INDIVIDUAL AND SITUATIONAL DETERMINANTS OF POLICE FORCE:
An Examination of Threat Presentation

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ABSTRACT: *This study is based on previous research denoting the primary factors that influence officer decisions regarding the use of differing levels of force in police-citizen encounters. Using a totality of the circumstance approach, primary emphasis is directed toward explaining those factors that contribute to officers' estimation of the perceived level of threat inherent in police-citizen encounters. Officers' perceived level of threat presented by a suspect or the situational context of an encounter is important because in 1989, the Supreme Court in the* Graham v. Conner *decision mandated that the appropriate amount of force that can be utilized depends on the following four primary factors: the threat, offense severity, actual resistance offered, and whether the suspect is trying to escape custody. These criteria were tested and placed into a predictive model along with other indicators the literature has found to be correlated with situations in which police force is used more often. The findings suggest that while the threat presented to officers is important and related to the level of force that is deemed appropriate by the police profession, many additional elements must be taken into consideration when interpreting if an officer used force correctly.*

INTRODUCTION

Whenever police officers use force, officers, supervisors, the department, and the political body they represent are placed in jeopardy for claims of excessive use of force. While attention in the past has

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been primarily given to cases in which officers have used deadly force, the use of less than lethal force can present just as much of a problem to officers and their departments.

The consequences of police officers using force historically have plagued the public perception of the police. Some have noted that public perceptions concerning the misuse of force were some of the precipitating causes of the Chicago riot of 1919, the Harlem disturbance of 1935, the Watts riot of 1965, the Miami riot of 1980, and the Los Angeles riots immediately following the Rodney King decision (Lasley, 1994; Montgomery, 1980; Pate & Fridell, 1995; Smith, 1994). Given the significance of the problem and possible community ramifications, it is not surprising that police force has received considerable attention lately. Citizens, academics, practitioners, and legislators have begun to ask such questions as: What circumstances precipitate the use of force? Which officers are more likely to use it? How does organizational culture relate to the level of force used by officers? And, most important, how do officers, administrators, judges, and other agents of the criminal justice system define and differentiate between appropriate and inappropriate force?

Recent attempts to answer these and other questions have been met with limited success. More than two million federal research dollars has been spent over the past three years to better understand how police use and implement force. This expenditure has produced little substantive information useful for explaining the dynamics of police-citizen encounters in which force is used. There are two principal reasons for this failure. First, the use of police force at any level is a rare occurrence. Force is thought to occur in fewer than 3% of all police-citizen encounters (Friedrich, 1977; Fyfe, 1995; Garner, 1995; Klockars, 1995; Reiss, 1967; Worden, 1995). Second, because police force is rare, a large amount of actual field research time is required to observe and record the factors related to the modal (appropriate) level of force that the profession uses in police-citizen encounters. Moreover, the expense of conducting field observations has forced researchers to look only at a given municipal police agency over a short time period. Pate and Fridell (1993, p. 21) claim that, as such, our current knowledge base on police force has come from researcher intuition, personal experiences, and limited ride alongs with the police.

Measuring the amount of force or the frequency with which police use either reasonable or excessive force is not the focus of this study. Nor is it the purpose of this study to examine when officers should use deadly force. Instead, by focusing on the various kinds of situations that officers face every day, this study seeks to develop insight into two major components that influence use of force outcomes. The first com-

ponent concerns officers' perception of the threat level or risk inherent
in a police-citizen encounter to either the respondent or others in the
immediate area. The second component is to understand more fully
how officers respond given the totality of the situation. The study also
seeks to explain factors that contribute to variations in officers' collec-
tive responses concerning when and how much force are appropriate.
Thus, this effort seeks to explain the factors that officers believe con-
tribute to their estimation of the dangers inherent in police-citizen en-
counters. In doing so, this study presents empirical evidence to suggest
that while threat and perceptions of the appropriate amount of force
that should be utilized in a given situation are related, the indicators of
these two concepts are not the same. Moreover, these data indicate
that the predictors of these two related concepts fail to share some com-
mon, expected elements.

REVIEW OF LITERATURE

The extant literature states that the application of police force de-
pends on various individual, situational, and organizational factors that
are present when officers intervene and interact with citizens. Friedrich
(1980) divided the predictors of police force into individual, situational,
and organizational categories. He stated that the individual approach
explains the use of police force in terms of the characteristics of officers
or citizens involved in police-citizen encounters. He tested to see if of-
ficers' individual characteristics — such as race, age, sex, experience,
and years on the job — would help predict when and how often officers
used physical force to resolve police-citizen encounters. What he found
was that very few individual-level characteristics of police officers influ-
ence officers' behavior. However, other studies have indicated other-
wise. For instance, Croft and Austin (1987) found that the amount of
time officers spend on the job and the number of arrests they make are
related to the number of times force is used each year.

Friedrich (1980) also tested the individual level-characteristics of
suspects and again found little support. Other studies, however, have
suggested that suspect characteristics play a significant role in the appli-
cation of police force (Black, 1971, Bogomolny, 1976, Friedrich, 1977;
Lundman et al., 1978). Race is reported to be highly correlated with
the frequency of arrest. Several investigators have found African-
Americans are more likely to be stopped, interrogated, and arrested
than whites. Binder and Scharf (1980) claim that youth and minority
group membership stand out as important predictors of police force
since these elements may point to the actual or perceived amount of
danger or threat inherent in an encounter. Even though it is reported

that race is a factor, some also report that minorities tend to exhibit more disrespectful behavior and outward hostility toward police officers (Mulvihill & Tumin, 1969). Thus, this type of behavior may be an aggravating factor and lead to more arrests and, potentially, police use of force. However, others have found that when the seriousness of the offense is held constant, the effect of race disappears (Black, 1971; Black & Reiss, 1970; Bogomolny, 1976; Friedrich, 1977; Lundman et al., 1978).

Gender differences also impact arrest rates. Women have been found to be less likely to be questioned, detained, or arrested than men (Visher, 1983). One possible explanation is that women are less threatening and not perceived to be as dangerous as men are. Also, the typical police encounter with women is usually for minor offenses that would not necessitate an arrest. When victim reports are compared with official arrest reports, female offenders appear to be over-represented in arrest statistics for serious offenses (Friedrich, 1977; Hindelang, 1979; Pastor, 1978; Rubinstein, 1973).

One of the most important, and highly debated, characteristics is suspect demeanor. Antagonistic or hostile behavior by suspects has been found to increase the chance of arrest (Bittner, 1970; Black 1971; Black & Reiss, 1970; Lundman et al., 1978; Piliavin & Briar, 1964; Reiss, 1971; Sykes & Clark, 1975). Conversely, suspects who submit to police authority are not arrested as often. It is claimed that "hostility directly increases the odds of arrest" and is "part of the criminological canon" (Klinger, 1994, p. 477). Concerning the demeanor of suspects, Klinger found the relationship between force and demeanor to be overstated because it is often operationalized to include attacks on the police. On the other hand, Worden and Shepard (1996) found support for the demeanor hypothesis even when additional variables are examined to control for the potential bias in the operationalization of demeanor.

The incident location is another important aspect of the officer-citizen interaction. Previous studies have examined public versus private places and found that more arrests are made for incidents that occur in public spaces (Lundman, 1994). Another factor that relates to public space is the presence of others who are not directly involved (Westley, 1970). There is evidence that when bystanders are present, police officers may perceive a need to exercise a higher level of visible formal control. This exercise of formal authority often leads to more arrests than would occur in a nonpublic location. There is also evidence that when more than 10 individuals are present, the likelihood of arrest increases (Friedrich, 1977). It is clear that location has an effect on police officer response and that when the interaction occurs in a public

space, the likelihood for some formal police action is greater than in a nonpublic environment (Friedrich, 1980; Westly, 1970).

Another critical aspect of police citizen encounters involves how the police are called to a situation. In general, the extant literature maintains that the majority of police-citizen encounters are reactive, rather than proactive (Black, 1971; Reiss, 1971). What makes this important is the finding that police-initiated offenses generally involve less serious offenses and appear to differ substantially from reactive encounters. Thus, officers in proactive mobilizations may be granted less legitimacy and react more aggressively to establish a position of authority (Friedrich, 1977). However, the police may have a greater range of options when they react proactively because the call is not necessarily part of departmental records. Therefore, we may find that the type of mobilization may impact the level of force chosen, depending on the type and level of the perceived seriousness of the offense.

While each of the above-mentioned factors is important in determining the frequency and amount of force that may be used in police-citizen encounters, what we are interested in determining here is how these factors affect the perceived level of threat inherent in police-citizen encounters. We assume that these same factors will also contribute to the threat or risk inherent in these encounters. Thus, we must measure the attitudes and perceptions of police officers concerning the amount of threat they perceive and the amount of force that they would consider appropriate in a police-citizen encounter in a context that includes the aforementioned independent variables.

THE IMPORTANCE OF MEASURING THE PERCEPTIONS OF THE POLICE

Measuring the attitudes of the law enforcement profession with regard to the factors that contribute to estimating when force is most often and appropriately applied is important because the Supreme Court in *Graham v. Conner* (1989) mandated that the correct standard for judging the efficacy of police officers' nonlethal coercive behavior is best determined by police professionals. Hence, the reasonableness of an officer's behavior is not subject to interpretation from others outside the policing profession. The Supreme Court created the "objective reasonableness" standard, stating that actions of officers involving questions about the appropriate use of force should be judged without regard to the intent or motivation of the responding officer. Further, such decisions should be made "from the perspective of a reasonable officer coping with a tense, fast evolving scene, rather than with 20/20 hindsight" (*Graham,* 1989, p. 1872).

The *Graham* decision provides a basis that can be used to examine the role and factors that are important to the legal determination and evaluation of the "reasonableness" of officers' actions. However, the decision clearly states that "reasonableness. . . is not capable of precise definition or mechanical application" (*Graham*, 1989, p. 1981). It is evident that no policy or other organizational procedure is capable of providing a precise statement as to the appropriateness of any officers' conduct concerning how much force could or should be used. Thus, the only approach that can approximate this standard is one that roughly estimates the situational context in which the event occurs. Kappeler (1997, p. 72) states that these factors include:

1. whether the suspect poses an immediate threat to the officer or others,
2. the severity of the crime,
3. whether the suspect is actively resisting arrest, and
4. whether the suspect is attempting to escape custody

The importance of the factors illuminated by Kappeler (1997) and the *Graham* decision cannot be overstated. What these factors represent is the apparent danger or element of risk both inherent and perceived by officers as they arrive at a scene and interact with citizens and suspects. These factors go beyond Skolnick's (1966) "symbolic assailant" in that the elements of the encounter are not only possessed by the suspect but are a combination of individual, situational, and ecological elements. Thus, in looking again the list provided by Kappeler, all the elements point to the inherent perceived risk to either the officer or others in the immediate area.

There appear to be at least three elements that need to be included in any examination of the efficacy of police response. The first is threat. Threat is a multidimensional phenomenon and includes situational clues emanating from the suspect as well as in the environment. The second element is the severity of the offense to which the officer is responding. Depending on the experience of the officer, the severity of the offense may put the officer on guard as to what type of person or situation to expect. While the severity of the offense may be considered part of the overall threat perceived by the officer, we have chosen to include offense severity as a predetermining factor of the overall threat. We do this because we assume that officers generally have some knowledge of the type of offense they are responding to, either through radio contact or from the events they witness. Thus, it would follow that officers generally view and classify the suspects they are or will be dealing with by the type of call. This call type classification is primarily determined by the reported offense.

The final element that is essential is the level at which the suspect is resisting or attempting to get away. In an ideal world (barring extra-legal factors from consideration), this is and should be the only element that determines if an officer acted correctly in the implementation of physical force. However, given the nature of society and the unpredictability of the human element in police-citizen calls, other situational factors must be considered. While Kappeler lists "escape" as a fourth element, we assume that an actively resisting individual is indeed attempting to escape the custodial attempts of the officer.

DATA AND RESEARCH METHODS

A factorial approach will be used to investigate what individual, situational, and community-level factors officers' believe contribute to the perceived threat inherent in police-citizen encounters. The factorial method is a proven, robust analytic strategy designed to enunciate critical points in complex decision making that influence outcomes or decisions. The factorial method in its most general form uses a series of vignettes comprised of randomly drawn elements placed in standardized prose. The result is a series of unique scenarios, each randomly drawn, to which the respondent is asked to respond and state an opinion.

The use of this method allows researchers to overcome prior methodological limitations by providing the respondent with a context in which an opinion may be shaped or formed. This context is critical to police officers since they are often asked to intervene in situations where there is an inherent danger or risk.

The survey used in this study was administered to 662 officers attending either routine or in-service training on the use of force, defensive tactics, or weapons retention courses at the Ohio Peace Officers Training Academy (OPOTA) in London, Ohio. The reason for choosing OPOTA and officers from Ohio is based primarily on two criteria. The first is a matter of convenience, and the second lies in the similarity of the population of the state of Ohio to the United States as a whole (Tuchfarber, 1988, p. 15). This view was bolstered and applied to Ohio's law enforcement community by Faulkner (1991), who found little difference in the opinions of citizens and the law enforcement community of Ohio from those in any other state concerning issues about the efficacy of police force.

Included in each survey was a list of demographic information about themselves and their department and a randomly constructed vignette depicting an encounter with a resisting suspect. Within each vignette, the values of 15 independent variables that the literature on

police force has found to affect the likelihood that the police will use force are rotated in to comprise a situation that officers can easily comprehend and relate to. The use of the factorial method in this context allows a fictitious police-citizen encounter to be modified in several dimensions. Since this method does not depend on actual use of force events, it allows the researchers to simulate field conditions and avoid its time and expense. Furthermore, by controlling for all of the included variables, this approach allows researchers to determine which factors or dimensions of an encounter influence the police officer's response. This methodology is appropriate to study police force because it closely approximates and is even superior to the current practice of asking court-appointed expert witnesses to render opinions about the appropriate use of police force. Its superiority is demonstrated by the fact that the opinions presented are not those of one person, but of the 662 officers contained within this sample.

The Dependent Variables

Measuring the level of threat that an officer perceives or attempting to quantify when officers perceive an actual threat is a tenuous and challenging methodological exercise. In order to acquire the data, it is important that the researcher define what the concept of "threat" is supposed to be measuring. *Merriam-Webster's Collegiate Dictionary* (1996, p. 1228) defines threat as "an expression of intention to inflict evil, injury or damage." According to this definition, threat must involve some type of intention on the part of a suspect to injure the officer or those around him/her. The question remains, however, what factors influence an officer's perception of the suspect's intention? And how broad of a concept is threat?

If threat is intended to measure the totality of the circumstances that piques the suspicions of officers, then it may be prudent to ask such a question as "What is the likelihood that this situation will result in injury to you, another officer, or an innocent bystander?" This probe, while technically correct, is problematic for officers because of the inherent supposition that the respondents (police officers) may not be able to handle a situation or will allow it to get out of control. Responses to questions worded this way are likely to be answered with limited variation. This question was pretested and our suspicions were confirmed.

An alternative to phrasing the question this way was to ask the officers how many warnings they would issue prior to using physical force. The variable representing this concept was coded as a limited range ordinal measure ranging from 1 to 5, with higher values denoting

that officers are likely to issue fewer warnings. Preliminary analysis of pretest data confirmed significant variation in responses and a direct relationship between the number of warnings an officer would issue and the level of force that they perceived as appropriate. This question was kept and a similar one was added to test for construct validity.

The second dependent variable asked officers directly to rate how serious the situation was, thus avoiding the negative connotation that the officer may not be able to handle a situation. The question representing the direct presentation of threat was worded as follows: "As the responding officer, how much of a threat does the situation or suspect described in the scenario present to you?" Responses to this question were also coded and treated as a limited range dependent variable (range of 1-5), with higher scores denoting higher levels of threat. While direct and to the point, wording of the question in this manner allows officers to interpret on their own how they define threat.

Because threat is such a critical concept, a decision was made to keep both measures of threat to see if they not only measured the same concept, but to see if the predictors were the same. Regression models were run comparing the results predicting the concept of threat using both the straightforward probe versus that attained by asking the respondents how many warnings they would issue prior to using physical force.

The third dependent variable used in these analyses measures the amount of force that officers believe should be applied in this situation. Remember it is anticipated that the threat contained in a situation should predict rather well the amount of force that officers believe is appropriate in a given police-citizen encounter. This measure was operationalized using Faulkner's (1991) Action Response Use of Force Continuum. Faulkner's continuum consists of eight differing force alternatives that may be applied to a resisting suspect. The use of this particular continuum is important because it is the one adopted and used by the Ohio Attorney General's Peace Officers Training Academy, and it is the basis on which many of the respondents' prior training on the use of force has been built.

TABLE 1
Frequency Distributions and Codes of Independent Variables

	N	Percent
Level of Resistance		
1 Dead weight	76	11.5
2 Pulls away	76	11.5
3 Pushes away	84	12.7
4 Push-pull match	62	9.4
5 Squares off	74	11.2
6 Punching and kicking	59	8.9
7 Viciously attacks	81	12.2
8 Grabs firearm	75	11.3
9 Produces weapon	75	11.3
	662	100.0
Suspect Gender		
0 Female	347	52.4
1 Male	315	47.6
	662	100.0
Offense Severity		
1 Shoplifting	58	8.8
2 Disorderly Conduct	71	10.7
3 Burglary	64	9.7
4 Domestic Violence	68	10.3
5 Aggravated assault	75	11.3
6 Robbery	62	9.4
7 Rape	52	7.9
8 Drive-by shooting	64	9.7
9 Arson	78	11.8
10 Homicide	70	10.6
	662	100.0
Demeanor		
1 Calm and collected	129	19.5
2 Non-responsive	130	19.6
3 Nervous and agitated	132	19.9
4 Belligerent and threatening	130	19.6
5 Abusive and violent	141	21.3
	662	100.0
Suspect Size		
1 Small	230	34.7
2 Medium	220	33.2
3 Large	212	32.0
	662	100.0
Mobilization Type		
0 Proactive	322	48.6
1 Reactive	340	51.4
	662	100.0
Officer Carry OC Spray		
0 No	39	7.0
1 Yes	518	93.0
	557	100.0

Number of Other Officers Present

1	None	148	22.4
2	One	182	27.5
3	Two-three	161	24.3
4	Four or more	171	25.8
		656	100.0

Officer Black

0	No	616	93.9
1	Yes	40	6.1
		662	100.0

Emotionally disturbed

0	No	469	70.8
1	Yes	193	29.2
		662	100

Alcohol or Drug Use

1	None	135	20.4
2	Alcohol	131	19.8
3	Marijuana	128	19.3
4	Cocaine	136	20.5
5	Mixed	132	19.9
		662	100.0

Time of Day

1	6:00 AM	93	14.0
2	9:00 AM	80	12.1
3	12:00 PM	81	12.2
4	3:00 PM	89	13.4
5	6:00 PM	72	10.9
6	9:00 PM	89	13.4
7	12:00 AM	71	10.7
8	3:00 AM	87	13.1
		662	100.0

Years Lived in Community*

Less than 5 years	92	14.2	
6 to 10 years	70	10.8	
11 to 15 years	54	8.3	
16 to 20 years	22	3.4	
21 to 25 years	60	9.2	Mean = 24.3
26 to 30 years	121	18.6	
31 to 35 years	87	13.4	
36 to 40 years	59	9.1	
40 years or more	85	13.1	
	650	100.0	

Call Frequency of Area

1	Rare	219	33.1
2	Infrequent	243	36.7
3	Frequent	200	30.2
		662	100.0

Number of Citizens Present

1	None	131	19.8
2	1 person	129	19.5
3	2-3 persons	133	20.1
4	4-5 persons	142	21.5
5	More than 6 persons	127	19.2
		662	100.0

SES of Encounter Area

1	Lower class	137	20.7
2	Lower to middle class	144	21.8
3	Middle class	138	20.8
4	Middle to upper class	111	16.8
5	Upper class	132	19.9
		662	100.0

* Data in models were run at actual values. Data are collapsed here for presentation only.

The Independent Variables

The independent variables included in this study are comprised of the key elements that Kappeler (1997) denotes as essential in determining the efficacy of an officer's forceful behavior (the threat that the elements of the situation present to the officer, the level of suspect resistance, and offense seriousness) as well as others that the literature has found to be related to situations in which force is most frequently used. In these data, the severity of the original offense to which the officer is called is measured as a 10-item variable consisting of the offenses of shoplifting, disorderly conduct, burglary, domestic violence, aggravated assault, robbery, rape, drive-by shooting, arson, and homicide. The selection of these offenses represents a cross section of the types of calls to which officers respond.

The level of resistance offered by the suspect (or, in Kappeler's terms, if the suspect is attempting to escape custody or if he/she is actively resisting) is measured using nine categories. The first level represents situations in which the suspect is using only the weight of his/her body to resist. The second represents those situations in which the suspect pulls away to resist the officer's prodding. The third category stands for those situations in which the suspect pushes the officer away each time the officer attempts to take control of the suspect. The fourth presents situations in which there is a push-pull match after the officer has touched the suspect. The fifth represents a situation in which the suspect squares up, clenches his/her fists, and makes verbal threats to the officer. The sixth entails an encounter in which the suspect starts resisting by punching and kicking. At the seventh level, the suspect viciously attacks the officer and attempts to choke or gouge the eyes of the officer. The eighth is comprised of situations in which the suspect attempts to take the officer's weapon away. The final resistance level is reached when the suspect produces a weapon and is intent on using it.

Other independent variables utilized were coded into three different categories. These categories involve individual attributes of officers, suspects, and situational elements. In the categories of individual-level attributes of officers, the following variables were en-

tered into the full model: age, gender, race, years of service, education, years of residence, weight, height, hours of defensive tactics training, number of physical confrontations, and number of times the officer had been injured in physical confrontations in the past year. Similarly, the individual-level characteristics of suspects that were entered were suspect's age, race, gender, size, appearance, and emotional stability and whether the officer suspected the suspect was under the influence of alcohol or drugs. The third level of indicator variables are the situational elements. These elements are not individual to the officer or the suspect, but rather emanate from or are present on the social stage in which the encounter occurs. These variables include the time of the encounter, whether the encounter occurs in a public or private place, the call frequency of an area, the socioeconomic status of an area, the number of officers present, and the number of citizens present. Codes and frequency distributions of these variables are contained in Table 1

Table 2 presents the characteristics of the sample. A glance at this table reveals that the officers surveyed were predominately from small to medium-sized departments that serve mixed urban/rural communities. Further, over 90% of the respondents were white males. Also important is the notation that 2/3 (67.6%) of the officers surveyed were from departments with 50 or fewer officers. While this overrepresentation of officers from small to medium-sized departments appears on the surface to be problematic, it must be remembered that over 75% of all police agencies employ fewer than 25 sworn personnel (Langworthy & Travis, 1994).

Further examination reveals that those respondents included in the sample were not rookies or law enforcement agents fresh out of law enforcement training academies. The typical respondent was 34 years old and had been a police officer for a little less than 10 years.

The majority of respondents were patrol officers (68%) or first-line supervisors (19.9%). While there were a number of officers participating that held a higher rank, this group comprised only 10% of the total sample. Finally, half of the officers had knowledge of a suit that had been filed in the past against their department for the use of excessive force.

TABLE 2
Characteristics of Officers and Departments Included in Sample

	N	Percent	
Officer Age			
20-25	58	8.8	
26-30	184	27.9	
31-35	158	23.9	Mean = 34.5
36-40	105	15.9	
41 and over	155	23.5	
	660	100.0	
Department Location			
Urban	179	27.2	
Mixed	359	54.6	
Rural	120	18.2	
	658	100.0	
Officer Gender			
Female	44	6.6	
Male	618	93.4	
	662	100.0	
Departmental Size*			
25 and under	222	33.6	
26-50	226	34.2	
51-75	34	5.2	
76-100	40	6.1	Mean = 223.6
101-125	16	2.4	
126-150	10	1.5	
Over 150	114	17.3	
	660	100.3	
Years of Service*			
5 and Under	238	36.1	
6-10	185	28.0	
11-15	95	14.4	Mean = 9.7
16-20	85	12.9	
21 and over	57	8.6	
	660	100.0	
Officer Race			
White	596	90.9	
Black	40	6.1	
Hispanic	12	1.8	
Asian	8	1.2	
	656	100.0	
Rank in Department			
Patrol officer	450	68.0	
Sergeant	132	19.9	
Trainer	10	1.5	
Detective	26	3.9	
Lieutenant	26	3.9	
Captain	12	1.8	
Chief	6	0.9	
	662	100.0	

Department Sued

No	333	50.3
Yes	329	49.7
	662	100.0

Sample Size may not equal 662 due to missing data.
Percentages may not total 100 due to missing data.
* Data in models were run at actual values. Data are categorized here for presentation purposes only.

Findings

The results of the two models predicting the level of threat that officers perceive are presented in Table 3. These models list all the independent variables that were placed into the full model using threat presentation directly and as a proxy measure. Both models predict rather well the variation in officers' perception of the inherent risk involved in each vignette. The strength of the two models is indicated by the high R^2 statistic ranging between .53 and .34.

Looking at the model predicting threat directly, seven independent variables distinguish their unique influences over all the other variables. These seven indicators are level of resistance, gender and size of the suspect, severity of the offense, suspect demeanor, whether the officer was black, and the number of officers at the scene. This model notes that large, abusive, and violent males suspected of committing more serious offenses and who more actively resist are more likely to be perceived by officers as a more serious threat than passive females suspected of committing less serious offenses. Further, nonblack officers who respond to situations alone are more likely to rate a situation as less threatening than black officers responding with backup.

It is important to note that some of the traditional measures that the literature has found to be associated with situations in which police arrest or use other coercive techniques did not attain statistical significance. Thus, it is apparent that such factors as the race of the suspects, if they were mentally or emotionally disturbed, their physical appearance, and the suspected use of alcohol or drugs did not trigger the predicted response.

TABLE 3
Comparison of the Models Predicting Situational Threat

	Model 1: Predicting Level of Threat Situation Presents			Model 2: Depicting the Number of Appropriate Verbal Warnings		
	Beta	t	Sig.	Beta	t	Sig.
Resistance	.697	20.698	.000***	.525	13.204	.000***
Suspect Gender	-.116	-3.389	.001***	-.043	-1.072	.284
Carry OC	-.005	-.152	.879	.005	.122	.903
Years of Service	-.064	-.900	.368	-.160	-1.932	.054*
Years of education	-.007	-.207	.836	-.052	-1.285	.199
Years in Community	.001	.025	.980	-.039	-.742	.458
Offense Severity	.061	1.806	.072*	.004	.093	.926
Suspect Demeanor	.065	1.927	.055*	-.002	-.044	.965
Officer Black	.063	1.826	.069*	.024	.589	.556
Officer Weight	-.046	-1.024	.307	.036	.679	.498
Mobilization	.029	.863	.389	.107	2.714	.007***
Suspect Size	.058	1.733	.084*	-.039	-.974	.331
Emotionally Disturbed	.046	1.370	.172	-.040	-.996	.320
Age of Officer	.051	.794	.428	.094	1.235	.218
Alcohol or Drug Use	.042	1.235	.217	-.010	-.240	.811
Building Type	.004	.133	.894	-.048	-1.180	.239
Call Frequency of Area	-.007	-.210	.834	-.051	1.297	.195
Appearance/Dress	-.043	-1.270	.205	-.021	-.513	.608
Defensive Tactics Year	-.010	-.300	.764	.021	.508	.612
Injured in Physical Year	.009	.254	.799	-.048	-1.161	.246
Time of Day	-.002	-.059	.953	.040	1.027	.305
Gender of Officer	.027	.735	.463	-.055	1.247	.213
Height of Officer	.023	.535	.593	.017	.344	.731
Number of Citizens Present	-.020	-.597	.551	-.042	-1.043	.297
Officers Present	-.059	-1.732	.084*	-.025	-.621	.535
Physical Confrontation Year	-.047	-1.336	.182	-.021	-.506	.613
SES	.014	.401	.689	.047	1.180	.239
Suspect Age	-.018	-.516	.606	.043	1.076	.283
Officer Asian	-.033	-.928	.354	.008	.201	.841
Officer Hispanic	.004	.116	.908	-.031	-.627	.531
Suspect Asian	-.052	-1.254	.211	-.021	-.422	.673
Suspect Black	.033	.791	.429	.055	1.119	.264
Suspect Hispanic	-.016	-.383	.702	-.031	-.627	.531
	$R^2=.531$			$R^2=.345$		

The second model, presented in Table 3, contains the same predictor variables as the first. This model uses the proxy variable to represent the risk or threat inherent to the officer in each vignette. In this model, the context in which the question is answered changes and so do the perceptions of the responding officers. This change of context affects the variables that trigger the perceptual cues to which officers respond. When officers were asked how many warnings they would issue prior to using force, the officers based their responses on three criteria. These criteria are the level of resistance offered by the suspect, the number of years (or experience) they have been police officers, and whether the situation is police or citizen initiated. Thus, less experienced officers who are called to a situation by a citizen reporting an offense and who encounter actively resisting suspects through a citizen report are likely to perceive a suspect as more of a threat and as less deserving of a second chance before they resort to using physical force.

The differences in the models predicting the level of threat or risk inherent in each encounter were unexpected. Intuitively, it makes sense that the same predictors that put officers on "alert" would also prompt them to give or not give suspects one or more warnings before resorting to physical force. These data, however, do not support this contention. Instead, the data reveal that these concepts are in fact two distinct concepts. Thus, officers' perception of the level of threat that a police-citizen encounter entails seems to be comprised of many individual elements that emanate from the demographics of the participants. In this instance, belligerent and threatening males who are suspected of more serious offenses are more likely to be perceived as a greater threat to both the officer and the maintenance of their authority. Further, black officers who encounter large suspects perceive threat at higher levels even when controlling for the socioeconomic status, call frequency, and size of the suspect.

In order to clarify these findings further, a condensed model was run using the variables that predicted overall either threat, the number of warnings, or the appropriate level of force that officers in this sample considered appropriate. The rationale for including all of the significant predictors of these variables in this model was to see if each had a direct influence on the level of force that officers believe is appropriate in each scenario. If both of the primary indicators of threat significantly affect the perceived level of force considered appropriate, we can state that each predictor of the composite indices of threat will have an indirect effect on the level of force considered appropriate. Thus, this model seeks to determine if there is a direct influence.

Table 4 contains the coefficients and results of this test. When all of the significant predictor variables that affect either of the three de-

pendent variables are included in each model, there is no change in either the significance level or direction of the variables predicting the level of threat that officers perceive once they arrive at a scene. Thus, it is clear that this model and its predictors are stable. The model predicting threat by the proxy variable fluctuates. While the levels of resistance and mobilization type retain their effects in the predicted direction, the importance of the number of years an officer has been on the force diminishes.

TABLE 4
The Condensed Model Comparing Suspects' Presentations of Threat and the Officers' Perceptions of the Appropriate Amount of Force

	Model 1: Predicting Level of Threat Situation Presents			Model 2: Depicting the Number of Appropriate Verbal Warnings			Model 3: Predicting the Appropriate Level of Force		
	Beta	t	Sig.	Beta	t	Sig.	Beta	t	Sig.
Number of Warnings	***	***	***	***	***	***	.175	5.494	.000
Threat Level	***	***	***	***	***	***	.451	11.744	.000
Resistance	.700	22.892	.000	.235	4.784	.000	.287	7.844	.000
Suspect Gender	−.139	−4.540	.000	−.013	−.360	.719	−.109	4.231	.000
Offense Severity	.075	2.442	.015	.007	.200	.842	.046	5.494	.000
Suspect Demeanor	.054	1.759	.079	−.022	−.623	.534	.014	.533	.580
Suspect Size	.058	1.885	.060	−.094	−2.700	.007	.002	.070	.944
Mobilization	.018	.605	.545	.092	2.641	.009	−.035	1.381	.168
Carry O.C.	−.007	−.216	.829	−.008	−.221	.825	.055	2.189	.029
Officers Present	−.055	−1.786	.075	.022	.624	.533	−.016	−.635	.526
Officer Black	.059	1.899	.058	.016	.446	.656	.017	.646	.519
Years of Service	.000	.007	.994	−.064	−1.400	.162	−.071	− 2.146	.032
Years in Community	−.015	−.369	.712	−.044	−.967	.334	.067	2.039	.042
	R^2=.519			R^2=.381			R^2=.675		

The third model in Table 4 notes the indicators of the level of force that officers consider appropriate for each of the fictitious police-citizen encounters. In this model, of the 14 independent variables entered, only two were not associated with either the direct or proxy measure of threat. These two include the number of years an officer has lived in the community he/she polices and if the officer carries oleoresin capsicum (OC) spray. According to traditional wisdom, older officers who are well entrenched within their community should be less likely to use force, but these data indicate the opposite to be true. Officers in this

sample who are longtime community residents are more likely to rate police-citizen encounters as deserving of higher levels of force than those who had lived in a community for fewer years.

Furthermore, these data indicate that officers who carry OC spray are more likely to state that a situation calls for higher levels of force than those who do not use or carry chemical agents. While OC and other chemical agents were designed to reduce the number of incidents in which officers become physically involved in encounters with sus- pects, this finding may be easily discounted since the continuum used as the dependent variable in this analysis counts OC and other chemical agents as level 5 (out of 8) force alternative. Thus, if officers have come to count on using chemical agents as alternatives to physical force, it is likely that their answer will be higher than those who either do not approve of it, are not permitted to use it, or simply are not issued it as standard equipment.

Other factors that contribute to predicting the perceived level of force for the encounter include the level of threat, the number of warn- ings issued, the level of suspect resistance, suspect gender, offense se- verity, and the number of years the respondent has been a police officer.

Of these factors, two of the strongest indicators of the appropriate amount of force that officers believe to be reasonable are the level of threat they perceive and the number of warnings they would issue prior to using force. These two variables produce a strong direct linear effect on the amount of force considered appropriate. Thus, if the officers perceive a situation as more threatening or they believe they should issue fewer warnings before using force, they are more likely to rate higher levels of force as more acceptable. Along the same line, if there is a direct effect between these two measures and force, then it follows that the indicators of the two original dimensions of threat are likely to produce both a direct and indirect effect on the level of appropriate force. Out of the seven composite indicators of threat measured di- rectly, only four variables (level of resistance, gender of suspect, offense severity, and number of officers present) also produce a direct effect on the amount of force that officers consider reasonable. The three indica- tors that do not produce a direct effect on the amount of force consid- ered appropriate are the size of the suspect, his/her demeanor, and whether the officer is black.

Similarly, of the three variables in both the full and condensed models that significantly predict the proxy measure of threat, only the level of suspect resistance retains its significance and has a direct effect on the level of force considered appropriate. Thus, in the opinions of these officers, the size of the suspect, whether the situation is reactive

or proactive, and the years a respondent has been a police officer may put him/her on "alert," but this does not mean that his/her actual physical response would be influenced by these factors.

DISCUSSION AND CONCLUSION

This effort set out to determine which factors determine the level of threat an officer perceives as he/she arrives and interacts with citizens during a police-citizen encounter. To do this, we measured the concept of threat in two ways. First, we operationalized threat using a direct approach, asking the officers in this sample how much of a threat the situation or suspect described in the scenario presented. We also operationalized threat using a proxy measure by asking officers how many warnings they would issue to suspects before resorting to physical force. It was hypothesized that both measures would yield the same predictors since each measure was designed to tap the seriousness of or how much risk was inherent in each encounter. The results obtained by comparing the predictors of these two variables indicated otherwise.

With the exception of the level of resistance offered by the suspect, none of the indicators of the direct indicator of threat corresponded with the significant indicators of the number of warnings officers would issue prior to using force. This finding lends credence to the notion that when officers interact with citizens in their official capacity, there may be at least three different and distinct dimensions or stages that need be analyzed. We call the first stage the introduction. In this stage, the officers arrive at a scene and gather some preliminary intelligence based on their experience and cues from the external environment. They may or may not have firsthand knowledge of the offense to which they have been called or the suspect involved, but they are able to ascertain from the situational cues who the main suspect is and if their own demographic attributes affect how they will be perceived. Officers may issue an order to which the suspect is expected to comply, but the two parties will not fully engage each other. By the end of this stage, the officers are able to tell with some degree of certainty how the suspect will respond to their imposed authority.

The second stage we call reflection. In this stage, the officers are ready to or have already fully engaged the suspect. The officers have some baseline information on the type of suspect with whom they are dealing, are aware of their options, and have a good idea of how best to proceed. The initial plan of action at this stage is not set. The final determination of the officers' response is based on the suspect's response to their formal intervention. During the reflection stage, of-

ficers fully engage the suspect and if the suspect resists or fails to pay heed to the officer's authority, force may be used to gain compliance.

The third stage is the stage of last resort. Officers in this stage have exhausted all means within reason to subdue the suspect in a peaceful manner. Based on the cues already collected and on the physical prowess of the suspect, officers will move to subdue the suspect in the quickest, most effective manner without injuring either themselves or the suspect. In this stage, more experienced officers may be better fit and more adept at defensive tactics techniques so that they do not feel the need to escalate force to levels at which either permanent or visible physical injury to the suspect is likely.

In respect to the main goal of this research, we were able to measure the amount of threat that officers experience when dealing with citizens in situations where force may be required. As indicated in both Tables 3 and 4, we are able to account for over half of the variation in responses by asking officers directly how much of a threat this situation or suspect presents to them. We are thus confident that the level of suspect resistance, severity of the offense, demeanor of the suspect, mobilization type, number of officers present, and the race of the officer each play a role in determining the level of perceived threat.

However, knowing the determinants of an officer's perception of threat is not enough. We can take into account all the factors noted by Kappeler and the "objective reasonableness" standard as handed down by the *Graham* decision. However, these elements do not reconcile with the findings of these data that threat, the number of warnings an officer would issue, and preferred levels of physical force have different predictive elements. It is also necessary to consider other individual and situational elements that account for the officer's reactions to the suspect when the officer officially intervenes. These include the following: (1) the suspect's ability to cause potential injury to the officer or others, (2) the officers' experience or tools they have on hand designed to de-escalate potentially volatile situations, (3) the officers' experience with such encounters, and (4) any inherent biases toward others acquired either through experience or socialization.

While we do have multiple measures designed to tap the experience of officers, they are very crude at best. It is important to know how long officers have been on the force, as well as the amount of training and number of physical confrontations in which they have been involved in the past year, but the interplay between these variables has not been explored. Not all officers experience the same type and number of physical confrontations. Hence, it is likely that the measures employed in the sample to denote the experience of officers do not fully

address the interplay between experience, training, and other situational or individual attributes.

While the basic findings of this endeavor support the factors mandated by the Supreme Court in the *Graham* decision, and later clarified by Kappeler (1997), there is still much more to learn. Subsequent studies should be more creative in exploring new ways to measure and learn about the intangibles of police-citizen interactions. Further, subsequent research must focus on or at least pay more attention to the operationalization of the concepts utilized in examining police force. Often, published studies on police force use data sets collected for some alternative purpose. Little attention is paid toward construct validity. For instance, Lundman (1994) operationalized demeanor using a series of binary coded variables looking only at arrests for public drunkenness and juvenile encounters with the police. These types of measures, why empirically correct, do not portray the feelings and beliefs of officers in the variety of situations that officers face. Instead, we are left with a fractured view of when and how the demeanor and resistance of suspects affect law enforcement officers.

In this study, we have violated some of the basic assumptions of ordinary least squares regression by presenting models with a limited range of dependent variables and discussing their results. This violation is easily justified since the focus here is to provide officers with a real world "totality of the circumstances" approach in order to determine which factors contribute to the escalation of threat and appropriate levels of police force. While we could have easily collapsed categories and run logistic regression, this approach would curtail the focus that certain key indicators act in a linear fashion affecting how officers rate differing levels of force based on individual and situational elements. In this case, we feel the ends justify the means.

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