970. "Police Control of Juveniles." *American Sociological Review* 35: 63-77.
- Blumberg, M. 1981. "Race and Police Shootings: An Analysis in Two Cities." In *Contemporary Issues in Law Enforcement*, edited by J.J. Fyfe. Beverly Hills, CA: Sage.
- . 1983. "The Use of Firearms by Police Officers: The Impact of Individuals, Communities, and Race." Ph.D. diss., State University of New York at Albany.
- Brown, M.K. 1981. *Working the Street: Police Discretion and the Dilemmas of Reform*. New York: Russell Sage Foundation.
- Clede, B. and K. Parsons. 1987. *Police Nonlethal Force Manual: Your Choices this Side of Deadly*. Harrisburg, PA: Stackpole Books.
- Cohen, B. and J.M. Chaiken. 1972. *Police Background Characteristics and Performance: Summary*. New York: Rand Institute.
- Connor, G.J. 1991. "Use of Force Continuum: Phase II." *Law and Order March*: 30-32.
- Crank, J.P. 1993. "Legalistic and Order-Maintenance Behavior Among Police Patrol Officers: A Survey of Eight Municipal Police Agencies." *American Journal of Police* 7: 103-26.
- Desmedt, J.C. 1984. "Use of Force Paradigm for Law Enforcement." *Journal of Police Science and Administration* 12: 170-76.
- Ericson, R. 1982. *Reproducing Order: A Study of Police Patrol Work*. Toronto: University of Toronto Press.
- Fogelson, R.M. 1977. *Big City Police*. Cambridge, MA: Harvard University Press.
- Fyfe, J.J. 1978. "Shots Fired: An Examination of New York City Police Firearms Discharges." Ph.D. diss., State University of New York at Albany.
- . 1980. "Geographic Correlates of Police Shootings: A Microanalysis." *Crime and Delinquency* 17: 101-13.
- . 1988. "Police Use of Deadly Force: Research and Reform." *Justice Quarterly* 5(2): 165-205.

60 Predictors of the Police Use of Force

- Garner, J., T. Schade, J. Hepburn and J. Buchanan. 1995. "Measuring the Continuum of Force Used by and Against the Police." *Criminal Justice Review* 20(2): 146–68.
- Geller, W.A. and K. Karales. 1981. *Shootings of and by Chicago Police*. Chicago Law Enforcement Study Group.
- Geller, W.A. and W. Toch. 1995. *And Justice for All: Understanding and Controlling Police Abuse of Force*. Washington, DC: Police Executive Research Forum.
- Grennan, S. 1987. "Findings on the Role of Officer Gender in Violent Encounters with Citizens." *Journal of Police Science and Administration* 15: 78–85.
- Horvath, F. 1987. "The Police Use of Deadly Force: A Description of Selected Characteristics of Intrastate Incidents." *Journal of Police Sciences and Administration* 15: 226–38.
- Jacobs, D. and R. O'Brien. 1998. "The Determinants of Deadly Force: A Structural Analysis of Police Violence." *American Journal of Sociology* 103(4): 837–62.
- Jenkins, B. and A. Faison. 1974. *An Analysis of 248 Persons Killed by New York City Policemen*. New York: Metropolitan Applied Research Center.
- Kania, R.E. and W.C. Mackey. 1977. "Police Violence as a Function of Community Characteristics." *Criminology* 15(1): 27–48.
- Klinger, D.A. 1994. "Demeanor or Crime? Why 'Hostile' Citizens are More Likely to be Arrested." *Criminology* 32: 475–93.
- . 1996. "More on Demeanor and Arrest in Dade County." *Criminology* 34: 61–82.
- Kobler, A. 1975. "Figures (and Perhaps Some Facts) on Police Killing of Citizens in the United States." *Journal of Social Issues* 31: 185–91.
- Lundman, R. 1974. "Routine Police Arrest Practices: A Commonwealth Perspective." *Social Problems* 22: 127–41.
- Mann, C.R. 1993. *Unequal Justice: A Question of Color*. Bloomington and Indianapolis, IN: University Press.
- Mastrofski, S., R. Parks, A.J. Reiss and R.E. Worden. 1995. "Community Policing at the Street Level: A Study of the Police and the Community." Proposal submitted to the National Institute of Justice. Lansing, MI: Michigan State University.
- Matulia, K.J. 1982. *A Balance of Forces*. Gaithersburg, MD: International Association of Chiefs of Police.
- Meyer, M.W. 1980. "Police Shootings at Minorities: The Case of Los Angeles." *Annals of the American Academy of Political and Social Sciences* 452: 89–110.
- Milton, C.H., J.S. Halleck, J. Lardner and G.L. Albrecht. 1977. *Police Use of Deadly Force*. Washington, DC: Police Foundation.

- Piliavin, J. and S. Briar. 1964. "Police Encounters with Juveniles." *American Journal of Sociology* 70: 206–14.
- Reiner, R. 1981. "Black and Blue: Race and the Police." *New Society* 17: 466–69.
- Reiss, A.J., Jr. 1971. *The Police and the Public*. New Haven, CT: Yale University Press.
- . 1972. "Police Brutality." In *The Criminal in the Arms of the Law, Vol. 2, Crime and Justice*, edited by L. Radzinowicz and M.E. Wolfgang. New York: Basic Books.
- . 1980. "Police Brutality—Answers to Key Questions." Pp. 10–19 in *Law and Order Police Encounters*, edited by M. Lipinsky. New Brunswick, NJ: Aldine.
- Reiss, A.J., Jr. and J. Roth. 1993. *Understanding and Preventing Violence*. Washington, DC: National Academy Press.
- Rikshem, E.C. and S.M. Chermak. 1993. "Causes of Police Behavior Revisited." *Journal of Criminal Justice* 21(4): 353–82.
- Robin, G.D. 1963. "Justifiable Homicide by Police Officers." *Journal of Criminal Law, Criminology and Police Science* 54: 225–31.
- Schultz, D.L. 1990. *Police Unarmed Defense Tactics*. Placerville, CA: Custom Publishing Company.
- Sherman, L. 1980. "Causes of Police Behavior: The Current State of Quantitative Research." *Journal of Research in Crime and Delinquency* 17: 69–100.
- Smith, D.A. 1984. "The Organizational Aspects of Legal Control." *Criminology* 22: 19–38.
- . 1986. "The Neighborhood Context of Police Behavior." In *Crime and Justice: An Annual Review of Research*. Vol. 8A. Edited by A.J. Reiss Jr. and M. Tonry. New York: Basic Books.
- . 1987. "Police Response to Interpersonal Violence: Defining the Parameters of Legal Control." *Social Forces* 65: 767–82.
- Smith, D.A. and L.A. Davidson. 1984. "Equity and Discretionary Justice: The Influence of Race on Police Arrest Decisions." *Journal of Criminal Law* 75: 234–49.
- Smith, D.A. and J.R. Klein. 1983. "Police Agency Characteristics and Arrest Decisions." In *Evaluating Performance of Criminal Justice Agencies*, edited by G.D. Whitaker and C.D. Phillips. Beverly Hills: Sage.
- Smith, D.A. and C. Visher. 1981. "Street-Level Justice: Situational Determinants of Police Arrest Decisions." *Social Problems* 31: 167–77.
- Sykes, R.E. and E.E. Brent. 1980. "The Regulation of Interaction by Police: A Systems View of Taking Charge." *Criminology* 18(2): 182–97.
- Takagi, P. 1974. "A Garrison State in a 'Democratic' Society." *Crime and Social Justice: A Journal of Radical Criminology* 5: 27–33.

- Toch, H.H. 1969. *Violent Men: An Inquiry into the Psychology of Violence*. Chicago: Aldine.
- Visher, C.A. 1983. "Gender, Police Arrest Decisions, and Notions of Chivalry." *Criminology* 21: 5–28.
- Walker, S., C. Spohn and M. Delone. 1996. *The Color of Justice: Race, Ethnicity, and Crime in America*. Belmont, CA: Wadsworth Publishing.
- Wilson, J.Q. 1968. *Varieties of Police Behavior*. Cambridge, MA: Harvard University Press.
- Worden, R.E. 1989. "Situational and Attitudinal Explanations of Police Behavior: A Theoretical Reappraisal and Empirical Assessment." *Law and Society Review* 23: 667–711.
- . 1995. "The 'Causes' of Police Brutality: Theory and Evidence on Police Use of Force." Pp. 31–60 in *And Justice for All: Understanding and Controlling Police Abuse of Force*, edited by W. Geller and H. Toch. Washington, DC: Police Executive Research Forum.

Notes

1. Garner, J., T. Schade, J. Hepburn and A. Mulcahy. Phoenix [Arizona] Use of Force Project, June 1994 ICPSR 6626. New Brunswick, NJ: Rutgers University/Tempe, AZ: Arizona State University [producers], 1994. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor], 1996.
2. The subjects included all patrol officers from the Phoenix Police Department and officers from two specialized units, whose inclusion was based upon their high frequency of involvement in use-of-force situations and to increase the generalizability of the results. The authors note that there were 1,826 adult arrests recorded by the Phoenix Police Department's automated information system during this two-week period. They were able to capture only 1,585 (87%) arrests in their research. A comparison of the available characteristics of the 1,826 arrests with those in the survey yielded no substantive or statistically significant differences. Therefore the loss of 13 percent of adult custody arrests does not distort the findings (Garner et al. 1995:153).
3. In devising the measure of the continuum of force used by the police, each arrest in which officers indicated on the survey form that they used a firearm was coded as a 6 (firearm use). Where the survey indicated that one or more officers used any other weapon (batons, flashlights, etc.) or a weaponless tactic (hitting, pushing, wrestling), the arrest was coded as a 5 (tactics and weapons). Where the survey indicated the use of pepper-mace, this measure was coded as a 4 (chemical agents). Arrests involving any type of restraint, including handcuffs, were coded as a 3 (restraints). If the officers shouted or used a command voice, the code was 2 (verbal commands). If two or more officers were present

at the initiation of the arrest, the level of police response was coded as a 1 (police presence). In those arrests in which no weapon or tactic was used or threatened, no restraint or command voice was used and only one officer was present, the police continuum of force was coded as 0 (no force). Each arrest was coded according to the highest level of force reported.

4. As the current study is based upon prior research conducted by Garner et al. (1995), we accept their use of the definition of violence provided by the National Academy of Science, which suggests that violence is “behaviors by individuals that intentionally threaten, attempt, or inflict physical harm on others” (Reiss and Roth 1993:2). Due to the lack of consensus in police literature regarding the meaning of “force” (Bittner 1970; Reiss 1971; Wilson 1968), it was felt by the present researchers (as well as by Garner et al. 1995) that the Academy’s definition of violence reflects the traditional understanding of “force”—it includes threats, attempts and actual physical force—and thus was used in the present study.

5. Correlation tables and tolerance statistics revealed no problems with collinearity; the results were in acceptable limits, and the regressions assumptions were met by the data.

6. Alpert and Dunham (1997) calculate the force factor by subtracting the recorded level of suspect resistance (ranging from level 1, “no resistance,” to level 4, “assaulting the officer”) from the level of force used by police (levels 1 through 4). The measure produces a factor ranging from -4 to 4, with 0 interpreted as commensurate force (no resistance, no force). See their complete text for a more detailed discussion of this issue and the “force factor” measure.

7. On August 9, 1997, security guard Abner Louima was arrested outside a New York City nightclub. He alleged that he was sexually tortured in the bathroom of the 70th precinct. Louima reported that he was kicked and had a wooden stick shoved into his rectum and mouth while his hands were handcuffed behind his back. To date, five New York City police officers have been indicted for the crime, including one supervisor.

8. Jacobs and O’Brien (1998) illustrate the importance of examining the structural context in which the police use of force—particularly deadly force—takes place. The authors analyzed 170 cities with populations greater than 100,000 and examined police killings. Separate analysis of the police killings of African-Americans revealed that cities with large African-American populations and a recent growth in African-American populations have higher killing rates of African-Americans. (The presence of an African-American mayor reduced these killings.) Although the application of a structural examination of this issue is needed and important, it was not applied in this current research; the main focus was to examine key predictors of the police use of force and the application of a continuum perspective.