Understanding the Use of Force By and Against the Police in Six Jurisdictions

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Abstract

This report describes the design and implementation of a series of studies that measures the continuum of force ordinarily used by police officers and suspects and assesses the extent to which characteristics of the arrest situation and the characteristics of the officer and the suspect are associated with increased use of force. This study uses representative samples of custody arrests in seven jurisdictions, alternative measures of police and suspect use of force and multivariate statistical procedures to determine the relative contribution of factors on the amount of force.

Using self-report data by police from 7,512 adult custody arrests in six moderate to large U.S. jurisdictions, we found that the rate of physical force varied from 12% to 17% and that the amount of force used by the police is concentrated at the lower end of a variety of measures of force. Most arrests do not involve the use of force. When force is used, the most frequent type of force is the use of weaponless tactics; the most common tactic used is grabbing. Multivariate statistical models of police use of force were used to assess the extent to which the nature of the arrests, the nature of the arrest location, the mobilization of the police, the characteristics of the arresting officers and the characteristics of the arrested suspects are associated with increased or decreased amounts of force by the police.

Acknowledgments

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Chapter 1: Prior Research on the Use of Force

Use of Force by the Police as a Social Concern

At the core of the police role in our society is the ability as well as the need to exercise coercion in performing their function (Bittner, 1970; Reiss, 1971; Sherman, 1980b; Scharf and Binder, 1983; Walker and Fridell, 1993). With some unknown frequency and amount, police officers use physical coercion in performing their everyday functions of law enforcement and order maintenance. The ways in which police use force, particularly physical coercion, impacts upon public attitudes towards the police and these attitudes sustain or undermine the legitimacy of the police (U.S. Department of Justice, 1987).

The relationship between the public and the police, particularly in neighborhoods with a high crime rate, a large proportion of ethnic minorities or substantial numbers of impoverished families, has been a traditional theme of criminological research and police administration (Reiss, 1971; Wilson, 1975; Alpert and Fridell, 1992; Skolnik and Fyfe, 1993). The extent to which certain types of force by the police are legitimate in particular circumstances has also been a persistent concern to the public, to policy makers, to police agencies and to the scientific community.

There is another source of attention to the use of force--the safety of officers, suspects and bystanders. Limiting the amount of force used by police is seen as a way to limit the amount of force used against police. Researchers report high aggregate level correlations between use of force by and against the police across states (Kania and Mackey, 1977), metropolitan areas (Sherman, et al, 1986), and police zones within one city (Fyfe, 1980). In addition, police trainers emphasize the importance of proper arrest procedures to the reduction of injuries among officers (Clede and Parsons, 1987; Connor, 1991, Meyer, 1992).

In most instances, major changes to police policies and practices have resulted from 1) individual situations that attract public attention, 2) actual or threaten legal claims against police agencies and their employees, or 3) both. Individual cases in which police use of force results in

death or serious injury or, even a series of cases over several years, however, do not necessarily provide the best basis for establishing general policies or accepted day to day practices. In fact, it can be argued that by their rarity and extreme nature, such situations can provide a poor basis for determining appropriate practice for the typical day to day encounters between citizens and their police.

Research on the Use of Lethal Force

Wilson (1975) argues that "no aspect of policing elicits more passionate concern or more divided opinions than the use of deadly force." Similar concern and divided opinion exists among research on the police use of deadly force. Detailed reviews (Alpert and Fridell, 1992; Geller and Scott, 1992; Blumberg, 1989; Fyfe, 1988a) of hundreds of published and unpublished studies of the use of deadly force have generated some consensus about the limitations of this research, not the least of which is that the primary dependent measure--deaths of civilians at the hands of the police--can vary by as much as 50% (Sherman and Langworthy, 1979; Fridell, 1989). These reviews have identified a long list of characteristics to describe who was killed, by whom and under what circumstances and a series of plausible suggestions (but no consistent findings) to explain why. On only three issues does there seem to be much consensus. Deadly force occurs more often when the suspect is under the influence of alcohol or drugs and when the suspect uses force to assault an officer, resists arrest or attempts to flee. The third consensus is that the only deadly force reduction initiative for which consistent and positive evidence exists is the 1985 Supreme Court ruling in *Tennessee v. Garner* (Fyfe and Walker, 1990; Walker and Fridell, 1993).

Research on the Use of Non-lethal Force

While the use of firearms and other forms of lethal force reflect the most serious types of force, such incidents are considerably less common than the use of non-lethal force. In the domain of non-lethal force, publications that focus on the level of resistance with which suspects

confront police and the variety of tactics available to the police are frequent (Buchanan, 1993; Graves and Connor, 1992; Hayeslip, 1992; McEwen and Leahy, 1993; Connor, 1991; Desmedt, 1984; Clede and Parsons, 1987; Americans for Effective Law Enforcement, 1988). These publications tend to be experienced police professionals' descriptions of training programs for arrest tactics.

Research on the amount of force used (Reiss, 1971; Friedrich, 1980; Worden, 1995; Bayley and Garofalo, 1989) or evaluations of the effectiveness of these tactics (Torres, 1988) or the ability of the training programs to teach these tactics (Fyfe, 1988a) are less frequent. Studies of non-lethal force have measurement problems considerably greater than those found in studies of lethal force. Death is easily defined and deaths tend to be well-documented events; non-lethal force is not easily defined and tends to be a poorly documented event. Thus, the measurement problems are substantially greater in studies of non-lethal force. In addition, many studies of police use of force employ unsystematic samples; typically, they select cases for inclusion in the research based on the presence of high amounts of force or injuries to officers or suspects. With few exceptions, prior research has simply not documented the successful use of low levels of force.

Research on use of force often relies on proxies for force; these studies do not attempt to measure force directly but count events associated with force. The primary examples of this approach are studies of complaints against the police and studies that employ official records of use of force (Cohen and Chaiken, 1972; Dugan and Breda, 1991). These approaches are inherently unsatisfying since the number of complaints filed or forms completed may not reflect the amount or level of violence but the openness and responsiveness of the police agencies involved or the beliefs of citizens that their concerns will be addressed (Russell, 1978). Pate and Fridell's (1993) literature review and national survey reveals the great variety in the rates of

complaints and are particularly attentive to the strengths and the limitations of counting complaints as a method for measuring force.

Using data from 526 police public contacts that occurred in April 1995 in Eugene and Springfield, Oregon. Alpert and Dunham (1999) describe the number and types of tactics used by the police. They found that the fewer tactics used, the less severe the amount of force involved and, conversely, the more tactics used, the more severe the amount of force involved. Although they do not have information on the time sequencing of the police tactics, Alpert and Dunham suggest that the pattern observed in Springfield and Eugene suggest that officers are following a continuum of force.

In a companion study of 882 "Control of Persons Reports" from September 1993 to December 1995 in Miami, Florida, Alpert and Dunham (1999) define and construct four categories of police use of force–no force, slight force, forcibly subdued suspect with hands, and forcibly subdued suspect using methods other than hands. Alpert and Dunham report (p. 54) that police used no force in 33 (4 percent) incidents, used minimal force in 179 (23 percent) incidents, force with hand in 390 (49 percent) incidents and other force in 195 (25 percent) incidents.

Henriquez's (1999) reports on a recent effort sponsored by the International Association of Chiefs of Police and by several state associations of police chiefs to overcome some of the difficulties with official police records of the use of force. This effort determined to place force incidents into five categories: 1) physical force (use of hands, feet, etc.), 2) chemical force (discharge of pepper spray or similar agents), 3) electronic force (tasers or stun guns), 4) impact force (use of batons or similar weapons) and 5) lethal force (firearm discharge of any kind). This effort also determined that other types of behavior were not what "police typically perceive or record as applications of force" or were "too broad to allow agency reporting in an accurate and

timely fashion" (p.20). The kinds of items not incorporated in this effort include verbal commands, handcuffing, and the possession, display or presentation of weapons.

Henriquez's (1999) preliminary findings include a "use of force rate" as 4.19 per 10,000 responded to calls for service[1] and that, most use of force incidents occurred in arrest-related situations[2]. Henriques also reports that officers are injured in about ten percent of the use of force incidents and that citizens were injured in 38 percent of the incidents. He provides no details on what constitutes injury. While this effort is not yet a uniform reporting system, a complete measure of all possible types of force, or a representative sample of agencies, it is a beginning toward consistent measurement of force along with some measure of baseline police behavior.

The available reports on the systematic observations of police (Reiss, 1971; Worden, 1995; Bayley and Garofalo, 1989) typically avoid the biased sampling of studies based on complaints or completed use of force forms. They also report that police officers rarely use "force". For instance, Worden (1995) reports that physical force was used in as little as 1.05% of all "police citizen encounters." Lundstrom and Mullan (1987) report that 14.6% of all "custody situations" involved force. In over 2000 "potentially violence situations" in Dade County Florida, Fyfe (1989) reports that police officers used force greater than a firm voice command only 12% of the time. Unfortunately, these reports are not always clear how "force" is defined or measured and the definitions and measures of force tend to be unique to each study. In addition, studies with representative samples use different units of observation--police citizen encounters, potential violent situations, or custody situations--each of which require elaborate and somewhat subjective judgments to identify.

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[1]For 110 agencies during 1995.

[2]From 2,310 incidents reported from 27 agencies during 1996 and 1997.

While representative samples of police behavior are ideally suited for descriptive research on the amount of force and for evaluations of policies and programs designed to reduce the amount of force between citizens and their police (Geller and Scott, 1992), the low base rate of measured force is not. For instance, Fyfe (1989) reports that during 877 eight hour tours, his observers never saw a weapon fired. Officers were assaulted in .01 percent of all routine traffic stops, in 4 percent of all crimes in progress, and 6 percent of all high risk vehicle stops. Given the low base rate of the measures of force used in evaluating the Violence Reduction Program in Dade[3], it is not surprising that Dade's violence reduction training had "little apparent effect on officer's conduct or police/citizen interactions" (Fyfe, 1989).

The Concept of a Continuum of Force

The measurement of force has lagged behind developments in police policies, training and tactics. The distinction between force and no force has long been identified as inadequate to account for the behavior of officers or the levels of resistance they encounter. Use of force policies and arrest tactics training manuals commonly refer to a continuum of force (Clede and Parsons, 1987; Connor, 1991; Desmedt, 1984; Americans for Effective Law Enforcement, 1988; Schultz, 1990). For example, Connor (1991) identifies 5 levels of suspect resistance and 16 levels of officer response.

This listing is but one example of force continuums proposed by various authors and adopted by police departments as an integral part of their use of force policies and training. The activities, tactic, and weapons included in these formulations varies, as does their relative ranking of the severity of activities and weaponry. New threats (e.g., AIDS infected needles) and newly

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[3]Torres (1992) positive evaluation of "sensitivity training" in Phase II of the Dade Violence Reduction Program uses aggregate level monthly reports of complaints and disciplinary actions from December 1988, December 1989, and August 1990.

developed less-than-lethal weaponry and tactics (McEwen and Leahy, 1993; Hayeslip, 1992) require that existing continuum be updated and revised. The diverse rankings of various tactics suggest that the authors do not have a solid (or at least the same) empirical basis for assessing the severity of the force used by different arrest tactics or forms of suspect resistance.

The common theme for the diverse writings on the continuum of force is the notion of a progressively increasing categorization of suspect resistance matched to a progressively increasing categorization of officer response. This notion of a continuum is not merely descriptive; it can be used to specify the *highest* level of appropriate response for a given level of suspect resistance. Thus, a continuum of force can specify in some detail appropriate use of force practices in conformity with the legal and policy requirements that officers use no more force than is reasonably necessary to obtain compliance (Graves and Connor, 1992). Most police department policies, however, retain a case by case reasonableness standard for determining the appropriate use of force and do not explicitly link suspect resistance categories with office use of force categories.

There is very little information about the levels of resistance officers encounter and the tactics that they use in response. Connor asserts that 95 to 97% of all police--citizen contacts involve cooperative subjects and this appears to be supported by systematic field observations of the police during the 1960's and 1970's (Friedrich, 1980; Bayley and Garofalo, 1989; Worden, 1995).

Knowledge of the continuum of force used by and against the police is hindered by an additional consideration: measurement. None of the publications on the continuum of force propose an operational definition of the listed levels of resistance or levels of response that connect concrete behavioral activity to the concepts embodied in the use of force continuum.

Researchers attentive to the measurement issues in the use of deadly or excessive force have not expanded their concerns to the full range of forceful tactics used or potentially available to police.

This research recognizes the importance of the concept of the continuum of force for measurement and analysis of police behavior. What prior research has not developed are measures of the continuum of force that can be used to describe police and suspect behavior accurately and to improve arrest tactics policy, training and practice.

Multivariate Analytical Models

Analyses based on multivariate statistical techniques have been brought to bear in three published studies to evaluate models of the use of force (Friedrich, 1980; Bayley and Garofalo, 1989; Worden, 1995). These studies draw upon systematic field observations of police behavior in separate jurisdictions during three decades to examine a variety of sociological, organizational and psychological theories of police behavior. In these studies, substantial differences exist in the sampling procedures used, the data collected, the measures of force used, and the type of multivariate statistical analyses employed.

Friedrich's (1980) pioneering analysis was based on a subset of 1,091 of the 5,391 police--citizen encounters included in Reiss's 1966 observation of the police in high crime precincts in Chicago, Boston, and Washington, D.C[4]. Friedrich's central theoretical concern was with the level of professionalism in the organizational styles of the three police departments. Friedrich's dependent variable is the traditional dichotomy--force or no force--as determined in a summary judgment by trained observers. In this study, the base rate for force was 5.1%.

Friedrich used Ordinary Least Squares (OLS) regression and reports that this model explained 12.8% of the variance in use of force. As previous reviews (Worden, 1995) have noted,

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[4]His bi-variate analysis is based on 1565 incidents with citizens "the police considered to be at least potential offenders" (Friedrich, 1980:86); his multivariate analysis is limited (without explanation) to 1091 of these incidents.

OLS is technically not appropriate for a dichotomous dependent variable.[5] Friedrich reports on 18 correlates of force, five of which--the suspect's manner toward the police, whether the suspect's "general state" is agitated, the suspect's sobriety, the number of citizens present and the number of police present--were identified as being positively associated with force and statistically significant. Not only was the organizational variable not statistically significant but the direction of the effects were contrary to the working hypothesis that professional departments would use less force than traditional departments.

However, a previously unnoticed aspect of Friedrich's analysis is terribly flawed. He reports "standardized regression coefficients" and "standard error of the coefficient." This is common and appropriate. However, in the text (pages 94-95), he asserts that he uses the ratio of the standard error to the **standardized** regression coefficient as his test of determining the existence of an effect. This is the wrong test; the traditional "t" test is the ratio of the **unstandardized** regression coefficient and the standard error (Draper and Smith, 1981). Thus, the published results are unlikely to be similar to the correct analysis of these data.

The second report of multivariate analysis of police use of force (Bayley and Garofalo, 1989) utilizes 350 hours of observation made in three precincts during the four p.m. to midnight shift in New York City during the summer of 1986. This study recorded 467 police citizen encounters that had "at least some possibility of resulting in violence" or what Bayley and Garofalo termed, Potentially Violence Mobilizations (PVMs). They also used the summary judgement of observers to construct a dichotomous measure of force/no force, which had a base rate of 7.9%. This study's primary focus was on identifying highly effective officers based on

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[5]While the results of OLS and other more appropriate methods such as logit are often the same, OLS can generate inaccurate standard errors which results in inaccurate tests of statistical significance.

recommendations of fellow officers; contrary to their expectations, officers rated as effective by their fellow officers used force more often than a comparison group of officers.

Their multivariate analysis, clearly a secondary consideration to the focus on highly effective officers, used an OLS model with 6 prediction variables, three of which--Conflict at Police Arrival on Scene, Citizen Possessed Weapon and Citizen Made Obscene or Insulting Remarks--were reported as positively associated with force and meeting the traditional "t" test standard of statistical significance with a p value less than .05. Their three variable model explained only 3.8% of the variance in the use of force, which the authors recognized provides little explanatory power.

Worden (1995) used data on observations of 463 officers from 900 patrol shifts obtained from 24 police departments in three metropolitan areas during the summer of 1977. These observation included 5,688 police-citizen encounters; in 1,528 of those encounters, the citizen was a criminal suspect. The observers coded 37 of these encounters as involving "no more than reasonable force"; thus, the base rate for "reasonable" force is .06% of all police citizen encounters and 2.3% of all encounters with suspects. In another 23 instances (.04% of all encounters and 1.2% of all encounters with suspects) the observers determined that the officer used "improper" force.

Worden purposely includes variables from sociological, psychological, and organizational perspectives to account for variation in police use of force which Worden conceives of as a nominal variable with three categories--No Force, Reasonable Force and Unreasonable force. Given this perspective on force, he used a form of multivariate analysis (multinomial logit) appropriate for that type of dependent variable. In a series of analyses using the 1528 encounters with suspects, he identifies eight out of 30 possible predictors as statistically significant predictors

of one or both dependent variables[6]. The significant predictors reported were: original offense is a violent crime, encounter involves a car chase, the number of bystanders, suspect race and sex, citizen hostility toward the police, citizen intoxication, and an index of departmental bureaucratization[7]. He examined a number of officer demographic and attitudinal variables but none of them were statistically significant in his final model.

In one sense, Friedrich, Bayley and Garofalo, and Worden report similar results.

1) police use physical force infrequently and

2) their multivariate models could explain only a small portion of the variation in whether physical force was used or not.

As a group, however, these studies do not contribute much common knowledge about predictors of force. Table 1 displays the reported findings of these three studies with each of their predictors located under six domains. Where it appeared appropriate, we listed on the same row predictors which, conceptually at least, appeared to be roughly comparable in different studies, even if there were obvious differences in how these variables were defined or coded. Many of the cells in Table 1 list "No Report" meaning that no comparable variable was reported in that study's multivariate analysis. Only four concepts appear in all three publications as predictors of force: 1) the nature of the original offense/situation, 2) the public location of the encounter, 3) the number of bystanders, and 4) the intoxication of the suspect. None of these variables are consistently statistically significant or insignificant.

The comparisons in Table 1 - 1 are based on the ***reported*** findings of prior research. Frequently, published findings of these multivariate analyses list only a final model of those

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[6]Using traditional p values of .05 in a two tailed test.

[7]Six factors predict both "reasonable" and "improper" force. Number of bystanders and departmental bureaucratization are not significant predictors of "improper" force; car chase is not a significant predictor of "reasonable" force.

variables which are statistically significant. In this formulation all other variables, measured and unmeasured, are assumed not to influence the outcome measure or are considered irrelevant to the policy or theoretical issues being investigated. Thus, Friedrich, Bayley and Garofalo, and Worden may have considered other variables but not included them in their published models. If these variables had been included in the data analysis and were found not to predict police use of force (but not listed in the publications), our interpretation of these studies changes. Under those conditions, the No Report "findings" in Chart 1 would more appropriately be interpreted as meaning these variables do not predict police use of force.

The dichotomous dependent variables in each of these studies were constructed from a summary judgment made by trained observers. This approach differs from our own which relies on officer reports of specific behavioral indicators (use of restrains, tactics or weapons) to construct measures of force. We agree that data from systematic observations by independent trained observers is, for many purposes, to be preferred over self-reported data. Such data are difficult and expensive to collect and the number of use of force incidents per police–citizen encounter is small. The use of systematic observations, however, does not preclude what we consider to be the preferable use of specific behavioral indicators to construct measures of force. In fact, a review of the observational instruments used to generate the data for the prior multivariate studies reveals that they include a number of specific behavioral indicators that could have been used to construct alternative measures of physical force by the police and by suspects and a number of measures that could have been used to construct unreported predictor variables listed in Table 1.

The prior research employing multivariate analyses of police use of force has improved our understanding of the potentially complicated interactions of predictors of force and helped to guide this research concerning the role of situational, psychological, and organizational

considerations, the variables that warranted inclusion in our research, and alternative multivariate statistical procedures employed to assess alternative models of police use of force. These studies have limitations. First, while they do consider predictors from a variety of theoretical perspectives, they do not consider alternative models of force. All predictors are considered to have direct and only direct effects on police use of force. Second, these studies use a variety of dependent measures whose construction is not well-defined and for which well-developed justifications are not provided. In addition, these studies include many disparate and few common predictors of force. In at least one instance (Friedrich, 1980), the statistical tests reported are so seriously flawed as to warrant little or no consideration.

These characteristics limit our ability to combine knowledge across these studies to generate a meaningful substantive synthesis to guide public policy, inform police practices, or evaluate theories about the conditions under which police use more or less force.

Summary of Prior Research

Prior research has examined the relationship between variations in police behavior and variations in such possible explanatory factors as demographic characteristics of police officers and citizens, situational factors of police-citizen encounters, and community characteristics (Geller and Scott, 1992; Sherman, 1980a; Pate and Fridell, 1993). There are a number of characteristics of the existing research on the use of force which suggest that caution should be used in evaluating policies or testing theories. The major problem has been the focus on extremely rare events. Science and policy making are both weakest when attempting to deal with activities that occur very infrequently (Gottfredson and Tonry, 1986). Since these events are vary rare, the best predictions--that is the predictions that will be right most often--are that such events will never occur. Of course, when these events do occur, many are prepared to do "post-dictions" about what caused the event without examining the fact that apparently similar situations occur every day without the use of deadly force, injury, or even official complaints. The absence of a

base rate of police activity can result in distorted interpretations of simple frequency counts of negative events, such as officer deaths and injuries (Garner and Clemmer, 1985).

Most research in this areas employs unsystematic samples. At worst, research only looks at "failures"--incidents where serious injury or death occur or firearms are discharged--and try to generalize to all police--citizen encounters from them. At best, they use available data sources which tend to be police reports of complaints, injuries, deaths, or firearm use and these effort typically fail to identify the population to which they are attempting to generalize.

Prior research has addressed but not solved the problem of poor measurement. Even deaths, which are typically recorded with great detail and precision, are measured in ways which result in substantial variability in the number of deaths due to police officers, let alone characteristics of the incidents that led to the arrests. Observational studies have reported the frequency with which incidents meet their definition of force or no force, but do not report what constitutes force (handcuffing, arm twisting, weapon use) or how much force is used. The difficulties created by unsystematic sampling of poorly measured rare events are compounded by analyses limited to frequency counts and bi-variate tabular presentations. Police officials, researchers, and the public conceive of force occurring as the result of a mix of individual and aggregate factors but research on use of force has not measured these factors well nor applied statistical methods appropriate to this level of understanding.

Table 1 - 1 : Prior Multivariate Research Predicting Police Use of Force

Friedrich (1980)	Bayley and Garofalo(1989)	Worden (1995)
Mobilization		
Number of Police in Unit	No Report	Number of Officers
Number of Additional Police	No Report	No Report
Police Initiated Contact	No Report	No Report
No Report	No Report	Supervisor Present
Nature of the Offense		
Seriousness of Offense	Conflict At Arrival	Violent Crime
No Report	No Report	Car Chase
Nature of the Location		
Public Location	Public Location	Public Building
No Report	No Report	Street, Sidewalk, Parking Lot
No Report	No Report	Police Station, Car
Number of Citizens Present	Presence of Bystanders	Number of Bystanders

Shaded Area Indicates Original Authors Report a Statistically Significant Effect ($p < .05$)

Table 1 (continued): Prior Multivariate Research Predicting Police Use of Force		
Officer Characteristics		
Friedrich (1980)	**Bayley and Garofalo(1989)**	**Worden (1995)**
Length of Service on Force	No Report	Length of Service
Attitude Toward Job	No Report	No Report
Attitude Toward Blacks	No Report	Attitude Toward Citizens
Race of Patrol Team	No Report	Race
No Report	No Report	Age
No Report	No Report	Sex
No Report	No Report	Education
No Report	No Report	Length of Time Observed
No Report	Used Verbal Ploys	No Report
Citizen Characteristics		
Manner Toward Police	No Report	Hostile to Police
General State	No Report	Mentally Disordered
Sobriety	Used Drugs or Alcohol	Drunk/Stoned
Age	No Report	Age
Race	No Report	Black
Sex	No Report	Male
Economic Class	No Report	No Report
No Report	Obscene/Insulting Remarks	No Report
No Report	Possessed Weapon	Possessed Weapon
No Report	No Report	Fought With Police
No Report	No Report	Use Weapon
Organizational Characteristics		
City	No Report	Bureaucratic Department
No Report	No Report	Legalistic Department

Chapter 2: Phoenix Use of Force Project

In 1993 and 1994, a team of researchers worked in collaboration with the Phoenix, Arizona Police to design and implement a pilot study of the use of force by and against Phoenix police officers. This study was concerned with describing the amount of force used and the characteristics of arrest situations, suspects and officers associated with the use of more or less force and was designed to address some of the more important limitations of prior research on use of force identified above: simple dichotomous measures, unsystematic samples, limited range of correlates of force and rudimentary statistical analyses.

In this research, the primary source of information was a one-page, front and back, survey completed by Phoenix police officers following every arrest made during a two week period in June 1994. This form was used to record specific behavioral aspects of the arrests as well as how the police were mobilized, the nature of the offense, and officer and suspect characteristics. Multivariate statistical models were used to evaluate the extent to which officer, suspect, offense, and neighborhood characteristics predicted the amount of force used.

The officer surveys were voluntary and anonymous. No unique officer or suspect identifiers were collected and the completed forms were always in a secure location or the custody of the university-based researchers. We implemented these procedures to encourage participation and truthful responses and to protect the confidentiality of research subjects.

We developed, field tested, revised and implemented the two page survey. This study successfully executed the use of force survey during a two-week period in June 1994. 1777 surveys were obtained and 1585 of these were for adults that were booked by Phoenix Police officers at the Maricopa County Jail. During this same period, the Phoenix police department's automated information system (PACE) recorded 1826 arrests where an adult suspect was booked at the Maricopa County Jail. Thus, we obtained surveys in over 85% of arrests of detained

adults. A comparison of the race and gender distributions of PACE arrests and our survey arrests showed no significant differences[8].

From these surveys, we obtained detailed information about the specific behavior of the police and of arrested suspects. From this information, we constructed three measures of force used by police officers--Physical Force, the Continuum of Force, and Maximum Force--and three parallel measures for force used by suspects. Each of these measures were designed to capture low levels of force not typically included in research on police use of force; however, our central finding is that in arrest situations force was rarely used by police officers (or by arrested suspects) and that when some form of force was used, it was typically at the low end of our measures.

Measures of Force Used in Phoenix

Using the 1,585 police surveys, we developed three measures of force: physical force, the continuum of force and maximum force. Physical force is a traditional dichotomy of those arrests where physical force was or was not used. We defined the use of physical force for officers and for suspects in parallel but slightly different ways[9].

Definition 2-1: Measures of Physical Force

POLICE	SUSPECT
Use of Severe Restraints	
Use of Any Weaponless Tactic	Use of Any Weaponless Tactic
Use or Threatened Use of Any Weapon	Use, Threatened Use or Possession of Any Weapon

[8]The results for comparisons of all other available data--time of day and day of week--show similarly comparable distributions.

[9] A detailed description and rationale for our construction of these measures can be found in the Phoenix final report (Buchanan, et al., 1994).

Figure 2- 2 displays the frequency with which police use physical force in Phoenix. In 349 or 22% of the 1585 surveyed arrests the police used some form of physical force. In 78 % of the time--nearly 4 out of every 5 adult custody arrest police officers use no physical force at all. Physical force by the suspects (See Figure 2-3) occurred in 228 or 14.4% of the 1585 surveys. In 85% of the arrests or in roughly 5 out of every 6 adult custody arrests the suspects used no physical force. The dichotomy between physical force and no physical force is a traditional approach to understanding and measuring the use of force. Its strength is that it captures the element of force that is most salient to the police and to the public; its weakness is that it groups together all uses of force from a push or a shove to the discharge of a firearm.

The second measure of force we developed (See Definition 2-2) captures the 7 step rankings of force used by the Phoenix Police Department to indicate distinct levels of suspect resistance and levels of police response[10]. These gradients of force are similar to those used by many other police departments in their arrest tactics training and in their policies on the appropriate use of force.

Definition 2-2: Measures of the Phoenix Police Department Continuum of Force

POLICE	SUSPECTS
0. No Force	0. No Resistance
1. Police Presence	1. Psychological Intimidation
2. Verbal Commands	2. Verbal Non-Compliance
3. Control and Restraint (handcuffs)	3. Passive Resistance
4. Chemical Agents	4. Defensive Resistance
5. Temporary Incapacitation	5. Active Aggression
6. Firearm Use	6. Firearm Use

We coded each arrest based on the ***highest*** level of force reported. This measure does not capture all the force used, just the highest level used. Table 2 - 1 and Figure 2-4 display the

[10]We built upon the formal departmental rankings in two ways: first, we made explicit what was implicit--categories of no force and no resistance. Second, we titled the most serious categories "firearm use", instead of the "deadly force" and "aggravated active aggression".

frequency with which each level was reached during the 1585 arrests in our survey. The single most frequent level of force in our sample of adults arrested and taken into custody was the use of restraints; this occurred in 918 (57.9%) of our surveyed arrests. The mere presence of officers and the use of verbal commands were the highest level of force used in 340 (22.1%) of all arrests. Weapons and weaponless tactics were used in another 317 (20%) of the arrests.

The corresponding measure constructed to capture the levels of resistance by suspects is displayed in Figure 2-5. In 62% of the arrests, the suspects offered no resistance. In another 12%, the levels of resistance were either psychological or verbal. In 136 arrests (almost 9%), the suspects used or threatened to use a physical tactic or a weapon; in 11 of those arrests (.7%), the weapon was a firearm.

The strength of these two measures is that they rank police and suspect actions in a way that closely approximates current Phoenix Police Department arrest tactics training and policy concerning the use of force. It distinguishes between different types of force and ranks them according to official (and common) standards of relative severity. Among its weaknesses are the fact that a) it does not capture all elements of force, b) it groups together potentially dissimilar behaviors like the use of a knife and pushing, and it gives the same weight (1) to the ***difference*** between psychological resistance and verbal resistance as the ***difference*** between firearm use and pushing.

The third measure of force used in Phoenix was more innovative and exploratory. It captures the relative severity of different actions on the part of officers and suspects on a scale from 0 to 100, with 0 meaning no force and 100 meaning maximum force. The measure was constructed by ranking some 80 different behaviors about which we had obtained information in our survey. We weighed the severity of these behaviors by asking a group of 11 currently active patrol officers to rank each item on the amount of force used on average by the police or by the

suspect (See Tables 2 - 1 to 2 - 4). This exercise generated a score of 8 if an officer spoke in a conversational tone but 21 if the officer shouted or made threats. Restraints could vary in the amount of force from 36 for a standing cuff to 50 for a cuffing while the suspect is prone. We obtained separate scores for officers and suspects for the use of different tactics and for the possession, threatened use and actual use of a variety of weapons. Police firearm use, not surprisingly, ranked the highest of all behaviors at 99.

We constructed our measure of the maximum force used by the police by identifying which of all the actions taken by the officer was the single most severe use of force based on the officer rankings. This measure generates (See Figure 2-5) a substantial proportion of arrests for which the maximum amount of force is below 36, the minimum for any restraints. 338 (more than 20%) of the adults arrested and detained during our two week sampling period were not cuffed or restrained by the police in any way. This measure also reveals the variation in higher amount of force with approximately 50 arrests involving the threatened use of a baton (Maximum = 71) and almost 60 arrests where the police used a baton (Maximum = 87).

The corresponding measure of force by the suspect was constructed from an independent ranking of the relative severity of force obtained from the same 11 Phoenix Police Officers. We attempted to construct comparable officer and suspect measures. However, the suspect measure does not include one component--restraints--and does include a component for the possession of weapons not included in the officer measure; in addition, the suspect measure sometimes uses different weights for the same behavior. For instance, the officers ranked shouting by police as a 21; the average ranking of shouts by suspects was only an 18. For this and other reasons we do not compare the actual scores of each measure, nor do we recommend that others do so. The purpose of these admittedly speculative scales is to illustrate plausible rankings of police and

suspect behavior that capture variation in both low and high levels of force and to demonstrate the utility of measuring the full range of force involved in arrests.

Figure 2 - 6 displays the distribution of force by suspects using this measure. Like its counterpart in Figure 2- 5, our 0 - 100 scale of the maximum amount of force reveals very low or no force in a large proportion of cases. In 263 arrests (16.6%), none of the components of suspect force were reported. In another 892 (56.3%) of the arrests, the maximum level of force by the suspect did not exceed speaking to the police in a conversational tone (Score = 3). Figure 7 also reveals variation in the higher levels of force not discernable with the dichotomy of physical force/no physical force or the seven levels of suspect resistance used by the Phoenix Police Department.

Like the two previous approaches to measuring forces, this approach has its strengths and its weaknesses. Its primary strength is that it appreciates differences between the use and threatened use of a weapon and between different types of weapons. Its primary weakness is that exact scores for these differences are not well established. The measures of force developed for use in the Phoenix project were intended as illustrations of three reasonable alternatives. They neither are nor were intended to be exhaustive or definitive. We explored numerous other types of measures but limited the initial report to these three. We captured individual behavior actions that permit the construction of a great variety of alternative measures. We intend to do this in the future and to archive our data so that other can do the same.

Correlates of Force

We used the 1585 surveys to capture detailed information from over 50 items about how the police were mobilized, the nature of offense, the location of the offense, and the personal characteristics of officers and suspects. These items were selected because of their relationship to police use of force had been raised in prior literature, because the research team and police

managers from the Phoenix Police Department thought they might be important, and because we believed that we could capture this information in a two page survey form completed by police officers.

Based on the prior research and our team's understanding of police and suspect behavior, we conceived of a model of force which 1) measures multiple aspects of police use of force, 2) identifies distinct domains for individual predictors of police use of force, 3) incorporates the role of force used by suspects and 4) recognizes the reciprocal relationship between suspect force and officer force. This model approximates how police professionals and police researchers conceive of the use of force and provides a framework for estimating more accurately the specific processes and mechanisms that lead to the use of force in arrest encounters.

We used our conceptual model of force to guide the our testing of which items and which domains were associated with more or less force. We regressed our measures of suspect use of force and police use of force against various combinations of our 50 items in order to identify which, if any, of our items had a consistent association with our measures of force. The process of identifying predictors of force was complicated by the lack of real guidance in the prior literature, the large number of potential predictors, the presence of multiple measures of force and the potentially reciprocal relationship between suspect use of force and police use of force. To address these issues, we regressed **suspect** use of physical force against all 50 items[11]; those items which met a standard of $p > .1$ were retained. We repeated this procedure for the continuum and maximum measures of suspect force and retained any item that met the $p. > .1$ criteria in any of these analyses. We then used this subset of the 50 items to test a final model on each measure of

[11]For dichotomous measures, we used logistic regression; for the continuum and maximum measures, we used generalized least squares regression.

suspect force. From these analyses, we constructed a predicted measure of suspect force for all three measures and used that measure in our models of police use of force. The logic of this statistical approach, two stage least squares, is that the component of suspect use of force that can be predicted by these items can be assumed not to be caused by police use of force and is not subject to the reciprocal relationship of suspect use of force and police use of force.

The results of that analysis are presented in Tables 2-6, 2-7 and 2-8. Table 2 - 6 lists those items which predicted one or more of our measures of suspect force and Table 2 - 7 lists those items which predicted one or more measure of police use of force. In these two tables, the highlighted cells indicate the presence of a statistically significant relationship. Our statistical models of suspect use of force and police use of force had statistically significant but modest R^2s between .05 and .14.

Table 2 - 8 lists those nine items which consistently predicted all three measures of force. Our analysis determined that more force was used when the offender is arrested for a violent offense, when bystanders are present, when the Phoenix police use their contact and cover tactic and when the number of police increase from initial contact to the completion of the arrest. If the suspect has a reputation for criminal activity, for carrying weapons or for resisting arrest, is associated with a gang, or was impaired by alcohol the police used more force in making the arrest. None of the police demographic characteristic except sex was consistently associated with increases in the amount of force used and this item was a consistent predictor when both the police and the suspect were male. Lastly, the predicted amount of suspect use of force was a consistent predictor of police use of force.

Our analytical approach in Phoenix was conservative. We used self-report data from approximately 85% of all adult custody arrests during a two week period in Phoenix in 1994. We used multiple measures of force and a large range of items as potential predictors of force. We

used standard criteria for statistical significance and we required that items consistently predict all three measures of force. In addition, we limited the use of suspect use of force as a predictor of police use of force to the variation in suspect use of force that could be predicted by items other than police use of force. Our findings indicate that a small number of potential predictors can pass these criteria and that together they predict a small portion of the reported variation in the amount of force used by the police.

The Phoenix Use of Force study offered improvements upon prior analyses. It used a systematic sample of arrests, compiled information from officers and suspects, developed and explicitly defined multiple measures of force, and employed appropriate multivariate statistical tests to identify consistent predictors of force, inconsistent predictors of force and consistent non-predictors of force.

Limitations of the Phoenix Project

There are limitations to the findings from the Phoenix Use of Force project. First and foremost, they are one set of findings from one jurisdiction at one point in time. Even if the project design was unassailable and had been implemented without flaw, serious reservations ought to be raised about the relevance of the Phoenix findings to other departments. It is a commonplace finding in criminology that research results from one jurisdiction do not necessarily hold in all jurisdictions. This is of special concern given our use of arrest as a unit of observation and prior research has identified departmental styles as an important aspect of the decision to arrest. With only one site, this research has no variation in departmental styles and cannot assess the importance of this consideration. Second, other law enforcement agencies may find other measures of force and other characteristics of arrest situation more relevant to their current operations. Law enforcement agencies authorize and, in some cases, prohibit various tactics and

weapons and the array of tactics and weapons recorded in the officer surveys and suspect interviews in Phoenix may not capture the full array of police and suspect behaviors relevant to the use of force.

Table 2 - 1: Highest Level of Force Used By Police and By Suspects in Phoenix

Continuum of Force: Highest Level Used in 1,585 Adult Custody Arrests					
Police	N	%	**Suspects**	N	%
One Officer	106	6.7%	No Resistance	977	61.6%
Two or More Officers	185	11.7%	Psychological	104	6.6%
Verbal Commands	59	3.7%	Verbal	92	5.8%
Restraints	918	57.9%	Passive	75	4.7%
Chemicals	2	0.1%	Defensive	201	12.7%
Tactics and Weapons	261	16.5%	Aggressive	125	7.9%
Firearms	54	3.4%	Firearms	11	0.0%
Total	1585	100.0%	Total	1585	100.0%

Table 2 - 2:Average Ranking of Forceful Actions by Eleven Phoenix Officers

Voice	Suspect	Officer	Motion	Suspect	Officer
Conversational	3	8	On Foot	37	46
Command	9	14	In Vehicle	46	71
Shouts	18	21	In Helicopter	N. A.	42
Threats	23	21			

Restraints	Suspect	Officer	Tactics	Suspect	Officer
Standing Cuff	N.A.	36	Grab	50	36
Speed Cuff	N.A.	42	Pressure Hold	N.A.	36
Kneeling Cuff	N.A.	46	Push	52	43
Leg Cuff	N.A.	46	Bite	55	N.A.
Hobble	N.A.	47	Wrestle	60	56
Body Cuff	N.A.	49	Hit	65	58
Prone Cuffing	N.A.	50	Carotid Hold	N.A.	71

N. A. - Not Asked

Table 2 - 3: Average Ranking of Suspect Weapon Use By Eleven Phoenix Officers

Suspects Use of Weapon	Type of Use		
	Possess	Threaten	Use
Household item	49	71	80
Martial Arts	50	75	85
Chemicals	51	75	86
Car	53	83	91
Stick	53	78	88
Knife	60	86	93
Handgun	62	90	98
Shotgun	63	89	98

Table 2 - 4: Average Ranking of Police Weapon Use

Police Use of Weapon	Type of Use		
	Possess	Threaten	Use
Flashlight	35	68	84
Chemicals	37	63	72
Baton/Straight	36	69	87
Baton/Expandable	35	69	86
Baton/Sidehandle	36	71	87
Handgun	45	87	99
Canine	47	68	79
Shotgun	51	87	99

Table 2 - 5: Maximum Level of Force By Police and By Suspects in Phoenix

Maximum Level of Force					
Used by Police			Used by Suspects		
Score	Number	Percent	Score	Number	Percent
0	27	1.7%	0	263	16.6%
8	257	16.2%	3	892	56.3%
14	49	3.1%	6	1	0.1%
21	5	0.3%	9	27	1.7%
36	433	27.3%	18	16	1.0%
42	566	35.7%	23	85	5.4%
43	12	0.8%	37	61	3.8%
46	39	2.5%	46	13	0.8%
47	10	0.6%	49	1	0.1%
50	34	2.1%	50	31	2.0%
54	2	0.1%	51	1	0.1%
56	21	1.3%	52	11	0.7%
58	3	0.2%	53	5	0.3%
63	7	0.4%	55	3	0.2%
68	1	0.1%	56	6	0.4%
69	2	0.1%	60	65	4.1%
71	38	2.4%	62	36	2.3%
72	5	0.3%	63	4	0.3%
75	2	0.1%	65	41	2.6%
80	1	0.1%	71	1	0.1%
84	12	0.8%	75	3	0.2%
86	4	0.3%	80	2	0.1%
87	47	3.0%	85	1	0.1%
99	8	0.5%	86	1	0.1%
Total	1585	100.0%	89	2	0.1%
			90	2	0.1%
			93	3	0.2%
			98	8	0.5%
			Total	1585	100.0%

Table 2 - 6: Predictors of Suspect Use of Force in Phoenix

PREDICTORS OF FORCE	Measure of Force by Suspect		
	Physical	Continuum	Maximum
TIME IN PATROL SHIFT			.05
CONTACT AND COVER TACTIC		.06	
NUMBER OF POLICE AT INITIAL CONTACT		.11	.07
CHANGE IN NUMBER OF POLICE		.11	.08
VIOLENCE OFFENSE	.79	.09	.12
TRAFFIC OFFENSE	-.55	-.06	-.05
VICE OFFENSE	.54	.04	.06
DOMESTIC CALL		.06	.04
ONE OR MORE BYSTANDERS	.52	.07	.08
BYSTANDER DEMEANOR		.08	.06
INSIDE A BUILDING(NOT A RESIDENCE)	-.81		-.05
VISIBILITY		-.05	
LOCATION KNOWN FOR CRIMINAL BEHAVIOR			-.05
1ST OFFICER LENGTH OF SERVICE		.08	.06
1ST OFFICER PRIOR INJURY		.08	.07
SUSPECT'S ALCOHOL IMPAIRMENT		.10	.06
SUSPECT'S DRUG IMPAIRMENT		.07	
SUSPECT ASSOCIATED WITH GANG	.86	.06	.06
AGE			
Age of 1st Officer		.06	.06
Age of Suspect		-.12	-.14
Difference in Officer and Suspect Age		-.08	-.08
RACE			
1st Officer White	.03		-.00
Black Suspect	.38		.06
Hispanic Suspect	-.65		-.10
White Officer/Black Suspect	-.47		-.03
White Officer/Hispanic Suspect	.20		.04
Pseudo R Square/Adjusted R Square	.05	.11	.08

Table 2-7: Predictors of Police Use of Force in Phoenix

PREDICTORS OF FORCE	MEASURES OF FORCE BY POLICE		
	Physical	Continuum	Maximum
PATROL DIVISION	-.58		
CONTACT & COVER TACTIC	.34	.07	.14
NIGHT TIME	.26		
NUMBER OF POLICE AT INITIAL CONTACT		.10	.15
CHANGE IN NUMBER OF POLICE	.01	.05	.12
VIOLENT OFFENSE			.04
PROPERTY OFFENSE		.04	.06
TRAFFIC OFFENSE	-.40	.03	
VICE OFFENSE	.13		
DOMESTIC CALL	.47		
ONE OR MORE BYSTANDERS	.23	.02	.06
BYSTANDER DEMEANOR		-.04	
VICTIM FRIEND OR FAMILY OF SUSPECT		.04	
VISIBILITY		-.04	-.09
INSIDE A BUILDING (NOT A RESIDENCE)	-.29		
LOCATION KNOWN TO BE HAZARDOUS	.53		
1ST OFFICER'S LENGTH OF SERVICE	.01	-.06	
SUSPECT ALCOHOL IMPAIRED	.31	-.05	-.04
SUSPECT DRUG IMPAIRED	.49	-.04	
SUSPECT'S KNOWN PROBLEMS	.86	.08	.05
SUSPECT ASSOCIATED WITH GANG		-.02	
AGE			
1st Officer's Age	-.01	-.07	
Suspect's Age	-.02	.06	
Age Difference	.02	.11	
RACE			
1st Officer White	-.04	.02	.05
Black Suspect	.55	.12	.10
Hispanic Suspect	.45	.01	.12
White Police/Black Suspect	-.43	-.13	-.10
White Police/Hispanic Suspect	-.20	-.01	-.07
SEX			
1st Officer Male	-.52	-.07	-.06
Male Suspect	-.25	.02	-.01
Both Police and Suspect Male	.82	.11	.11
WEIGHT			
First Officer's Weight		.01	
Suspect's Weight		-.09	
Weight Difference		-.08	
Predicted Suspect Force	3.20	.29	.11
Pseudo R Square/Adjusted R Square	.08	.14	.11

Table 2 - 8: Consistent Predictors of the Use of Force by the Phoenix Police			
CONSISTENT PREDICTORS	MEASURE OF FORCE		
	PHYSICAL	CONTINUUM	MAXIMUM
Contact and Cover Tactic	Police	Both	Police
Increase in Number of Police	Police	Suspect	Both
Violent Offense	Suspect	Suspect	Suspect
Presence of Bystanders	Suspect	Suspect	Both
Gang Association	Suspect	Suspect	Suspect
Suspect Alcohol Impairment	Police	Suspect	Suspect
Suspect Reputation	Police	Police	Police
Sex of Police and Suspect	Police	Police	Police
Predicted Suspect Force	Police	Police	Police

Cell entries indicate the whether the considerations in column 1 predict police or suspect use of force or both.

Figure 2 - 1: Use of Physical Force by the Phoenix Police

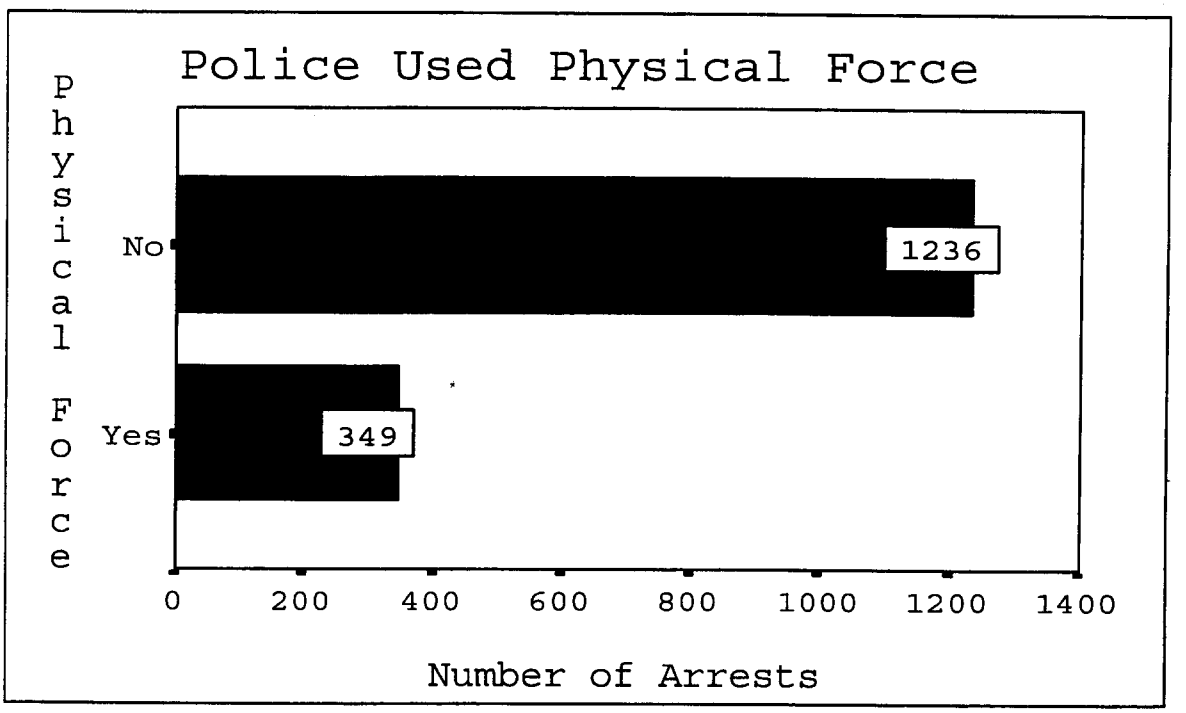


Figure 2 - 2: Use of Physical Force by Suspects in Phoenix

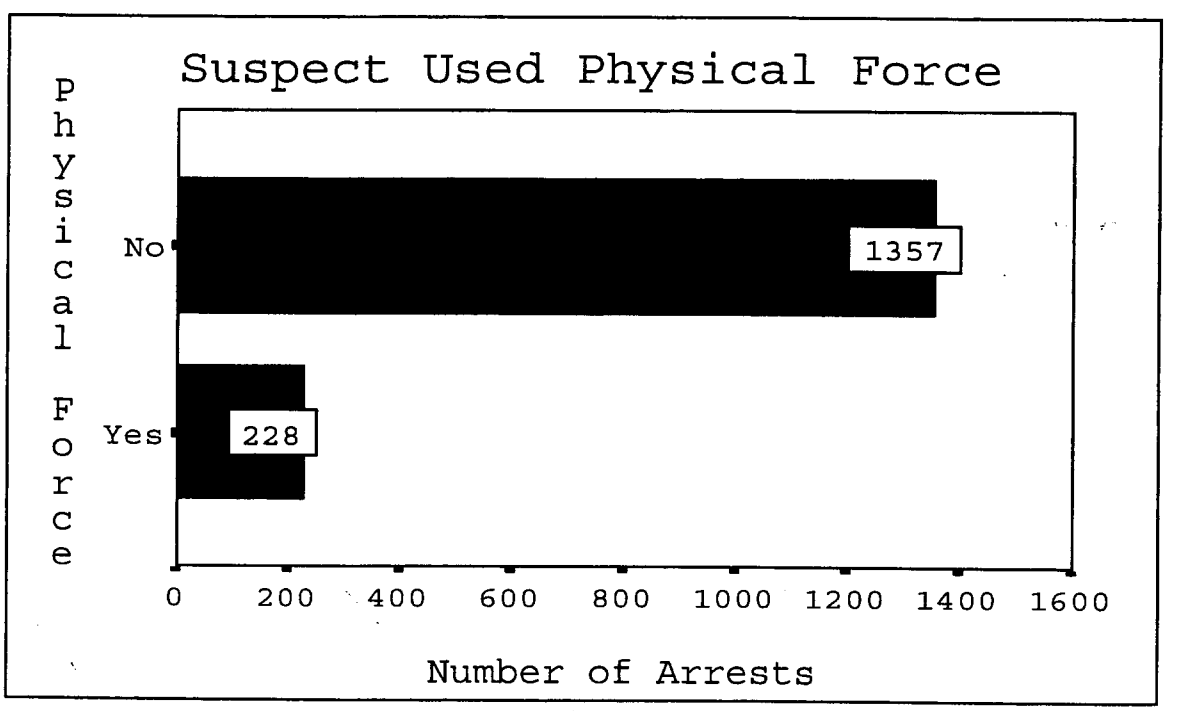


Figure 2 - 3: Continuum of Force Used by Phoenix Police

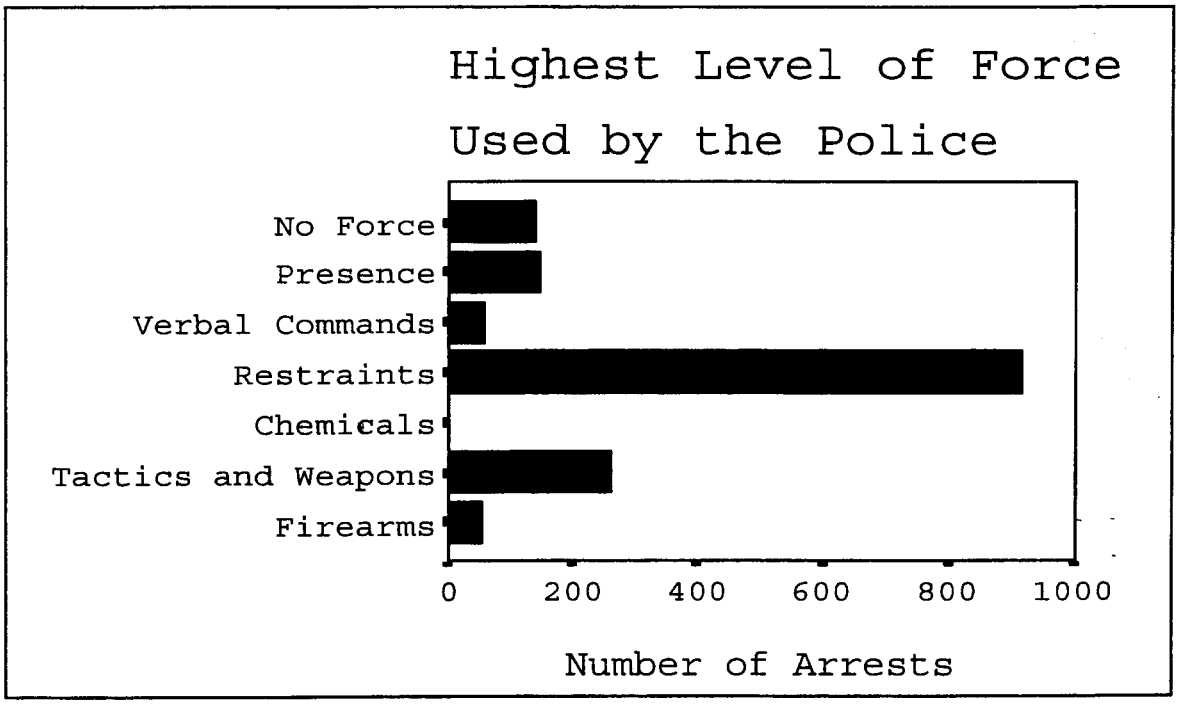


Figure 2 - 4 : Levels of Resistance By Suspects in Phoenix

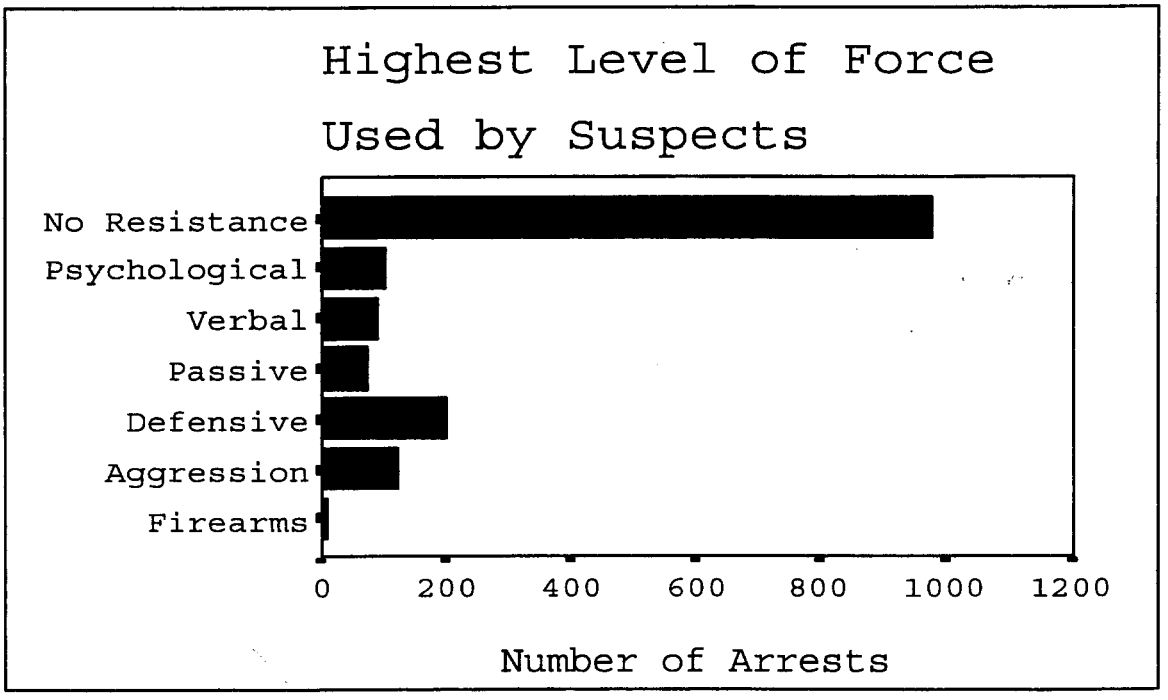


Figure 2 - 5: Maximum Force Used by Phoenix Police

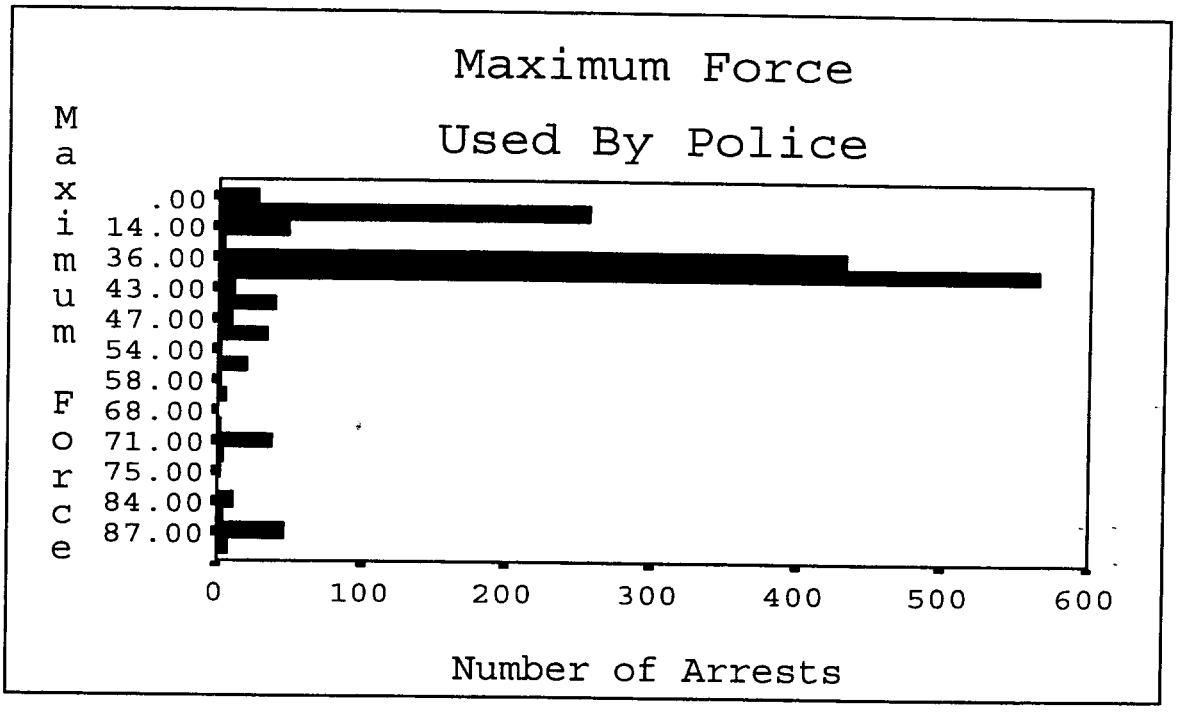
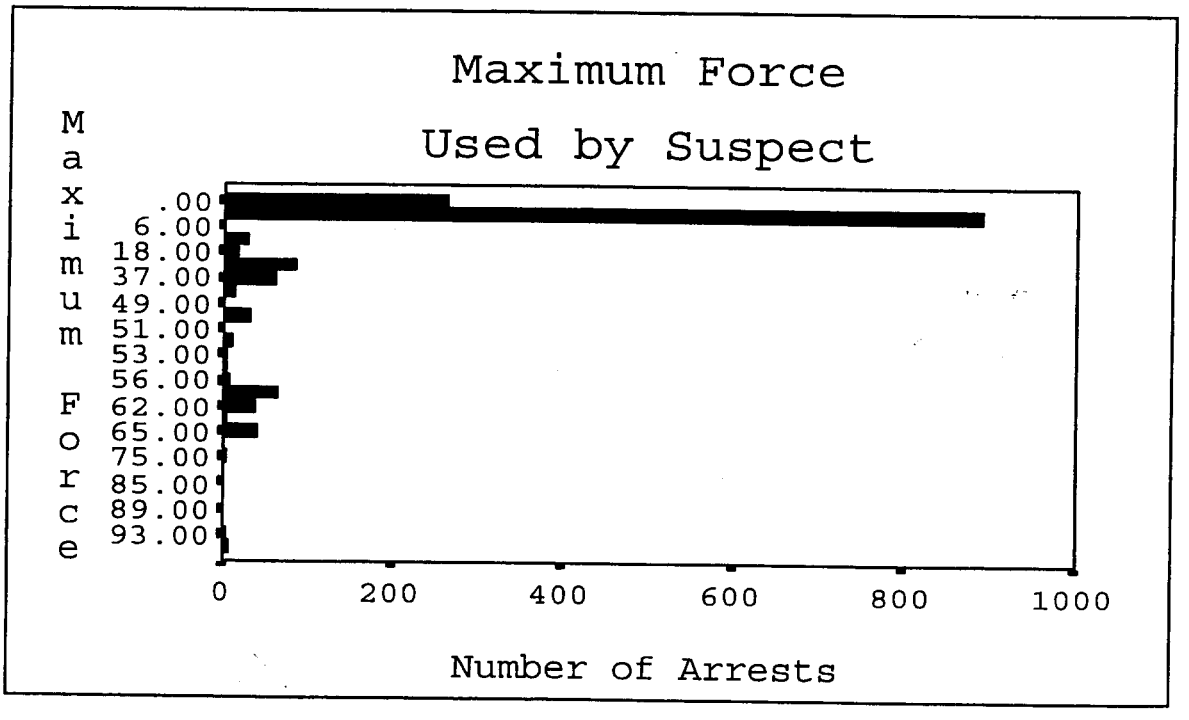


Figure 2 - 6: Maximum Force Used by Suspects in Phoenix



Chapter 3: Implementing A Multi-Site Study of Police Use of Force

Building on the successful implementation of the pilot study in Phoenix, we designed an implemented a multi-site analysis intended to improve our knowledge of police use of force. Our design had four core components:

1) work with several law enforcement jurisdictions in the design, implementation and analysis of the project
2) obtain confidential officer self-reports from systematic samples of arrests,
3) use common measurement of elements of force and predictors of force, and
4) collect a subsample of suspect interviews to assess the reliability of officer surveys.

Site Selection

Once the Phoenix study had been successfully implemented, we began planning for designing and implementing similar research in three or four new jurisdictions. Ultimately, six jurisdictions participated in this study: police departments in Charlotte, North Carolina, Colorado Springs, Colorado, Dallas, Texas, St. Petersburg, Florida, and San Diego, California as well as the Sheriff's Office in San Diego California. We initially contacted about two dozen large to moderate sized urban or suburban departments concerning their possible interest in participating in a multisite study based on the Phoenix design. At the time the project was initiated in 1996, we had agreements from four police agencies but St. Louis, Missouri withdrew after a change in Police Commissioners. For several months, the St. Louis replacement, the Nassau County, New York Police Department participated in this program but had to withdrawn when it became clear that New York State legal requirements for the disclosure of the officer self-reports to defendants precluded our obtaining a confidential survey by arresting officers. Nassau County determined that each of our forms would have had to be given to the defendant or his attorney. During the search to replace Nassau County, both the Charlotte and the San Diego police departments expressed a strong interest in participating in this study. In the process of obtaining permission to conduct San Diego interviews in the jails controlled by the San Diego County Sheriff's Office,

that agency also expressed an interest in having the arrests made by its patrol deputies part of this research. With NIJ approval (but no additional funds) for these additional sites, we proceeded with six jurisdictions.

Table 3-1 provides a summary of some of characteristics of the six participating jurisdictions and the police departments that serve them. The population of the area served by the departments varied from 280,000 in Colorado Springs to over 1.1 million in San Diego. Over a quarter of the population in Charlotte and Dallas were Black. In San Diego County only three percent of the population served by the Sheriff's Office was Black but 22 percent were Hispanic. In the 1990 census, adult employment rates in these six jurisdictions varied from 45 percent to 55 percent. St. Petersburg is a compact jurisdiction covering only 59 square miles; San Diego County covers an area of 3,881 square miles. In 1997 Colorado Springs reported 229 violent crime per 100,000 population; in Dallas and Charlotte, the violent crime rate exceeded 1,400 per 100,000 population. Dallas had the largest number of sworn officers among the six participating jurisdictions. San Diego County Sheriff's Office at 746 had the largest number of officers per person in the population and the smallest number of officers per square mile. In addition to the differences in the social context of the departments, the departments varied greatly in the number of hours of training required for new recruits. Dallas required over 1,100 hours but Charlotte required only 667 hours.

Table 3 - 1 demonstrates that there is some diversity in these sites; however, there is no magical combination or sampling scheme here. Inquiries were made with numerous other departments but ultimately these six were willing and able to participate. In truth, we didn't pick them; they picked us.

Common Measurement and Analysis

An important goal of the multi-project is to maintain common measurement items for the use of force concepts and for the correlates of force. In collaboration with senior police managers in the participating jurisdictions, we developed survey forms similar to the one developed in Phoenix (Copies of the forms used are included in Appendix A). One crucial difference in these forms from the form used in Phoenix is that they include information which can be used to identify the arrest incident. This permits linking data from these forms with other departmental records about arrest; in addition, with these identifiers we were able to more easily linking suspect interviews with officer surveys.

In most aspects, the individual items on these forms are comparable to those used in the Phoenix study but some items reflect local terminology. Some items, such as local precinct, were added because of the interest of the participating police agencies, even though they were not useful for a cross-site analysis. Our objective in creating these forms was to identify and measure the elements of force, to measure its correlates, and to do so in a consistent manner across the new sites. The project incorporated new ideas from the participating departments on elements of force and developed one new measure of force. In the Phoenix study, we combined the items involving the threat of physical force with the actual use of force. The team of researchers and police administrators thought that a separate measure which included only the actual use of physical force may be of use.

Unit of Analysis

In this research, we chose to continue to use arrests as the unit of observation and analysis in both the site specific multi-site analyses. We selected this design to maximize our ability to obtain a large number of representative incidents in which the full range of force could be employed. We recognize that our choice of arrest as the unit of observation is one of several reasonable options (e.g., police citizen encounters, potentially violence encounters, hours of patrol). The use of officer self-reports on all adult custody arrests is a compromise between systematic field observation of all police citizen interactions by independent observers and the use of official departmental reports on the use of force. However systematic field observations cost about ten times as much to implement as our arrest surveys and typically include only a small number of adult custody arrests(Mastrofski, other cites); official police reports, on the other hand, vary greatly by the type and seriousness of forceful actions that are supposed to be reported and typically do not include a full range of information about potential predictors of force.

Implications of Our Design

Our design has important implications for the meaning of our research. Within each site, we have a large proportion of all adult custody arrests during the sampling period; thus, for most purposes, these samples are fairly representative of the kinds of arrests made in each of the participating jurisdictions. The use of arrest as the unit of analysis means that all uses of force by officers or by suspects which do not result in the immediate arrest of the suspect will not be captured in this research. This makes it important to limit our conclusions to arrest behavior not all police behavior. On the other hand, this research uses measures that capture a broad range of

behaviors that might be considered force in the surveyed arrests and it does not suffer from missing incidents based on diverse definitions of what constitutes the use of force.

We conduct descriptive, bivariate and multivariate analyses separately for the arrests from each participating jurisdiction and for all the surveyed arrests from all six jurisdictions. The combined data across sites is not a representative sample of agencies or of arrests; it is a large and diverse opportunity sample which compared to the samples used in prior research provides enhanced basis for testing the strength of factors believed to be associated with the use of more or less force. Of course, future samples drawn from more representative samples of agencies and arrests may provide stronger tests of which factors are and are not related to the use of force by and against the police.

Project Implementation

Our approach to data collection compromised ideal research procedures with the real life necessities of working within an operational agency. We wanted to obtain a sample of adult custody arrests that was representative of each departments annual arrests. We estimated the number of arrests needed to obtain reliable estimates of the amount of force varied between 900 and 1,200 in the six jurisdictions. However, we did not draw a random sample of arrests throughout the year because that would have entailed complicated procedures for starting and stopping data collection by police officers. We chose to sample arrests continuously over a two to seven week period, depending on the size of the department and the rate at which their officers made arrests.

Data collection began at different times in different departments, so the total sample included arrests during the summer, fall and the winter of 1996 - 1997. We began data collection

in the Colorado Springs Police Department in the middle of August of 1996 and we completed data collection in Charlotte–Mecklenburg in the second week of February of 1997. It took 50 days to obtain data from 1,249 arrests in Colorado Springs but only two weeks to obtain data on 1,192 arrests in Dallas. In all six jurisdictions, we obtained 7,512 usable surveys. The proportion of adult custody arrests for which we obtained completed, usable surveys varied from x to y% and we determined that there were no systematic differences between arrests with or without a competed survey. The large size and representative nature of our sample provides a solid basis for describing the nature of the use of force in the six participating departments.

Measuring Force

The primary means by which this research collected information on the use of force was a one page, front and back, form completed by law enforcement officers on a systematic sample of adult, custody arrests. These forms (See Appendix A) varied slightly from jurisidiction to jurisdiction. They were used to record the characteristics of the arrests situation, the suspect, the officer and the specific behavior acts of officers, suspects and bystanders in this particular arrest. The form was derived from the form used in Phoenix but was modified to conform to the local characteristics, police terminology and departmental policies of the participating agencies.

The forms were completed by arresting officers but were not reviewed or controlled by police managers; thus, the forms were not departmental records but research data. Both the police officers completing the forms and the suspects that were interviewed were research subjects and the confidentiality of their responses were protected by the data management and storage procedures of the Joint Centers for Justice Studies. Under the legislation authorizing the research program at the National Institute of Justice, the Congress made confidential research data

"immune from legal process" and specified that data identifiable to an individual shall not be "used for any purpose in any judicial, legislative, administrative proceeding."[12] This confidentiality protection was communicated to officers by their departments and included on the survey form; interviewed suspects were told of this protection prior to their agreeing to participate in the research. These procedures increase the likelihood that officers and suspects would provide more accurate information since officers would be less constrained by fears that their individual answers might be communicated to others within the department and might even possibly be used against them. The confidentiality provided to research subjects by the Congress makes the findings of this research more reliable and, therefore, more useful to inform policies and test theories.

The design of this research – systematic samples, multiple sources of information, and multi-variate analysis – was guided by an assessment that much of the prior research had confounded the measurement of force with definitions of what is and is not excessive force. In this project, we deferred the difficult task of defining and measuring *excessive* force. We focused on the measurement of the *amount* of force with the expectation that this information would inform issues surrounding the use of excessive force. For instance, excessive force is typically but not necessarily associated with more severe forms of force that could or do result in injury or death.

The detailed findings provided in the following chapters reveal that most arrests involve no force, excessive or otherwise. When force is used, it typically involves less severe forms of tactics and weapon use. These findings provide context for understanding excessive force, which

[12] 42 U.S.C. §3789(g).

we know can involve low level acts of force (such as verbal threats or cursing against compliant suspects) as well as the acts of force that result in physical injury or death of citizens. Arrests that involve no force, however, cannot involve excessive force and arrests that involve low levels of force are less likely to involve excessive force. While the exact relationship between the amount of force and excessive force remains to be clarified, this research seeks to inform future law enforcement policies, practices, and training by identifying what kinds of force are and are not currently being used by and against law enforcement officers.

Table 3 - 1: Selected Characteristics of Participating Sites

	Charlotte	Colorado Springs	Dallas	St. Pete	SD Police	SD Sheriff
Census, 1990						
Total Population	511,433	281,140	1,006,831	238,629	1,110,549	741,208
Percent Black	26%	7%	30%	20%	9%	3%
Percent Hispanic	1%	9%	20%	2%	20%	22%
Percent Employed (16 or Older)	55%	46%	51%	46%	47%	45%
Square Miles	528	183	342	59	324	3881
Uniform Crime Reports,1997						
Violent Crime Rate (Per 100,000)	1,452	229	1,404	589	624	295
Index Report Rate (Per 100,000)	9,231	5,824	9,892	7,430	4,782	2,104
LEMAS, 1997						
Number of Sworn Officers	1,286	528	2,817	511	1,964	1,861
Officers per Person	398	532	357	467	565	746
Officers per Square. Mile	2.44	2.89	8.24	8.66	6.06	0.48
Hours of Recruit Training	667	720	1186	720	928	718

Chapter 4: Describing the Use of Force

The Elements of Force

This chapter emphasizes measuring the amount of force used by law enforcement officers and by suspects. The task of measuring the amount of force required establishing an understanding of the specific behavior acts that constitute "force" and how much force is involved in each of those behaviors. Prior research had traditionally employed simple dichotomies between the presence or absence of physical force or abuse of force or excessive force without much attention to what elements of the arrest or the police citizen encounter constituted force, abuse of force or excessive force. Our approach has been to explicitly define and measure force and, building on prior research in Phoenix, Arizona, we identified five "Elements of Force." These elements are: Weapons, Weaponless Tactics, Restraints, Motion, and Voice

Weapons

There is a strong consensus that the use of a weapon constitutes force and that the use of certain types of weapons–e.g., handguns, rifles–involve more force than the use of other weapons, e.g., batons, oleoresin capsicum (pepper spray). What is less clear is the meaning of "use". For instance, does a firearm have to be discharged to be "used"? Also unclear is whether the possession, threatened use or display of a weapon constitute force by law enforcement officers or by suspects. Our approach to this uncertainty was to have officers mark whether they or the suspects possessed, displayed, threatened to use or used seven different types of weapons

(See Appendix A, page 2). Tables 4-1 and 4-2 display the frequency with which officers report that they or the suspects they arrested used, threatened to use or displayed certain weapons.

Use of weapons is infrequent; in 97.9% of all adult custody arrests, the police did not use any weapon. In 99.3% of all such arrests, suspects did not use any weapon (See Table 4- 2). The most frequent weapon used by the police was some form of a chemical agent, mostly oleoresin capsicum; it was used in 88 or 1.2% of the arrests in this study. The second most frequent weapon was the flashlight, used in 41 (.5%) arrests. Handguns were used by the police in 11 (0.1%) arrests; rifles or shotguns were used by the police in 7 (0.1%) of the arrests. The most frequent weapon used by suspects was a knife; it was used in 18 (.2%) of all arrests. Suspects used handguns in 12 (.2%) arrests and rifles or shotguns in 5 (.1%) arrests.

A somewhat different pattern emerges in Table 4- 1 when we examine instances where weapons were either displayed or used. Handguns were displayed or used in 202 (2.7%) arrests and rifles or shotguns were used or displayed 31 (.4%) times. Thus, firearms are infrequently used but are the most frequent weapon displayed. On the other hand, chemical agents were the mostly frequently used weapon but ranked second (118 or1.6%) when use and display are counted. Table 4- 1 also reveals that in 215 (2.8%) of 7,512 arrests, officers went so far as to display a firearm but did not, ultimately, use a firearm. These finding suggests important differences in weapons that are used and those that are displayed but not used.

Table 4- 1 also reveals a finding similar to one reported in the Phoenix study: police officers report that they use, display and threaten to use a flashlight more often than the use, display or threaten to use a baton. Batons were used in fifteen (.2%) arrests; flashlights in forty one (.5%). In addition, officers report that the used motor vehicles as weapons in fifteen arrests

and either used or threatened to use them in twenty-one arrests. These findings do not conform to conventional thinking about the relative frequency of weapon use or even on the types of equipment that are used as weapons.

Officers report that suspects use, display and threaten to use weapons less frequently than officers do. Knives were the most frequently used (18 or .2%) weapon by suspects, followed closely by sticks (17 or .2%) and motor vehicles 14 (.2%). When handguns, rifles, and shotguns are combined, the weapon most frequently displayed (43 or .6%) by suspects is a firearm. Suspects threatened, displayed or used a firearm in 63 arrests These findings about suspects confirm our earlier findings about the police: understanding the use of force is advanced by considering not only the use but the display and the threatened use of a weapon.

Weaponless Tactics

Police officers use and are trained to use a variety of weaponless tactics, from carotid control holds to simply grabbing a suspect by their arm. Each of these tactics involves direct physical contact between the officer and the suspect and does not involve the use of specific objects in applying force. The police survey form listed twelve tactics and Table 4- 3 displays frequency with which officers reported the use of these tactics. In 6,328 or 84.2% of the arrests in this study, the police reported that they used no weaponless tactics. Among those arrests with a weaponless tactic, the most frequent "tactic" was grabbing, used in 954 or 12.7% of all arrests. Other common tactics involve using a control hold (164 or 2.2%), arm twisting (281 or 3.7%), wrestling (233 or 3.1%) and pushing or shoving (145 or 1.9%).

The police reported that suspects used weaponless tactics in 412 or 5.5% of all arrests (See Table 4- 4). Wrestling was the most often used tactic by the suspects (262 or 3.5% of the arrests), followed closely by pushing or shoving by the suspect (166 or 2.2% of the arrests). As with weapons, the use of weaponless tactics by officers and by suspect was infrequent.

Although weapons and weaponless tactics are typically included in most understanding of what constitutes the use of force, we next review three other elements that are sometimes, but not always, considered part of the use of force.

Restraints

One element of force which officers alone employ involves the use of restraints. The police survey form lists three possible types of restraints – handcuff, leg cuff, and more severe restraints, such as hobbles or body cuffs. As with most other items, the survey provided for a specific yes or no response for each item. In the 7,512 arrests in this study, officer reported that they used handcuffs in 6,182 (82.3%) of the arrests (See Table 4- 5). In 67 (0.9%) arrests, the police used leg cuffs and in 29 (0.4%) they used more severe restraints.

The use of restraints appears to be frequent but not universal; handcuffs predominate but in a small proportion of arrests (1.3%) restraints more severe than handcuffs were used. Handcuffing alone is not typically perceived as involving force but our understanding of force might include the use of more severe restraints, some of which have been associated with injury to suspects and, in some instance, even death.

Motion

One aspect of police–citizen encounters in arrest situations is suspect flight and officer pursuit. While most research and policy discussions on the use of force do not address issues

around either flight or pursuit, we include both as potential elements of force. Our police survey form recorded whether suspects attempted to flee and, if so, whether they fled on foot, in a motor vehicle, or by other means. As displayed in Tables 4-6 and 4-7, in most arrests (7,027 or 93.5%), there were no flight and no pursuit (7,089 or 94.4%). In a small number of arrests, suspects fled on foot (354 or 4.7%) or in a motor vehicle (128 or 1.7%). When the police did pursue a suspect, it was most often (224 or 3.0%) on foot but motorized pursuits, including helicopter pursuits, occurred 199 times (2.7%) in our sample.

Flight and pursuit do occur but it is not clear the extent to which these actions involve the application of what we typically mean when we speak of the use of force by police or by suspects. Still, flight and pursuit can result in serious injury to officers, suspects, or to bystanders, especially if conducted in a motorized vehicle and such actions are included in some definitions of what constitutes use of force.

Voice

We include as a potential element of force what police said to suspects and what suspects said to police. Our police survey form listed four categories of speech–conversational, commands, shouting or cursing and verbal threats. In little more than half of all arrests (4,599 or 61.2%) the police reported that they used a conversational tone with the suspect; in 30.6% or 2,297 arrests they reported that they commanded the suspect to do something (See Table 4- 8). The police reported shouting or cursing at suspects in 73 (1.0%) of the arrests and threatening them in another 58 (or .8%) arrests. Finally, the police reported that they said nothing to the suspects in 485 or 6.5% of all arrests in this study.

Suspects, according to the police survey, spoke to the police in a conversational tone in 4,970 (66.2%) arrests. The police reported that suspects used a command voice in 240 (3.2%) arrests, shouted at or cursed officers in 638 (8.5%) arrests and made verbal threats in 473 (6.3%) arrests (See Table 4- 9). Our one page survey form could not capture the details of what was said by officers or suspects but officers reported the use of shouting or profane language as well as the use of threats in a small percentage of arrests; in a larger but still a distinct minority of arrests, suspects made threats or conversed using a raised voice or obscene language. While the core understanding of the use of force typically does not involve what is said but what is done, the nature of verbal communication, especially if it involves threats, shouting or cursing can be an element of force and needs to be incorporated into how we think about and measure the use of force.

Summary: Elements of Force

. These five elements–weapons, tactics, restraints, motion and voice–identify different dimension of the use of force and provide a framework to measure the existence of force and the amount of force in any given situation. We have identified and elaborated on these elements in order to record a broad range of activities which, under different definitions, could be considered use of force. This project purposefully attempted to measure aspects of police–citizen encounters, such as weapon use--that clearly involved force and other aspects, such as speaking in a conversational voice, that did not involve physical force. The design of this research was to measure many specific and concrete behaviors against which different definitions of force could

be applied. To not record all aspects of each element of force would preclude the possibility of using those aspects to determine if force was used and, if it was used, how much force was used.

The behaviors we recorded capture the details of specific behaviors by officers and suspects but they do not constitute complete measures of force. Taken singly, none of the elements of force–weapon use, tactics, restraints, motion and voice–capture fully everything that is typically meant by the use of force. A fully developed measure of force requires the use of definitions that determine precisely how combinations of these elements constitute the presence of force or increases in the amount of force used by and against the police. In the next section we provide more detail on how we translated our five abstract sets of behaviors into measurements of force

Four Measures of Force

Using the items included on the police survey, the research team constructed four measures of force used by police officers--Physical Force, Physical Force Plus Threats, the Continuum of Force, and Maximum Force. We also developed four comparable measures of force by suspects. Each of these measures is a summary of behaviors derived by combining specific actions by law enforcement officers and by suspects in different ways. We recognized that no single measure is likely to capture well all the different understandings of the use of force. Thus, this research used multiple measures of force in order to incorporate more precisely the various ways in which force is conceptualized by the police, the public and researchers.

Physical Force

The first measure is a traditional conceptual dichotomy of those arrests where physical force was or was not used. We defined the use of physical force for officers and for suspects in parallel but slightly different manner (See Definition 4-1). For both the police and for suspects, our definition of physical force includes any arrest where any weapon or weaponless tactic was used. In addition, we include as examples of physical force by the police arrests where officers used a more severe restraint--prone cuffing, hobble, body cuff or leg cuff.

Definition 4-1: Measure of Physical Force

POLICE	SUSPECT
Use of Severe Restraints	Use of Any Weaponless Tactic
Use of Any Weaponless Tactic	Use of Any Weapon
Use of Any Weapon	

Physical Force Plus Threats

Our second measure, Physical Force Plus Threats, includes all the elements of Physical Force but adds the use of threats and displays of weapons.

Definition 4-2: Measure of Physical Force Plus Threats

POLICE	SUSPECT
Use of Severe Restraints	Use of Any Weaponless Tactic
Use of Any Weaponless Tactic	Use, Display or Threatened Use of Any Weapon
Use, Display or Threatened Use of Any Weapon	

This measure combines actual physical force with threatened force. While this combination may be inappropriate for some purposes, threats of violence are typically reported as violence in other measures, such as the FBI's Uniform Crime Reports. Our second measure incorporates the threat component of the use of force. We considered but rejected the idea of including the possession of a weapon as a criterion for the threat of force. Virtually all police officers possess

one or more weapon and that would make our measure of police use of physical force with threats a constant, not a variable. Second, our measures of police weapon possession were incomplete and lacked face validity. Third, in many jurisdictions, it was perfectly legal for most arrested suspects to possess a variety of weapons, including firearms. The distinctions between weapon possession, display, threatened use and actually use can be subtle and additional research improving upon these conceptional distinctions and measurement approaches seems warranted.

The use of dichotomies between physical force and no physical force is a traditional approach to understanding and measuring the use of force. The strengths of these dichotomous measures include their ability to be applied consistently across all jurisdictions and types of law enforcement agencies and that they capture those elements of force that are frequently salient to the police and to the public; their weakness is that they group together all uses of force from a push or a shove to the discharge of a firearm and make no distinctions among activities, such as the use of handcuffs or pursuits, that are not typically included in definitions of physical force. To address these potential limitations of these two dichotomus measures, we developed two other measures with other strengths and other weaknesses.

Continuum of Force

The third measure of force, Continuum of Force, developed in this project captures the rankings of force commonly used by law enforcement agencies to indicate distinct levels of suspect resistance and levels of police response (See Definition 4-3). The gradients of force used by the participating departments are similar to those used by many police departments in their arrest tactics training and in their policies on the appropriate use of force. Our measurement of this "continuum of force" is intended not only to reflect the official policies of the participating

law enforcement agencies but also to incorporate into our research the widely-held notion that the force/no force dichotomy is sometimes inadequate to capture all the important variations in the ways police handle encounters with the public and the nature of suspect resistance to the police.

Definition 4-3: Categories of Police Continuum of Force

Charlotte	Colorado Springs	Dallas
Officer Presence	Officer Presence	Officer Presence
Verbal Direction	Verbal Control	Verbal Control
Soft Empty Hand	Soft Control Techniques	Empty Hand Control
Oleocapsicum	Control and Compliance	Intermediate Weapons
Hard Empty Hand	Hard Control Techniques	Lethal Force
Intermediate Weapons	Impact Weapons	
Lethal Force	Lethal Force	

St. Pete	SD Police	SD Sheriff
Officer Presence	Officer Presence	Deputy Presence
Verbal Direction	Verbal Commands	Verbal Direction
Restraint Devices	Control/Compliance	Soft Hand Control
Transporter	Soft Impact	Chemical Agents
Take Down	Lethal Force	Hard Hand Control
Pain Compliance		Intermediate Weapons
Countermoves		Lethal Force
Intermediate Weapons		
Lethal Force		

Unlike the Physical Force dichotomies, the Continuum of Force measures are purposefully responsive to the specific use of force policy and training in each department. Because these measures are not consistent, it is not possible to combine cases from the six jurisdictions into one measure of police use of force and one measure of suspect use of force.

The Continuum of Force measures capture distinctions among types of force (like various weaponless tactics and the use of weapons) that are not possible in the two Physical Force dichotomous measures. The Continuum of Force measures have a natural ranking of categories from less forceful to more forceful. This research quantifies that natural ranking and creates a scale where each category is considered more forceful than previous category. One weakness of

using these policy categories as a numerical scale is that this formulation, in Charlotte for instance, considers the difference between one (Officer Presence) and two (Verbal Directions) to be the same as the difference between five (Intermediate Weapons) and six (Lethal Force). Few observers would accept that these differences are equivalent. Table 4 - 10 provides a catwalk linking the data collected on the elements of force with the site specific continuum of force categories listed in Definition 4 - 3. The distributions of the site specific continuum of force measures are provided in the site reports included in Appendix C.

Maximum Force

This multi-site research developed a fourth measure of force, which we call Maximum Force. This measure varies from 1 to 100, with 1 being less forceful and 100 being the most forceful. We created this measure in a two step process. In five of the six participating law enforcement agencies,[13] we asked a total of 503 experienced officers to rank a variety of hypothetical types of force on a scale from 1 to 100. For instance, one item was "An officer uses a baton" and another was "An officer threatens to use a handgun". Similar items, such as "Suspect speaks in a conversational voice", were also obtained to rank order suspect behavior. Officers were asked to rank these items based, not on departmental policy, but on their own personal experience.

Table 4-10 displays the average rankings for each of the police items from the lowest average ranking to the highest. Table 4-11 provides a similar display for the ranking of suspect behaviors. Table 4-12 displays much the same information as Tables 4-10 and 4-11 but it

[13] The written instructions to the officers and a copy of the form are included in Appendix A.

groups the police and suspect items together by the various elements of force–voice, demeanor, restraints, movement, tactics, and weapon possession, display, threatened use and use. We have also displayed these rankings graphically in Figure 4-1 The tables and figures convey some important findings from this ranking exercise.

This exercise resulted in a measure that makes reasonable (but not necessarily perfect) distinctions between different types of force. Officer presence, conversation and commands are ranked near the bottom and the use of weapons and especially firearms are ranked near the top. This ranking includes some elements of force that are not included in most discussions of force and are not included in our physical force or our continuum of force measures. For instance, officers rank the use of handcuffs at 28.2 and chasing a suspect in a car at 41.4. Experienced officers in our survey ranked these behaviors as involving substantial amounts of force but our measures of physical force and continuum of force would count arrests that involved just handcuffing or just a pursuit as involving no physical force or as mere officer presence. Figure 4-1 also conveys that there is a wide range in the rankings given to various items within an particular element of force. Officer tactics range from just over 20 to almost 40, depending on the tactic; officer weapon use ranges from about 45 to over 80, depending on the weapon. Suspect tactics involve a much greater range and some of them exceed weapon use items. These figures also reveal the severity with which officers rank the display, threatened use and actual use of a weapon. The findings about officer perceptions of the severity of threatened weapon use and the display of weapons, along with the frequency with which weapon threats and displays

occur suggest the value of capturing information about the display and threatened use of weapons and the incorporation of these events into measures of force[14].

The second step in developing our measure of Maximum Force was to determine if such behaviors occurred in our sample of 7,512 arrests and if so, to weigh them according the rankings made by police officers. When police officers reported that they twisted a suspect's arm, the amount of force for that arrest was measured as 35.1; when they used a carotid hold, the amount of force was measured as 56.0. When officers reported that they engaged in two or more forceful acts, we recorded the highest single item, hence the name Maximum Force.

These rankings are presented, not as a perfect or universal scale, but as an example of how the amount of force can be quantified in a way that approximates our understanding of variation in the use of force. For purposes of this research, the important issue is that this type of measure captures important aspects of the use of force that would be missed if research were limited to simple dichotomies or the categorical measures, such as the Continuum of Force. There are differences between grabbing and kicking and between threatening to shoot someone and actually shooting them and the Maximum Force measure is an attempt to measure those real but imprecisely known differences. Our development and use of a variety of detailed measures of force is intended to encourage researchers and policymakers to explicitly include or exclude specific behaviors and to explicitly consider the severity of different types of force. It may be

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[14]Officers tend to rank behaviors by suspects a higher average ranking than comparable behaviors by police officers. Because our interest is on comparing the relative ranking of police behaviors separate from suspect behaviors, we do not attempt to standardize the ranking across police and suspect rankings.

too early to establish uniform measures but it is not too early to start proposing methods to obtain uniform measures.

Summary: Measures of Force

The use of force is not a simple concept that is easily measured. This research has taken the issue of measurement seriously and developed a variety of measures that, as a group, capture many if not all the crucial distinctions that are commonly made about the amount of force used by and against police officers. Our efforts at measurement are not definitive. Our definitions of Physical Force and Physical Force with Threats are, we believe, reasonable but not the only reasonable definitions that could be used. Our Continuum of Force measures are derived from departmental policies but these policies vary from department to department and within departments over time. Our Maximum Force measure is the most innovative effort and perhaps the least well developed but it, unlike the other measures, reflects the relative ranking of experienced police officers.

We are not yet prepared to assert that one form of measurement is to be preferred over other forms. Certainly, improvements can be made in the measures we have developed but future research needs to be explicit about how force is measured and to justify why the particular measures of force used are appropriate. Until such measures are developed and justifications provided, we recommend the measures reported here.

The Distribution of Force by Police and Against the Police

Figure 4-2 displays the number and percent of the adult, custody arrests in this study which met our definition of Physical Force. Law enforcement officers reported that they used physical force in 1,283 or 17.1% of our sample of adult custody arrests; they used physical force

or threats of force in 1,418 or 18.9% of the arrests in this study. Thus, whichever of these two definitions is used, our findings are that law enforcement officers used or threaten to use physical force in less than one out of every five adult custody arrests.

However, as we argued earlier, this simple dichotomous measure may not provide a sufficiently clear understanding on the nature of force used by the police. To help understand better the nature of force, Figure 4-3 displays the frequency with which different elements of force (threats, weaponless tactics, restraints, or the use of weapons) were the most severe form of force used among all instances where law enforcement officers used some force. Figure 4-4 shows that the predominate type of force used by police officers does not involve firearms or other weapons but some form of direct physical contact, which we categorized as "weaponless tactics". In almost 80 percent of all incidents involving physical force or threats of force, the most severe form of force used by law enforcement was a weaponless tactic; less than 15 percent of the arrests which met our definition of Physical Force Plus Threats involved the use of a weapon.

Focusing more closely on weaponless tactics, we examine in Figure 4-3 those instances where officers use some form of weaponless tactics. This figure reveals that the most frequent type of weaponless tactic was only grabbing the suspect. In 7.8 percent of all arrests and 49.7 percent of all arrests where the police used at least one tactic, the most severe tactic used is categorized as a "grab". Other less frequent types of tactics involve the use of control holds, arm twisting, pushing or shoving, wrestling, or hitting or kicking. These findings confirm the results of prior research which established that most adult custody arrests do not involve force or threats of force and those arrests that do involve force are typically at the low end of severity.

Maximum Force

When we measure the amount of force using the 1 to 100 ranking produced by surveying experienced police officers, we find that most arrests still involve little or no force but a proportion of arrests involve substantial amounts of force. Table 4--13 and Figure 4-4 graphically display the large number of arrests (4,305 or 57.3%) at a ranking of 28.2. In these arrests, the most forceful behavior by the police is handcuffing. Table 4-13 and Figure 4-4 also reveal that there is variation among arrests where some form of forceful actions are taken. Some actions, such as the display or the use of a handgun, were very forceful and generate a Maximum Force ranking of 55.4 and 81.7.

The measure we call Maximum Force captures a number of activities, like police chasing suspects in a car that are not counted as force in our definitions of Physical Force, Physical Force Plus Threats, in departmental policies on the Continuum of Force. In addition, this measure takes into account differences, sometimes severe differences, between types of force. Grabbing a suspect and using a firearm are both examples of Physical Force and are counted equally in that measure; in the Maximum Force measure grabbing ranks at 33.0 and using a firearm at 81.7. Thus, this measure captures items that officers think involve force and weigh the amount of force based on a scale that can range from 1 to 100.

Summary and Discussion.

This research collected information from a systematic sample of adult custody arrests and used that information to construct a variety of measures of force. We have used these data to describe the amount of force used by the police in six urban jurisdictions. We have emphasized

various definitions of force and demonstrated a variety of methods that explicitly and quantitatively describe force.

Our research suggests that no one measure captures well all the elements that go into our understanding of what comprises force by police officers against civilians during an arrest. At the present time, there is no single conception of what constitutes the use of force and this constrains our ability to implement precise measures of the presence of force or the amount of force. The multiple measures we have developed and implemented here illustrate how different elements of force can be combined into meaningful but distinct measures. In this research we found that the use of force is relatively infrequent, regardless of the measure used. When the use of force does occur, the amount of force is usually at the low end of our measures of force.

Combined with the similar findings from our initial study in Phoenix, these substantive findings are beginning to provide a stable picture of police behavior and the amount of force the police use in arrest situations. These findings, however, remain tentative given the small number of jurisdiction involved in this research and the room for improvements in methods of data collection and in precision in measuring the amount of force. While this research demonstrates that police agencies and researchers can work collaboratively to describe the amount of force used by police officers, much remains to be done to improve our measurements and to use those measures to determine the types of circumstances in which more force is used. This multi-site research project collected information about more than 50 potential predictors of force and additional analysis of those data will be forthcoming in the near future. This line of research holds great promise for identifying the actual nature of police use of force as well as identifying those characteristics of police recruitment, training, tactics and philosophy that can

assist police departments in moving away from a reliance on the use of force and toward an increased reliance on the use of information and cooperation with the communities they serve.

Future research also needs to focus on the relationship between the overall amount of force used in a law enforcement agency and the nature, scope and extent to which the force that is used meets various social understandings and legal definitions of what constitutes excessive force. Our understanding of these relationships might benefit from more precise understandings of how force is measured and a comparison of the relationship between the amount of force used by the police and the amount of force used against the police.

Table 4 - 1: Weapon Threatened, Displayed or Used by Police in Six Jurisdictions

	Threatened		Displayed		Used	
	Number	Percent	Number	Percent	Number	Percent
None	7,451	99.2%	7,149	95.2%	7,354	97.9%
Baton	4	0.1%	11	0.1%	6	0.1%
Flashlight	1	0.0%	32	0.4%	23	0.3%
Handgun	13	0.2%	149	2.0%	6	0.1%
Chemical Agent	25	0.3%	97	1.3%	79	1.1%
Rifle/Shotgun	4	0.1%	20	0.3%	2	0.0%
Motor Vehicle	0	0.0%	14	0.2%	9	0.1%
Canine	9	0.1%	22	0.3%	14	0.2%
Other	5	0.1%	18	0.2%	19	0.3%
Total	7,512	100.0%	7,512	100.0%	7,512	100.0%

Table 4 - 2: Weapons Threatened, Displayed or Used by Suspects in Six Jurisdictions

Threatened		Displayed		Used	
Number	Percent	Number	Percent	Number	Percent
7,431	98.9%	7,415	98.7%	7,459	99.3%
25	0.3%	22	0.3%	10	0.1%
10	0.1%	30	0.4%	14	0.2%
31	0.4%	10	0.1%	8	0.1%
2	0.0%	1	0.0%	1	0.0%
4	0.1%	10	0.1%	1	0.0%
2	0.0%	10	0.1%	10	0.1%
2	0.0%	0	0.0%	0	0.0%
5	0.1%	14	0.2%	9	0.1%
7,512	100.0%	7,512	100.0%	7,512	100.0%

Table 3: Officer Use of Weaponless Tactics

	Number	Percent
No Physical Contact or Gentle Hold Only	6,328	84.2%
Spit	21	0.3%
Grab	589	7.8%
Twist Arm	98	1.3%
Wrestle	91	1.2%
Push/Shove	80	1.1%
Hit	12	0.2%
Kick	3	0.0%
Bite/Scratch	1	0.0%
Pressure Hold	48	0.6%
Carotid Hold	18	0.2%
Control Hold	153	2.0%
Other Tactic	70	0.9%
All Arrests	7,512	100.0%

Table 4: Suspect Use of Weaponless Tactics

	Number	Percent
Suspect Compliant	6,996	93.1%
Spit	19	0.3%
Grab	55	0.7%
Twist Arm	55	0.7%
Wrestle	115	1.5%
Push/Shove	101	1.3%
Hit	30	0.4%
Kick	44	0.6%
Bite/Scratch	25	0.3%
Pressure Hold	4	0.1%
Carotid Hold	1	0.0%
Control Hold	13	0.2%
Other Tactic	54	0.7%
All Arrests	7,512	100.0%

Table 4 - 5: Police Use of Restraints

	Number	Percent
No Restraints Reported	1,234	16.4%
Hand Cuffs	6,182	82.3%
Leg Cuffs	67	0.9%
More Severe	29	0.4%
All Arrests	7,512	100.0%

Table 4 - 6: Police Pursuit

	Number	Percent
No Pursuit Reported	7,089	94.4%
Pursue on Foot	224	3.0%
Pursue in Car	177	2.4%
Pursue in Helicopter	22	0.3%
All Arrests	7,512	100.0%

Table 4 - 7: Suspect Flight

	Number	Percent
No Flight Reported	7,027	93.5%
Flee on Foot	354	4.7%
Flee in Car	128	1.7%
Other	3	0.0%
All Arrests	7,512	100.0%

Table 4 - 8: Police Voice

	Number	Percent
No Voice Reported	485	6.5%
Conversational	4,599	61.2%
Command	2,297	30.6%
Shout/Curse	73	1.0%
Threats	58	0.8%
All Arrests	7,512	100.0%

Table 4 - 9: Suspect Voice

	Number	Percent
No Voice Reported	1,191	15.9%
Conversational	4,970	66.2%
Command	240	3.2%
Shout/Curse	638	8.5%
Threats	473	6.3%
All Arrests	7,512	100.0%

Table 4 - 10A: Data Elements and Police Continuum of Force Measures

Item	Charlotte	Springs	Dallas	St. Pete	SD PD	SD Sheriff
Officer Presence	Officer Presence	Officer Presence	Officer Presence	Officer Presence	Officer Presence	Deputy Presence
			Police Voice			
Command Voice	Verbal Direction	Verbal Control	Verbal Control	Verbal Direction	Verbal Commands	Verbal Direction
Shouts/Curses	Verbal Direction	Verbal Control	Verbal Control	Verbal Direction	Verbal Commands	Verbal Direction
Verbal Threats	Verbal Direction	Verbal Control	Verbal Control	Verbal Direction	Verbal Commands	Verbal Direction
Display of Weapon /Threat of Weapon	Verbal Direction	Verbal Control	Verbal Control	Verbal Direction	Verbal Commands	Verbal Direction
			Police Use of Restraints			
Severe Restraints				Restraint Devices		
			Police Tactics			
Spit					n/a	
Grab Arm	Soft Empty Hand	Soft Control	Empty Hand	Transporter	Control/Compliance	Soft Hand Control
Twist Arm	Soft Empty Hand	Soft Control	Empty Hand	Transporter	Control/Compliance	Soft Hand Control
Push/Shove	Soft Empty Hand	Soft Control	Empty Hand	Takedown	Control/Compliance	Soft Hand Control
Wrestle/Scuffle	Soft Empty Hand	Hard Control	Empty Hand	Countermove	Control/Compliance	Hard Hand Control
Hit/Punch	Hard Empty Hand	Hard Control	Empty Hand	Countermove	Soft Impact	Hard Hand Control
Kick	Hard Empty Hand	Hard Control	Empty Hand	Countermove	Soft Impact	Hard Hand Control
Bite/Scratch	Hard Empty Hand	Hard Control	Empty Hand	Countermove	Control/Compliance	Hard Hand Control
Pressure Hold	Soft Empty Hand	Control/Compliance	Empty Hand	Pain Compliance	Control/Compliance	Soft Hand Control
Carotid Hold/LVNR		Control/Compliance	Empty Hand		Control/Compliance	Hard Hand Control
Control Hold	Soft Empty Hand	Control/Compliance	Empty Hand	Countermove	Control/Compliance	Soft Hand Control
Other Tactic						

Police Weapon Use

Baton	Intermediate Weapon	Impact Weapon	Intermediate Weapon	Intermediate Weapon	Control/Compliance	Soft Weapons
Flashlight	Intermediate Weapon	Impact Weapon	Intermediate Weapon	Intermediate Weapon	Control/Compliance	Hard Weapons
Chemical	Oleocapsicum	Control/Compliance	Intermediate Weapon	Intermediate Weapon	Control/Compliance	Chemical Agent
Handgun	Lethal Force	Lethal Force	Lethal Force	Deadly Force	Lethal Force	Lethal Force
Rifle/Shotgun	Lethal Force	Lethal Force	Lethal Force	Deadly Force	Lethal Force	Lethal Force
Motor Vehicle	Lethal Force	Lethal Force	Lethal Force	Deadly Force	Lethal Force	Lethal Force
Canine	Intermediate Weapon	Hard Control	Intermediate Weapon	Intermediate Weapon	Control/Compliance	Hard Weapon
Other Weapon					Hard Impact	

Table 4 - 10B: Data Elements and Suspect Resistance Measures

Item	Charlotte	Springs	Dallas	St. Pete	SD PD	SD Sheriff
None of the Below	No Resistance	No Resistance	No Resistance	Compliance	Compliant	No Resistance
			Suspect's Voice			
Command Voice	Verbal Non-Compliance	Verbal Resistance	Verbal Resistance	Verbal Resistance	Passive Resistance	Verbal Resistance
Shouts/Curses	Verbal Non-Compliance	Verbal Resistance	Verbal Resistance	Verbal Resistance	Passive Resistance	Verbal Resistance
Verbal Threats	Verbal Non-Compliance	Verbal Resistance	Verbal Resistance	Verbal Resistance	Passive Resistance	Verbal Resistance
Threat of Weapon	Verbal Non-Compliance	Verbal Resistance	Verbal Resistance	Aggravated Aggressive	Passive Resistance	Active Aggression
			Suspect's General Response			
Disrespectful/ Obscene Gesture	Psychological	Psychological	Psychological	Verbal Resistance	Passive Resistance	Psychological
Threatening Stance	Psychological	Psychological	Psychological	Verbal Resistance	Assaultive	Psychological
Verbal Threats	Verbal Non-Compliance	Verbal Resistance	Verbal Resistance	Verbal Resistance	Passive Resistance	Verbal Non-compliance
Passive Resistance	Passive Resistance	Passive Resistance	Passive Resistance	Passive	Passive Resistance	Passive Resistance
Hide or Flee	Defensive Resistance	Defensive Resistance	Defensive Resistance	Active Resistance	Active Resistance	Active Resistance
Impede Officer	Defensive Resistance	Defensive Resistance	Defensive Resistance	Active Resistance	Active Resistance	Active Resistance
Resist Cuffing	Defensive Resistance	Defensive Resistance	Defensive Resistance	Active Resistance	Active Resistance	Active Resistance
Resist Placement in Car	Defensive Resistance	Defensive Resistance	Defensive Resistance	Active Resistance	Active Resistance	Active Resistance
Assaultive	Active Aggression	Aggressive	Aggressive	Aggressive	Assaultive	Active Aggression
Deadly Force	Agg. Active Aggression	Deadly Force	Deadly Force	Aggravated Aggressive	Lethal Force	Lethal
			Suspect's Flight			
Any Flight	Defensive Resistance	Defensive Resistance	Defensive Resistance	Active Resistance	Active Resistance	Active Resistance

Suspect's Tactics

Item	Charlotte	Springs	Dallas	St. Pete	SD PD	SD Sheriff
Spit	Active Aggression	Aggressive	Aggressive		Passive Resistance	Active Aggression
Grab Arm	Active Aggression	Aggressive	Aggressive	Active Resistance	Assaultive	Active Aggression
Twist Arm	Active Aggression	Aggressive	Aggressive	Active Resistance	Assaultive	Active Aggression
Push/Shove	Defensive Resistance	Aggressive	Aggressive	Active Resistance	Assaultive	Active Aggression
Wrestle/Scuffle	Active Aggression	Aggressive	Aggressive	Active Resistance	Assaultive	Active Aggression
Hit/Punch	Active Aggression	Aggressive	Aggressive	Aggressive	Assaultive	Active Aggression
Kick	Active Aggression	Aggressive	Aggressive	Aggressive	Assaultive	Active Aggression
Bite/Scratch	Active Aggression	Aggressive	Aggressive	Aggressive	Assaultive	Active Aggression
Pressure Hold	Active Aggression	Aggressive	Aggressive	Aggressive	Assaultive	Active Aggression
Carotid Hold/LVNR	Active Aggression	Aggressive	Aggressive	Aggravated Aggressive	Assaultive	Active Aggression
Control Hold	Active Aggression	Aggressive	Aggressive	Aggressive	Assaultive	Active Aggression
Other Tactic		Aggressive	Aggressive	Aggressive		

Suspect's Weapon Possession

Item	Charlotte	Springs	Dallas	St. Pete	SD PD	SD Sheriff
Stick	Aggr. Active Aggression	Defensive Resistance			Active Resistance	
Knife	Aggr. Active Aggression	Defensive Resistance			Active Resistance	
Chemical	Aggr. Active Aggression	Defensive Resistance			Active Resistance	
Handgun	Aggr. Active Aggression	Defensive Resistance			Active Resistance	
Rifle/Shotgun	Aggr. Active Aggression	Defensive Resistance			Active Resistance	
Motor Vehicle	Aggr. Active Aggression				Active Resistance	
Canine	Aggr. Active Aggression	Defensive Resistance			Active Resistance	
Other Weapon	Aggr. Active Aggression	Defensive Resistance			Active Resistance	

Suspect's Weapon Display

Stick	Aggr. Active Aggression		Aggressive		Assaultive	Active Aggression
Knife	Aggr. Active Aggression		Aggressive		Assaultive	Active Aggression
Chemical	Aggr. Active Aggression		Aggressive		Assaultive	Active Aggression
Handgun	Aggr. Active Aggression		Deadly Force		Lethal Force	Active Aggression
Rifle/Shotgun	Aggr. Active Aggression		Deadly Force		Lethal Force	Active Aggression
Motor Vehicle	Aggr. Active Aggression					
Canine	Aggr. Active Aggression		Aggressive		Assaultive	Active Aggression
Other Weapon	Aggr. Active Aggression		Aggressive		Assaultive	Active Aggression

Suspect's Weapon Use

Stick	Aggr. Active Aggression	Aggressive	Aggressive	Aggravated Aggressive	Assaultive	Agg Active Aggression
Knife	Aggr. Active Aggression	Aggressive	Aggressive	Aggravated Aggressive	Lethal Force	Agg Active Aggression
Chemical	Aggr. Active Aggression	Aggressive	Aggressive	Aggravated Aggressive	Assaultive	Active Aggression
Handgun	Aggr. Active Aggression	Deadly Force	Deadly Force	Aggravated Aggressive	Lethal Force	Agg Active Aggression
Rifle/Shotgun	Aggr. Active Aggression	Deadly Force	Deadly Force	Aggravated Aggressive	Lethal Force	Agg Active Aggression
Motor Vehicle	Aggr. Active Aggression	Aggressive		Aggravated Aggressive	Lethal Force	Agg. Active Aggression
Canine	Aggr. Active Aggression	Aggressive	Aggressive	Aggravated Aggressive	Lethal Force	Active Aggression
Other Weapon	Aggr. Active Aggression		Aggressive	Aggravated Aggressive	Lethal Force?	Active Aggression

Table 4 - 11: Average Ranking of Police Behaviors by 503 Officers from Five Jurisdictions

Police Behaviors	Ranking Score	Number of Arrests
No Police Actions Reported	0.0	62
Police Speak in Conversational Voice	15.6	153
Police Gently Hold Suspect	15.9	83
Two Police Officers Present	20.6	668
Police Command Suspect to do Something	22.0	99
Police Shout/Curse at Suspect	22.5	3
Police Spit on Suspect	23.2	2
Police Chase Suspect in Helicopter	24.0	1
Police Verbally Threaten Suspect	25.4	5
Police Push Suspect	26.7	0
Police Use Handcuff	28.2	4,305
Police Chase Suspect on Foot/Bicycle	29.3	95
Police Use Leg Restraints	30.0	14
Police Threaten to Use Flashlight	30.9	0
Police Threaten to Use Chemical Agent	31.7	1
Police Possess Canine	31.9	10
Police Threaten to Use Baton	32.0	1
Police Grab Suspect	33.0	461
Police Display Baton	34.6	4
Police Use Pressure Hold	34.7	10
Police Twist Suspects Arm	35.1	98
Police Use Other Tactic	35.2	32
Police Display Chemical Agent	37.0	7
Police Use Severe Restraints	37.1	17
Police Bite Suspect	37.7	0
Police Display Flashlight	37.8	7
Police Use Choke Hold	38.9	78
Police Possess Shotgun	40.2	640
Police Kick Suspect	40.6	1
Police Hit Suspect	40.8	2
Police Chase Suspect in Car	41.4	137
Police Use Chemical Agent	45.9	31
Police Threaten to Use Car as Weapon	46.0	0
Police Threaten Suspect with Canine	46.1	5
Police Wrestle with Suspect	48.2	184
Police Use Flashlight	49.9	23
Police Threaten to Use Shotgun/Rifle	51.8	1
Police Use Canine	52.1	12
Police Threaten Suspect with Handugn	52.4	2
Police Use Baton	53.0	6
Police Use Other Weapon	53.1	10
Police Display Handgun	55.4	165
Police Use Carotid Hold	56.0	31
Police Display Shotgun/Rifle	57.4	23
Police Use Car as Weapon	69.4	10
Police Use Shotgun/Rifle	79.2	2
Police Use Handgun	81.7	11
Average Ranking Score	30.0	7,512

Chapter 5: Predictors of Force

The police survey instruments (See Appendix A) captured detailed information about a variety of characteristics of the arrest, the arrest location, how the police were mobilized and individual characteristics of the arresting officer and the arrested suspect (See Table 5 - 1). These items were initially identified in the pilot study in Phoenix based on a review of the prior research literature and the professional judgment of the research team. These items were modified for use in the six new jurisdictions with the most substantial changes involving the use of more generic information about police mobilization and approach. Some items in some jurisdictions were obtained by matching police surveys with official police records of the arrest. In some jurisdictions, we were unable to obtain certain items; for instance, in several sites we could not obtain an indicator of whether the offense was a felony and, in one site (Charlotte), we were unable to obtain information on the height and weight of the suspect.

While considerably more extensive than the list of candidate predictors in prior research, this list is constrained by the nature of the data--self-reports from arresting officers. In some instances, we collected additional data or enhanced the survey data with information obtained from matched official arrest records. We organized the available predictors into five domains–Nature of the Offense, Location of the Arrest, Police Mobilization, Characteristics of the Officer, and Characteristics of the Suspect. We use these domains to organize our description of these predictors and as a basis for developing multivariate statistical models of the predictors of force.

Nature of the Offense

One group of potential predictors of force concerns the underlying nature of the offense for which the suspect was arrested. We sought to capture the generic nature of the offense type–violent, property, traffic, vice, whether the arrestee was already in police custody and whether the offense was a felony. These considerations attempted to capture the kinds of behaviors which led to the police making an arrest in the first place and whether the suspect was at liberty or had already been detained by another party. The expectation was that more serious felony offenses and violent offenses would be associated with more force and that a suspect already in custody would generate less resistance. In the three sites where we were able to obtain information, just under half (46.4%) of the arrests were for felonies. Across all six sites, 19.0% of the arrests were for violent offenses, but this varied from just 12.6% in Colorado Springs to over 24% in Charlotte[15]. Overall about 1 in 8 of the suspects (13.7%) were already in the custody of some other individual when the police arrived but this percentage dipped to 6.9% in the San Diego Sheriff's Office. Another aspect of the arrest situation was the number of officers present as well as the number of suspects and the number of bystanders and their relationship to each other. We thought that a single officer arresting a single suspect would be less likely to use force than a situation in which there were several officers, several suspect and a group of bystanders, especially if the bystanders and the suspects were friends or family members. In just over half the arrests, there were no bystanders present.

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[15]The complete listing of frequencies and percentage for each of the predictor items by site are provided in Tables S-1 through S-8 in Appendix B.

Location of the Arrest

Our second set of considerations concerned what the officer knew about the suspect and the location prior to making this arrest. We thought that officers might behave differently in locations known to be hazardous, inside a building or at night or in location with poor visibility but we were not sure how this type of knowledge might affect officer or suspect behavior. For instance, perceptions of danger might make officers more prepared to use force or it might make them more cautious and less likely to get into situations where force is used. Similarly, familiarity with locations or persons could make officers less uncertain of their surroundings and less ready to use force. In almost 30% of the arrests, the officer knew the suspect and in more than 40% of the arrests, the officer knew something about the arrest location. Most arrests (67.3%) occurred outside and most of those that occurred inside occurred at a residence (20.0%). Most arrests (58.9) occurred at night and nearly 40% occurred on the weekend (Friday 6 p. m. to Monday at 6 a.m.). In collecting these data items, we were trying to capture the extent to which an officer was in a public setting and could see and be seen by anyone in the immediate area. We added an eleven point scale that tried to capture whether the arrest location gave the officer poor (0) , moderate (3), good (7) or excellent (10) visibility. In more than two thirds of the arrests, the officers report good to excellent visibility; in just over 13% of the arrests the visibility was considered poor to moderate. We thought that these conditions might influence officer or suspect behavior but it was not clear whether and to what extent the presences of these conditions would increase or decrease the likelihood that force would be used.

Police Mobilization

Our research design tried to capture the context in which the officers made arrests and did and did not use force, how they were mobilized and how they approached the arrest scene. The research team felt that these considerations held promise as useful indicators of the likelihood of the use of force by suspects or by the police. Bystanders and suspects were friends or family in just over 20% of the arrests; in 13.5% of the arrests, the victim was related to the suspect. In a small proportion of arrests (5.4%), the police report that the bystanders had an antagonistic demeanor toward the police.

We designed our survey form to collect information on whether the officers were dispatched, who initiated the police--citizen contact and how the police approached the arrest scene. Unlike the characteristics of the offense and the arrest location, how the police are mobilized and how they approach suspects are typically under the control of the police. We obtained information on whether the officers were responding to a priority call or an emergency dispatch, whether they had been informed about any potential hazards, or used their lights or sirens. There was some variance in coding these items across sites but the presence of any one of these items indicated that the police were not mobilized in a "routine" manner. In about 60% of the arrests in this study, police approach to the arrest scene was routine, but this varied across site. In Charlotte and Colorado Springs, 40 to 50% of the calls were routine; in Dallas and St. Petersburg the percentage of routine approaches was between 60 and 65%. In the City and County of San Diego, routine calls constituted nearly 75% of the study arrests. In five of the jurisdictions, the police used their radios to call for the assistance of additional officers in about 20 to 25% of the arrests; in St. Petersburg, officers called for back up about 35% of the time.

Characteristics of Officers

Our interest in potential predictors of force extended to two other areas; characteristics of the arresting officers and the arrested suspect. In this study, most arrests (72.4%) were by White officers with almost 11 % of the arrests being made by Black officers and 7.7% by Hispanic officers. There were very few arrests (.8%) by Hispanic officers in Charlotte and St. Petersburg and only 2.6% of the arrests in San Diego County were by Black officers. In all of the six jurisdictions, male officers made more than 80% of the arrests.

The most typical arrest situation (38.6%) involved just one officer (38.6%) and more than 80% of the arrests involved only one or two officers. Most officers were already on duty (96.3%) and in the patrol division (85.1%) but in San Diego County, only 70% of the arrests were made by officers in the patrol division. On average about 10% of the arrests involved officers who had previously received prior medical treatment but that proportion varied from a low of about 4% in Charlotte to a high of 13.6% in San Diego County. In each site, several officers made more than one arrest. Fifty percent of the arrests in this study came from officers who complete 4 or fewer police survey forms. In Dallas, more than 40% of the arrests were made by officers who completed only 1 form; in San Diego County, one officer complete 23 survey forms. This measure raises a substantive and a methodological issue. Substantively, we are interested in whether officers who make arrests regularly use more or less force; methodologically, we are interested in whether any given officer or group of officers contributed a substantial proportion of the study cases because the resulting non-independence of observations can violate an important assumption in our statistical analyses.

More than a third of the arrests (33.8%) involved officers under 30 years of age; in three fifths of the arrests, the officer was under 35. The average age of officers making these 7512 arrests was 32.5 years. In Charlotte, more than half of the arrests involved officers (51.8%) who were under 30 years of age. In more than 60% of the arrests, the arresting officers were between five feet nine inches to six feet two inches tall. Officer weight was similarly concentrated; a third of the arrests (36.8%) were made by officers that weighed between 176 and 200 pounds. Two thirds of the arrests were made by officers weighing between 150 and 225 pounds. On average, the officers in these arrests were five feet ten inches tall and weighted about 188 pounds. While there has been a lot of discussion about the influence of officer age, race, sex, height and weight on police behavior in general, there has been little consistent empirical support to indicate which categories of these characteristics would be associated with the use of more force or less force.

In addition to these traditional demographic characteristics, we included a summary measures about the police officers demeanor toward the suspect but only in only .7% of the arrests did the officers report that they were not civil or displayed an antagonistic demeanor toward the suspect.

Characteristics of Suspects

Our study design also attempted to record information about the number of the suspects, whether the officer thought they were under the influence of alcohol or drugs, and whether the suspect's demeanor toward the police was civil or antagonistic. Almost three quarter of the arrests (73.8) involved only one suspect. In a sizeable proportion of arrests (39.9), the suspect

was intoxicated, either with alcohol (31.2) or drugs (12.7); in San Diego County more than half of the arrests involved intoxicated suspects. More than one in five arrests (20.1%) involved suspects considered antagonistic by the police. The proportion of arrests with white suspects (37.5) was about the same as the proportion with black suspects (38.9) but these proportions varied widely among the sites, with the arrests in Charlotte and Dallas having nearly twice as many Black suspects as White suspects. On the other hand, Charlotte had no arrests where the suspect was Hispanic; in both San Diego City and County, more than 25% of the arrests involved Hispanic suspects.

Nearly one quarter (24.2) of the suspects were female; in Dallas, this proportion approached 35%. The average age of the suspects was just over 31 years. In nearly 30% of the arrests, the suspects were under 25 years of age; in Dallas, suspects were generally younger with suspects under 25 constituting 38.2% of the arrests. In the City of San Diego, less than 20% of the suspects were under 25. In the 5,950 arrests for which we had information on suspect's height and weight, the average weight was 154 pounds and the average height was just over five feet eight inches.

Discussion about police use of force typically go beyond an interest in the direct effect of officer and suspect age, race, sex, height and weight to inferences about various combinations of officer and suspects age, race, sex, height and weight. Until recently, many departments required that officers be at least a certain height and weight and, as a result, females had been excluded from many police roles. In addition, there is an oft raised concern that more force is used by White officers against Black or Hispanic suspects. In the arrests in our study, 29.9% involved White police and White suspects, 28.0% involved White police and Black suspects, and

9.5% involved White police and Hispanic suspect but these proportions varied substantially by jurisdiction. Nearly 50% of the arrests in Charlotte involved White officers and a Black suspect; in San Diego County, the White police/Black suspect proportion was 7.4%. In all six jurisdiction, about 65% of the time, both the officer and the suspect were male; in 10% of the arrests, a female arrested a male. In about 20% of the arrests, a male officer arrested a female suspect. On average, the officers were taller, heavier and slightly younger than the suspects.

Summary of Available Predictors

Our description of these potential predictors of force reveals the diversity of offenses, arrest, situations, police mobilizations, and officer and suspect characteristics included in our sample. That diversity is one of the strengths of this research, especially in comparison to previous research that has been limited to single sites and a small number of potential predictors of force. However, this sample is not necessarily representative of all arrests in all jurisdictions. The participating jurisdictions were not a random sample but six departments among the many that were asked that volunteered to participate and were able to sustain that participating throughout the study. This large and diverse sample is an improvement upon the previous single site studies of police use of force and provides considerable variation within and between jurisdictions on most of the potential predictors we identified. From the data we obtained on this sample of arrests, we can generate a multi-site and multi-variate analysis that builds upon and improves prior research on police use of force.

Site Specific Findings

As part of this research project, reports were prepared for each site on the amount of force used in each site, the characteristics of the arrests in the study and the relationship of those arrests to four measures of the use of force. The detailed reports, tables and accompanying graphs are included in Appendix C and are summarized below and in Table 5 - 2. The reports in Appendix C provided direct feedback to the participating departments with current information relevant to the nature of police use of force in their department. They are summarized here as important work products of primary value to each participating department. They also helped inform and structure our multi-site analyses.

The site specific analyses had two primary objectives: to use common measures to report on the amount of force in each jurisdiction and to assess the consistency of the predictors of force across different measures within the same jurisdiction. In the site specific reports, we used the four measures of force developed in conjunction with senior managers from each of the participating jurisdictions, employed statistical models that controlled for the simultaneity of police and suspect use of force and defined consistent predictors as a characteristic that predicted the use of force in three out of our four measures. In the pilot study in Phoenix, we had defined a consistent predictor as a variable that predicted three out of three factors; the multi-site study team added a new variable–physical force with threats-- and the rule of three out of four predictors. For the site specific analyses, we used a maximum force ranking based on the ranking from the hundred or so officers from that site; for the multi-site analyses (and for the San Diego Sheriff's Department's site specific report) we used the rankings from all 503 officers.

The site specific reports included in Appendix C were concise accounts of the amount of force used in that jurisdiction and the extent to which various factor tested were associated with more or less force by the police or by suspects. Each site was provided a two-page long narrative summarizing their findings along with several pages of tables and graphs displaying the results. In addition to their own data, multi-site participants wanted to know how they compared with other sites and they were provided with the multi-site tables included in Appendix B. Each site's site specific findings were also presented and discussed at a meeting of project participants. In addition, descriptive information on the amount of force used in all six sites was presented at an annual meeting of the International Association of Chiefs of Police and included in a chapter in an NIJ publication on the use of force by the police (Garner and Maxwell, 1999).

Site Specific Findings About the Predictors of Force

Table 5 -2 displays the 38 items tested in the site specific analyses and identifies which of these were found to be a consistent predictor of force in Phoenix or at least one of the six participating jurisdictions. Given the two stage process used in the site specific analyses, items could predict suspect use of force, police use of force or both. Items associated with a reduction in the use of force are indicated with a minus (-) sign in parentheses. Only two items were consistent predictors in all six jurisdictions: force by suspect and suspect antagonistic demeanor toward the police. In Colorado Springs and Dallas, suspect demeanor predicted both officer and suspect use of force.

The suspect being arrested for a violence offense was a consistent predictor in every jurisdiction but Dallas, where another offense type characteristics, a traffic offense, was

associated with the use of less force by both police and suspects. Similarly, the number of police at the initial contact was a consistent predictor in every site, except San Diego County. In four of the six jurisdiction, suspect intoxication was found to be a consistent predictor.

A variety of other factors were found to be consistent predictors of force in 3 or fewer sites but perhaps a more important aspect of Table 5 - 2 is the number of factors which are frequently thought to be related to the use of force but did not consistently predict the use of force in any of our seven participating jurisdictions. In no site was the officer's belief that the suspect carried a weapon or had a criminal record a consistent predictor of force. Similarly, in no site were officers in the patrol division or officers who made arrests while off-duty a consistent predictor of the amount of force used. The height or weight of suspects and the age, race, sex and height of officers were consistent predictors in none of these site specific analyses. The race of the suspect was a consistent predictor of suspect use of force in one site but never a direct predictor of police use of force. In none of the seven site specific multivariate analyses was officer and suspect racial interactions consistent predictors of the use of force.

The results presented in Table 5 - 2 permit the kind or research synthesis provided by literature reviews or meta-analyses that would have been possible had we published each of the site specific multivariate analyses separately. The methodological similarities of these seven site specific findings eliminates many of the caveats associated with qualitative and quantitative syntheses of diversely designed and implemented studies.

We present Table 5 -2 as a review of the site specific analyses but there are many reasons for not using it (or the more detailed information in Appendix C) to summarize the influence of various predictors of force. First, the designation of "consistent" predictors is derived from an

arbitrary criteria that each factor predict any three out of four predictors. In addition, in this context, "predict" means a statistically significant regression coefficient. This rule was developed in the Phoenix study as a substitute for having multiple sites and was retained, in modified form, as a way to generate site specific findings in the six new sites. However, using these criteria in a multi-site analysis would mean that a factor that strongly predicted physical force in each jurisdiction but not any other measure would not be included in Table 5 - 2.

A second concern is that one of the measures of force–the continuum of force–was purposely defined differently in each site so that it would be especially relevant to local policies on the use of force and not a common measure across sites. Moreover, one of the four measures of force–physical force–was completely contained in another measures--physical force with threats–and this definitional similarity generated two highly correlated measures. Also, the maximum force measures used in the site specific analyses were derived from the ratings by officers from each jurisdiction and these rating, while similar, vary between sites. Third, the unavailability of information on certain predictors in some of the sites–such as the felony designation or the suspect's height or weight, meant that different multivariate models were being tested in each jurisdiction. A fourth consideration is the fact that the site specific analyses cannot control for differences in the base level of police use of force in each jurisdiction[16]. For these and other reasons, we decided not to rely on a qualitative synthesis of the site specific findings but to conduct a single multivariate analysis of arrests using the common data on potential predictors from all six sites to assess the predictors of police use of force.

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[16]There are several other methodological differences between the site specific and multi-site analyses which are discussed below.

Multi-site Multivariate Analyses of the Use of Force

Our approach to the multi-site, multivariate analysis is to use two of the four measures of force–physical force and maximum force. The dichotomous physical force measure was constructed from common data elements collected in each site. Because the physical force with threat measure is conceptually and empirically similar to the physical force measure, we chose not to use it in a separate multi-site analysis. The continuum of force measures are unique to each site and cannot be used as a consistent measure in a cross-site analysis. We averaged the rankings of police and suspect behavior from all five sites to create a common measure of the maximum force used in each arrest in each site.

We chose to conduct each of these analyses for a specific purpose. The use of a dichotomous physical force measure is the traditional approach used in prior multivariate research. Unlike most prior research, we explicitly stated and measured each component of physical force and used a consistent definition and measures across all six sites. We believe that this dichotomous measure has some limitations but it provides a clear basis for comparisons of our findings with prior research. We think that there are advantages in our analyses using the maximum use of force measure because it captures a wider range of variation in the use of force. It conforms better to our concern for assessing differences in the amount of force used and should be more sensitive to the influences of potential predictors across a broad range of force, not a simple, somewhat arbitrary dichotomy with a relatively low base rate of occurrence.

Building a Multivariate Model

Our multivariate models include 38 independent predictors of force. We structured these predictors as either simple dichotomies, count variables, or categorical variables. Most of these

predictors represent simple concepts that were measured as simple dichotomies. Other predictors, such as the number of suspects and police officers, were structured as continuous variables that were measured on a scale from1 to 99. In most arrests, there was only one officer and one suspect and in a large percentage of arrests, there were fewer than five suspects or five officers. We measured the number of officers and suspects at the initiation and the completion of the arrest but chose to construct a composite measure of the maximum number of police or suspects and then truncated this variable at the maximum of five.

We also constructed a number of categorical variables that combined a series of items that we felt were logically grouped together. For instance, we constructed a variable entitled police mobilization with contrasts arrests that were initiated by a radio dispatch with arrests that stemmed from either the officer initiating the contact, a citizen initiating the contact or where dispatch and initiation information is unknown. Similarly, we constructed a categorical variable to capture the variety of ways an officer could approach the arrest scene. This variable contrasts a routine approach with arrests where the police were sent as the result of a priority call or used their lights and sirens. We also used categorical variables to capture officer and suspect racial categories, the victim's relationship to the suspect and the bystander's relationship to the suspect. Because of multicollinarity issues, we combined information about the presence and number of bystanders with the bystanders relationship to the suspect. Where we knew that there were one or more bystanders but we did not know the relationship, the bystander variable was coded as an unknown relationship. We also constructed categorical variables to test for differences in the use of force by officer and suspect race and sex combinations.

Some of the predictors were imperfectly measured in our survey and this resulted in some missing data for some cases. This phenomenon was most pronounced in the demographic descriptors of officers and suspects. For instance, in 430 (5.7 percent) arrests the race of the suspect was not recorded and in another 172 (2.3 percent) of the arrests the race of the officer was missing. Our approach to this issue was include an extra category in the officer and suspect race variables for cases with missing values. This approach preserves the information in the 7,512 surveys and permits a comparison of all cases with known and unknown values.

We grouped the potential predictors into various conceptual domains–nature of the offense, location of the offense, mobilization of the police, suspect characteristics and police characteristics–and tested each potential predictor with the 5 to10 potential predictors in that domain. As part of this domain level analysis, we removed several variables from consideration in any of our multivariate models, either because they were conceptually indistinguishable from other variables or because of high levels of multicollinearity, or both. For instance, the measure "Night Time" and "Visibility" were found to be both conceptually related and empirically collinear; we chose to keep the more generic measure, visibility and dropped the measure night time. Similarly, a measure that indicated that the suspect was known to be compliant was highly correlated empirically and conceptually with various measures of suspects being assaultive, carrying weapons or having a record and we dropped this measure from our analysis.

In our domain level analyses, we assessed a factor's predictive strength separately for each of our two dependent variables–physical force and maximum force[17]–and selected those

[17]In the site specific analyses, we included in the full model any predictor that met the $p. < .1$ level of statistical significance in the analysis of ***any of the four dependent variables***.

that were statistically significant at the p. < .1 level. This approach was designed to eliminate factors that could not meet the weaker standard of p. < .1 The results of the domain level analyses for each of the three analyses are included in Appendix D.

The third step in our model building was to construct two multivariate models for each of the two measures of force. In the first model, we include all the potential predictors that had not been removed in the domain level analysis, except for suspect use of force and the officer and suspect race and sex interactions. In the second model, we add a trichotomous suspect use of force measure[18]. This approach produces four multivariate analyses, two models with two outcome measures.

For each outcome measure, a comparison of model 1 and model 2 reveals the size, direction and statistical significance of predictors in analyses with and without the consideration of suspect use of force. Prior research in Phoenix (and in the site specific analyses) demonstrated that the factor with the most consistent association with police use of force was suspect use of force; however, our data are static, after the fact, self-reports and deriving a "prediction" from this association in these data requires rather strong assumptions about the direction of causality[19]. Our approach here is not designed to address the issue of reciprocal

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[18]In the site specific analyses, we used dichotomous measures of suspect force with dichotomous measures of police use of force, categorical level measures of suspect force with categorical measures of police use of force and interval measures of suspect force with interval levels of police use of force. In order to maintain the use of a common set of predictor variables in all of our multi-site analyses, we generated a single measure that captures both the suspect use of physical force and suspect antagonistic demeanor.

[19]In the Phoenix and other site specific analyses, we addressed the simultaneity problem by first predicting suspect use of force and then using the predicted value of suspect use of force in an analysis predicting police use of force. For more details on the rationale for that approach, see Garner, et al, 1994.

causality but to use the amount of suspect use of force as a control to improve our understanding of the independent effect of the potential predictors from our five domains.

The second model is designed to assess the direct effects of the 38 potential predictors but it does not address two of the central controversies surround police use of force–the combined effects of officer and suspect race and the combined effects of officer and suspect sex. To address these controversies, we re-ran model 2 but included two categorical variables that captured all possible race combinations and all possible sex combinations. This approach provides the appropriate statistical test for assessing if White police officers use more force against minority suspect than against White suspects. In addition, this approach also permits a test of the hypothesis that male officers use more force against male suspects than they do against female suspects or than female officers do against male or female suspects.

Our interpretation of our findings and our assessments of the multivariate models of police use of force are based on assessments of the direction, statistical significance and size of the individual level regression coefficients and R square or pseudo R square statistics. For the dichotomous measure of physical force we used logistic regression; for the maximum force measure, we use generalized least squares regression. In the logistic regressions, we use the odds ratio as a measure of effect size; in the OLS regressions, we report the eta statistic, which conveys the extent of the total R^2 constributed by individual predictors. In general, we use the traditional criteria of $p < .05$ as an indicator of a real effect, even though our set of arrests is not a random sample of arrests. Consistent direction of effects within and across models is also used as a secondary criterion for judging the presence of a real effect.

Table 5 - 1A: Nature of the Arrest

		Arrests		Physical Force		Maximum Force
		Number	Percent	Number	Percent	Mean
All Police Surveys	Total	7,512	100.0%	1,283	17.1%	30.4
Jurisdiction	Springs	1,290	17.2%	164	12.7%	26.2
	Charlotte	1,314	17.5%	224	17.0%	30.9
	Dallas	1,456	19.4%	233	16.0%	30.7
	St. Pete	1,547	20.6%	355	22.9%	30.3
	SD Police	947	12.6%	148	15.6%	31.4
	SD Sheriff	958	12.8%	159	16.6%	33.8
Violent Offense	No	6,088	81.0%	939	15.4%	29.9
	Yes	1,424	19.0%	344	24.2%	32.4
Weekend	No	4,637	61.7%	745	16.1%	30.0
	Yes	2,875	38.3%	538	18.7%	31.0
Bystanders Demeanor Toward Police	Not Antagonistic	7,110	94.6%	1,130	15.9%	30.2
	Antagonistic	402	5.4%	153	38.1%	33.6

	Number	Mean	Number	Pearson's Correlation	
Number of Bystanders	7,512	1.55	1,283	0.15	0.13
Number of Suspects	7,512	1.48	1,283	0.02	0.10
Number of Police	7,512	2.64	1,283	0.16	0.26

Table 5 - 1B: Location of the Arrest

		Arrests		Physical Force		Maximum Force
		Number	Percent	Number	Percent	Mean
Location Known for Criminal Activity	No	4,506	60.0%	653	14.5%	29.7
	Yes	3,006	40.0%	630	21.0%	31.4
Location Known to be Hazardous	No	6,276	83.5%	979	15.6%	30.0
	Yes	1,236	16.5%	304	24.6%	32.4
Arrest Occurred Inside	Other	5,033	67.0%	904	18.0%	30.6
	Yes	2,479	33.0%	379	15.3%	29.9

	Number	Mean	Number	Pearson's Correlation	
Visibility at Place of Arrest	7,512	7.61	1,283	-0.08	-0.11

Table 5- 1C: Mobilization of the Police

		Arrests		Physical Force		Maximum Force
		Number	Percent	Number	Percent	Mean
Officer in Patrol Division	No	1,122	14.9%	189	16.8%	30.6
	Yes	6,390	85.1%	1,094	17.1%	30.3
Custody Status	On Street	6,485	86.3%	1,175	18.1%	30.7
	In Custody	1,027	13.7%	108	10.5%	28.6
How Police Were Mobilized	Dispatched	3,370	44.9%	587	17.4%	30.4
	Citizen Initiated	345	4.6%	66	19.1%	30.9
	Police Initated	2,742	36.5%	486	17.7%	30.6
	Unknown	1,055	14.0%	144	13.6%	29.3
Officer's Approach	Routine	4,789	63.8%	666	13.9%	29.6
	Priority Call	1,092	14.5%	244	22.3%	31.0
	Used Lights and Sirens	770	10.3%	179	23.2%	33.5
	Unknown	861	11.5%	194	22.5%	31.0
Officer Duty Status	On Duty	7,233	96.3%	1,220	16.9%	30.4
	Off Duty	279	3.7%	63	22.6%	30.7
Called for Backup	No	5,620	74.8%	790	14.1%	29.5
	Yes	1,892	25.2%	493	26.1%	32.9

	Number	Mean	Number	Pearson's Correlation	
Number of Surveys Completed	7512	4.488	1,283	0.02	-0.03

Table 5 - 1D: Characteristics of the Police Officer

		Arrests		Physical Force		Maximum Force
		Number	Percent	Number	Percent	Mean
Sex of Officer	Female	765	10.2%	100	13.1%	29.2
	Male	6,747	89.8%	1,183	17.5%	30.5
Height of Officer	Less Than 5 Three	103	1.4%	17	16.5%	29.5
	Five Three+	398	5.3%	57	14.3%	29.9
	Five Six+	1,464	19.5%	268	18.3%	30.6
	Five Nine+	2,699	35.9%	430	15.9%	30.1
	Six Foot+	2,297	30.6%	406	17.7%	30.7
	Six Three or More	551	7.3%	105	19.1%	30.1
Weight of Officer	Less than 125 lbs	232	3.1%	37	15.9%	30.5
	126-150	891	11.9%	126	14.1%	29.4
	151-175	1,688	22.5%	309	18.3%	30.5
	176-200	2,762	36.8%	464	16.8%	30.1
	201-225	1,109	14.8%	195	17.6%	31.5
	226-250	612	8.1%	100	16.3%	30.2
	More than 250	218	2.9%	52	23.9%	31.1
Police Demeanor Toward Suspect	Not Antagonistic	7,460	99.3%	1,262	16.9%	30.3
	Antagonistic	52	0.7%	21	40.4%	36.6
Prior Medical Attention to Officer	No	6,743	89.8%	1,094	16.2%	30.1
	Yes	769	10.2%	189	24.6%	32.4
Race of Officer	White	5,687	75.7%	970	17.1%	30.5
	Black	837	11.1%	146	17.4%	30.0
	Hispanic	598	8.0%	122	20.4%	30.2
	Other	218	2.9%	32	14.7%	31.6
	Missing	172	2.3%	13	7.6%	27.8

	Number	Mean	Number	Pearson's Correlation	
Age of Officer	7512	32.516	1,283	-0.05	-0.10

Table 5 - 1 E: Characteristics of the Suspect

		Arrests		Physical Force		Maximum Force
		Number	Percent	Number	Percent	Mean
Sex of Suspect	Female	1,480	19.7%	190	12.8%	29.1
	Male	6,032	80.3%	1,093	18.1%	30.7
Police Believe Suspect to be Compliant	No	6,853	91.2%	1,190	17.4%	30.4
	Yes	659	8.8%	93	14.1%	30.0
Police Believe Suspect to be Assaultive	No	7,017	93.4%	1,147	16.3%	30.2
	Yes	495	6.6%	136	27.5%	32.7
Police Believe Suspect Carries Weapon	No	7,173	95.5%	1,178	16.4%	30.2
	Yes	339	4.5%	105	31.0%	35.0
Police Believe Suspect Has Criminal Record	No	6,279	83.6%	1,036	16.5%	30.1
	Yes	1,233	16.4%	247	20.0%	31.7
Gang/Criminal Group Member	No	7,092	94.4%	1,201	16.9%	30.3
	Yes	420	5.6%	82	19.5%	32.1
Suspect is Intoxicated	No	4,553	60.6%	640	14.1%	29.6
	Yes	2,959	39.4%	643	21.7%	31.6
Victim Relationship to Suspect	Stranger	2,296	30.6%	402	17.5%	31.1
	Friend	489	6.5%	82	16.8%	30.4
	Family	1,011	13.5%	200	19.8%	30.1
	Victim Not Identified	3,716	49.5%	599	16.1%	30.0
Nature of Bystanders	No Bystanders	2,761	36.8%	357	12.9%	29.2
	Unknown Relationship	1,451	19.3%	324	22.3%	32.1
	Stranger to Suspect	1,694	22.6%	275	16.2%	30.5
	Friend of Suspect	1,027	13.7%	210	20.4%	30.9
	Suspect Family	579	7.7%	117	20.2%	30.0
Race of Suspect	White	2,853	38.0%	402	14.1%	29.7
	Black	2,962	39.4%	588	19.9%	30.6
	Hispanic	1,080	14.4%	190	17.6%	31.7
	Other	187	2.5%	33	17.6%	31.6
	Missing	430	5.7%	70	16.3%	29.1
Suspect Resistance	Compliant	5,736	76.4%	477	8.3%	29.0
	Antagonistic	880	11.7%	201	22.8%	31.2
	Physical Resistance	896	11.9%	605	67.5%	38.2

	Number	Mean	Number	Pearson's Correlation	
Age of Suspect	7512	31.144	1,283	-0.01	-0.01

Table 5 - 2A: Summary of Site Specific, Multivariate Results: Consistent Predictors of Force

	Phoenix	Charlotte	Colorado Springs	Dallas	St. Petersburg	San Diego Police	San Diego Sheriff
Nature of the Arrest							
Violent Offense	Suspect	Both	Suspect	Police(-)	Suspect	Suspect	Suspect
Traffic Offense				Both(-)	Police(-)		Suspect(-)
Felony					Suspect		
Weekend				Both			
Antagonism Toward Bystanders					Both		
Bystanders Present	Suspect	Both	Suspect	Suspect			
Bystanders at Initial Contact					Police		
Bystanders at Completion						Suspect	
Number of Suspects							
Number of Police Present							
Nature of the Arrest Location							
Location Known for Crime					Police		
Location Hazardous			Suspect				
In a Residence		Suspect(-)	Suspect(-)	Both			
Low Visibility		Suspect		Both			Suspect
Mobilization of the Police							
Use of Contact and Cover	Both	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Police Initiate Contact	N.A.				Both	Suspect	
Citizen Initiates Contact	N.A.					Police	
Routine Approach	N.A.		Both (-)			Both(-)	Both(-)
Priority Call	N.A.	Police					
Call for Backup	N.A.	Both			Police		
Used Lights and Sirens	N.A.						
Not Already in Custody				Both			
Contact Initiated at Scene					Suspect	Both	
Officer Off Duty							
Number of Surveys Completed							
Officer in Patrol Division							

Table 5 - 2B:Summary of Site Specific, Multivariate Results: Consistent Predictors of Force

	Phoenix	Charlotte	Colorado Springs	Dallas	St. Pete	San Diego Police	San Diego Sheriff
Officer Characteristics							
Age of Officer							
Race of Officer							
Sex of Officer							
Height of Officer							Suspect (-)
Weight of Officer							
Prior Medical Attention		Both		Suspect	Both		
Police Demeanor Toward Suspect							
Suspect Characteristics							
Sex of Suspect			Police				
Race of Suspect						Suspect	
Age of Suspect				Both			Suspect
Height of Suspect		N.A.					
Weight of Suspect		N.A.					
Known to Carry Weapons	Police*			Both			
Suspect Intoxication	Both		Both	Suspect		Suspect	
Suspect Friend of Victim		Police (-)			Suspect(-)		
Suspect Stranger to Victim					Suspect		
Suspect Related to Victim							Suspect(-)
Suspect Stranger to Bystanders			Suspect				
Police Believe Suspect to be Compliant							
Police Believe Suspect to be Assaultive	Police*						
Police Believe Suspect Has Criminal Record	Police*						
Gang/Criminal Group Member	Suspect						
Suspect Resistance	Police	Police	Police	Police	Police	Police	Police
Suspect and Officer Interaction							
Both Male	Police			Both			
White Police/Black Suspect							
White Police/Hispanic Suspect							

Chapter 6: Multivariate Findings

We have summarized our multivariate findings in Table 6 - 1 which displays logistic regression coefficients, standard errors and odds ratio from the analysis of our physical force measure for two models–one without and one with the inclusion of suspect use of force as a predictor. In addition, Table 6 - 1 displays the regression coefficients, standard errors, and the eta statistics from our analysis of the maximum force measure that includes suspect resistance. This table permits a ready comparison of the direction, statistical significance and size[20] of the effects of each of the 38 individual predictor in Model 1 (without suspect resistance) and Model 2 (with suspect resistance). Table 6 - 1 also reports the amount of variation in our measure of force that is explained by the two models. These findings provide a ready basis for comparing the predictive role of each of the 38 potential predictors of force in three separate analyses. Table 6 - 2 displays the results obtained when adding the officer and suspect race and sex interaction terms to Model 2 for both of our measures of force[21].

Our interpretation of regression coefficients follows traditional practices or relying on a .05 level of statistical significance to determine the presence of an effect and on comparing the consistency of the direction or the statistical significance of a variable's effect across multiple outcome measures. In our full models including suspect resistance, we identify variables that are consistent, that is, they are statistically significant predictors of both physical force and maximum force. We also identify variables that predict one or the other but not both use of force measures and categorize them as inconsistent predictors of force. Variables that do not

[20]In this analysis, we use the odds ratio to gauge the size of an effect.

[21]A complete display of the multivariate results can be found in Appendix E.

meet the .05 level in the full models for either physical force or maximum force are labels as non-predictors of force.

Role of Suspect Resistance in Identifying Predictors of Force

In order to assess the importance of suspect resistance, Table 6 - 1 lists the results of logistic regressions without a term for suspect resistance (Model 1) and with a term for suspect resistance (Model 2). Compared to the reference category of Colorado Springs, there are reduced amounts of force in Dallas, the City of San Diego, and Charlotte in Model 1 but these differences did not reach traditional level of statistical significance. St. Petersburg, however, has statistically significant higher levels of police use of force–controlling for 37 other possible predictors of force captured in our models, the odds of police use of physical force in St. Petersburg are nearly twice the odds (1.96) in Colorado Springs. Adding a suspect use of force measure to the model does not change the direction or statistical significance of these jurisdictional effects but the size of the St. Petersburg increase is reduced from 96 percent to about a 78 percent increase.

If the underlying offense for which the suspect was arrested was classified as a violent offense the amount of force used by the police increases. In Model 1 this increase is substantial (58 percent) but when suspect resistance is added, the effect diminishes and is no longer statistically significant. A different effect is found when examining arrests that occur on a weekend (6 p.m. Friday to 6 a.m. Monday) but these increases are not statistically significant in Model 1 but are statistically significant in Model 2, where the odds of police use of physical force is 18 percent higher on weekends than weekdays. The odds of the police using physical

force also increased when bystanders had an antagonistic demeanor toward the police. The size of this effect is about a 120 percent increase in Model 1 and a 47 percent increase in Model 2. The police used less force as the number of suspects increased but this effect is no longer statistically significant when our measure of suspect resistance is added in Model 2. Adding a measure of suspect resistance did not change the direction of any of the five potential predictors in the "Nature of the Arrest" domain but the size and statistical significance of three measures did change, two from significant to insignificant and one from insignificant to significant.

Location of the Offense

In the location of the arrest domain, only one of the potential predictors–if the location was known for criminal activity–was a statistically significant predictor of police use of force. If the location was known for criminal activity, the odds of the police using physical force increase about a third. Improved visibility at the place of the arrest has the effect of reducing the use of physical force but this effect is no longer statistically significant at the .05 level in Model 2. Knowledge about the location being hazardous or the arrest occurring inside were not associated with the use of more or less physical force, regardless of whether suspect resistance was included in the model.

Police Mobilization

In about 14 percent of our cases, the suspect was already in custody when the police arrived and this aspect of the location of the arrest was associated with a 32 percent change in the odds of physical force being used in Model 1 and a 26 percent change in Model 2. More than 85 percent of our arrests were made by officers in the patrol division but this consideration did not predict the use of more or less force in either model. A small proportion of arrests (3.2 percent)

were made by off-duty officers and these arrests were associated with statistically significant increases in the use of physical force by the police in Model 1; in Model 2, this effect is diminished and no longer statistically significant. The number of police officers and whether the officers called for backup are associated with increased use of physical force. These effects are statistically significant in both models and the increase in the odds of using physical force is 51 percent for calling for backup and 42 percent for the number of police.

Compared to arrests where officers were dispatched (45 percent) to the scene, the odds of the police using physical force increased by 29 percent if they initiated the contact at the scene of the arrest when suspect resistance is included in the model. In model 1, there are no differences between arrests stemming from officers being dispatched, citizen initiated arrests or officer initiated arrests. In contrast, if officers approached an arrest using lights and sirens or in response to a priority call, the odds of using physical force increased about 40 percent over routine approaches and this direction, statistical significance and size of this effect was similar in both Model 1 and Model 2.

Multiple aspects of police mobilization–suspect custody status, officer's being off duty, officer's approach, officer initiation of contact, the number of police officers at the scene, and whether the police called for back up--have been found to be associated with increased use of physical force and, except for officer duty status, these effects persist when suspect resistance is included in the model.

Characteristics of the Police

Four of the six characteristics of police officers included in our research are associated with the increased use of physical force–officer age, race and sex, and an officer having had prior

medical attention for work related injuries. When the officer is a male, the odds of using physical force are increased by 72 percent; when the officer is Hispanic, the odds increase by 42 percent (compared to White officers). The odds of Black officers or officers of other races using physical force was lower than that for White officers but this effect was not statistically significant in either Model 1 or Model 2.

As the age of the officer increased, the odds of using physical force decreased an average of 43 percent. In addition, the odds of using physical force increased 30 percent for officers who had previously received medical attention for on the job injuries. Officer self-reported antagonism is associated with increased odds of using physical force in Model 1 but not in Model 2. As the number of surveys completed by the officer increased, the odds of using physical force decreased; this effect was statistically significant in Model 1 but not Model 2.

Characteristics of the Suspect

This research captured nine characteristics of arrested suspects and our models assess the extent to which these characteristics are associated with increased or decreased amounts of physical force. In model 1, all of these characteristics, except the age of the suspect, had a statistically significant relationship to the use of physical force by the police For instance, in Model 1, officers use more force against male suspects, suspects known to be assaultive, known to carry weapons, intoxicated suspects, and Black suspects. Officers use less force against gang members, when the suspect is a stranger to the victim, and when there are no bystanders. There is no association between the age of the suspect and officer use of physical force.

When suspect resistance is added in Model 2, the direction and statistical significance of suspect gang membership, suspect known to carry weapons and suspect intoxication remain.

The increase in the odds of using physical force for suspect known to carry weapons is 59 percent; for intoxicated suspects, the increase in the odds is 23 percent. The decrease in the odds of physical force if the suspect is a gang member is 34 percent. However, many of the suspect characteristics that were statistically significant in Model 1 are no longer statistically significant in Model 2. The victim's relationship to the suspect and suspects known to be assaultive are no longer statistically significant predictors. The nature of the family relationship of bystanders to suspects is also no longer statistically significant but the odds of the police using physical force is 44 percent lower in arrests with no bystanders than arrests where there are multiple bystanders or bystanders with no know relationship to the suspect. When suspect resistance is included in the model, the difference between the amount of physical force used against Black suspects (compared to White suspects) is not statistically significant at the .05 level. However, the contrast between the three percent of the sample that is of other races and White suspect is statistically significant and the odds of using physical force against suspects of other races is 77 higher than the odds of using physical force against White suspects. Clearly our understanding of the role of suspect characteristics in predicting police use of physical force is different in a model that includes suspect resistance than a model where suspect resistance is not included.

For our measure of suspect use of force, increases in suspect resistance are associated with increases in police use of force. When the suspect displays an antagonistic demeanor toward the police but no physical force, the odds of the police using physical force increase by 163 percent. When suspects do use physical force against the police, the odds of the police using physical force against suspects increase by 1900 percent. Our analysis cannot determine the extent to which police use of force stemmed from suspect resistance or suspect resistance

stemmed from police behavior; however, our analysis does indicate the extent to which other predictors of force are affected by including suspect resistance as a control variable in Model 2. The importance of suspect resistance to understanding and predicting police use of physical force can also be gauged by the increase in the amount of variation (R^2) explained in Model 1 from .10 to .22 in Model 2.

Comparing the Predictors of Different Measures of Force

In Table 6 - 1, we also present the results from regressing Model 2 on our maximum force measure. The purpose of this display is to compare the role of our 38 predictors of force when different measures of force are used. In our site specific analyses, we used consistency in predicting different measures of force as a check on the potentially spurious results obtained from a single site analysis. In our multisite analyses, we use the increased reliability and statistical power of a larger sample of arrests from multiple jurisdictions to assess the extent to which the strength of potential predictors varies by the way in which the amount of physical force is measured.

Nature of the Arrest

The effect of the participating jurisdiction varies by the how force is measured. Compared to Colorado Springs, the odds of the police using physical force were 78 percent greater in St. Petersburg; however, the amount of physical force in the other four jurisdictions were similar to that the force used in Colorado Springs. This suggests that, except for St. Petersburg, the differences in the based rates of physical force among the six jurisdictions can be explained by other characteristics of the arrest. In the analysis of Maximum Force for all 7,512

arrests, greater amounts of force are associated with all five jurisdictions and, based on the eta statistics, the largest amount of explained variance is attributed to San Diego County (.046) and the City of San Diego (.027). This finding suggests that there are differences in the amount of maximum force among the jurisdictions that cannot be explained by the other predictors of force in our model.

If the offense for which the suspect was arrested was a violent offense, the police are not more likely to use physical force but they are likely to use more maximum force but this factor makes a modest (.0003) contribution to the amount of explained variance. When the arrest occurred on a weekend (6 p.m Friday to 6 a.m. Monday) the odds of the police using physical force increase by 18 percent and this characteristic of the arrest is also a statistically significant predictor of increases in the amount of our maximum force measure. When bystanders show an antagonistic demeanor to the police, the odds of officers using physical force is increased by 47 percent. This consideration does not affect the maximum amount of force used. Increases in the number of suspects present at the time of the arrests do not affect the use of physical force, but they

do increase the maximum amount of force used by the police.

Location of the Arrest

Of the four characteristics of the location of the offense, only one (location known for criminal activity) is associated with a statistically significant increase in the amount of physical force. Better visibility at the arrest location is associated with statistically significant decreases in the amount of maximum force. No greater or lessor amounts of force are associated with arrests in locations that officers knew to be hazardous and arrests that occurred inside a building.

Police Mobilization

When the suspect was already in custody, we found a 26 percent reduction in the odds that physical force would be used by the police; in addition, this factor was also associated with a statistically significant reduction in the maximum amount of force. Compared to arrests where police were dispatched to the scene, arrests made when officers initiated the contact were associated with an increased likelihood of using physical force. This consideration was not associated with changes in the amount of maximum force used. In the more than 1,000 arrests where we do not know if the officer was dispatched or who initiated the contact with citizens, the amount of maximum force used decreased, compared to arrests where the officer had been dispatched.

How officers approach the arrest scene was a statistically significant predictor of the amount of both physical and maximum force. Compared to a routine approach, arrests where the officer was responding to a priority call experienced a 40 percent increase in the amount of physical force; when officers used their lights and sirens, the increase in the odds of using physical force was about 44 percent; in the 861 arrests where the type of approach is unknown, the amount of physical force is also 40 percent higher than it is when the officer uses a routine approach. Both the presence of a priority call and the use of lights and sirens are associated with statistically significant increases in the maximum amount of force. For this measure, the arrests where the type of approach is unknown is indistinguishable from arrests with a routine approach. When officers call for a back up and when the number of police officers increases, the likelihood of the police using physical force increases 51 and 42 percent, respectively. These considerations are also associated with increases in maximum force.

Officer Characteristics

Younger officers, Hispanic officers and male officers were more likely to use physical force than older officers, White officers and female officers. The reductions in the odds of using physical force are 43 percent, 52 percent and 72 percent, respectively. Younger officers and male officers are also more likely to be associated with increased amounts of our maximum force measure but there are no differences in the amount of maximum force by officer race. Police officer demeanor (antagonism) toward suspects did not increase the likelihood of the officer using physical force but it is associated with increased amounts of maximum force. If officers had received prior medical attention for injuries on the job, they were both 30 percent more likely to use physical force and likely to use a greater amount of our maximum force measure. We found no effect associated with the number of surveys completed by the officer during the study.

Suspect Characteristics

The age of the suspect was unrelated to the amount of physical force or maximum force used. When the suspect was Black or Hispanic, the amount of physical force and the amount of maximum force was no different than that use when the suspect was White. Among the 187 suspects whose race was neither White, Black, or Hispanic, the likelihood of the police using physcial force increased by 77 percent but there was no increase in the amount of maximum force for this 'Other' race category. Police officers were 42 percent more likely to use more physical force and more likely to use maximum force if the suspect was a male[22]. If the suspect

[22]We tested for the effect of suspect height and weight in the five jurisdictions where this information was available and found that these variables were not statistically significant predictors of physical or maximum force and the addition of these variables did not affect the

was known to the officer to be assaultive neither more nor less force was used by the police; however, if the suspect was known to carry weapons there were increases in both measures of force. If the suspect was a member of a gang or some known criminal group, the rate at which the police used physical force decreased by 34 percent. There was no reduction or increase in the amount of maximum force when the suspect was a member of a gang. Intoxication of the suspect, however, was associated with the increased likelihood that the police would use physical force but this relationship did not hold for the maximum force measure.

Our analyses determined that when victims are not strangers to the suspect, the police consistently use less force. This effect was not statistically significant for physical force but it was statistically significant for friends, families and when the victim was not identified when we used our maximum force measure. When there was more than one victim, the amount of physical force and maximum used by the police increased. When the bystander was a stranger to the suspect, the police used more maximum force but not physical force against the suspect. When the bystander was a friend or family member, the police used the same amount of physical and maximum force as they did when there were no bystanders.

Consistent with other prior research, the factor most associated with police use of force is suspect resistance. In our analyses, suspect antagonism alone increased the odds that the police would use force by 163 percent; if the suspect used physical force, the police were more than 18 times more likely to used physical force. The effect of suspect resistance was also positive and quite large, with suspect use of physical force contributing .08 to the total R^2 of .26.

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effect of suspect sex on either physical force or maximum force.

Interaction of Officer and Suspect Race

One of the central concerns of prior research has been to determine not only if minority suspects are treated more severely by all police but by White police officers in particular. The findings in the full models in Table 6 - 1 show that White officers do not use more force than officers of other races and that the force used against Black and Hispanic suspects is not greater than that used against White suspects. All of the coefficients for Black and Hispanic suspects in Model 1 and Model 2 are in the positive direction. This consistency in the direct of effects suggests the possibility of small increases in the amounts of force used against racial minorities but none of these effects reach the traditional .05 level of statistical significance.

Statistically significant increases in the amount of physical force used against suspects in our "Other" race category raises the possibility that there may be an interaction of officer and suspect race. In Table 6 - 2, we report tests of two separate formulation of multivariate racial interaction terms to determine whether greater amounts of force are used in different combinations of officer and suspect race. In the first test, we made twenty comparisons–four officer race categories (White, Black, Hispanic, Other) and five suspect race categories (White, Black, Hispanic, Other and Missing). Of these twenty possible comparison, the 205 arrests that involved an Hispanic Officer and a White Suspect involved statistically significant increase in the amount of physical force. When the officer was Hispanic, the odds of the police using physical force against White suspects increased by 63 percent.

We reformulated the race combination variables into six categories based on officer race (White or Minority) and suspect race (White, Minority, or Missing). A similar finding emerges. Compared to arrests that involve White officers and minority suspect, there is no increased use

of force by White Officers against racial minorities. There is a statistically significant increase in the amount of physical force used in the 389 arrests where the officer is a racial minority and the suspect is White. However, none of these race interaction effects exist when we use our measure of maximum force.

These findings do not support the hypothesis that police use more force against racial minorities or the hypothesis that White officers use more force against minority suspects. While the primary criterion for the assessing the presence or absence of an effect is the traditional $p < .05$ level, two other considerations warrant attention. we think that it is worth noting that in both formulations, all of the coefficients for White officers and minority suspects are positive and that in the six category racial combination, the White officer and minority suspect coefficient reaches the $p < .1$ level.

Interaction of Officer and Suspect Sex

Another focus of prior research has addressed whether male and female officers behave differently with suspects of different sexes. We found some support for that thesis: the odds that male officers will use physical force against female suspects are about 46 percent higher than in arrests with female officers and female suspects. The differences in these sexual combination are not statistically significant when the maximum force measure is used. We also found that the amount of maximum force increased when both the officer and the suspect were males compared to the condition where both officer and the suspect were female. This difference, however, was not statistically significant when the physical force measure is used.

Summary of Multivariate, Multisite Findings

The multivariate analyses presented here tests for the direction, statistical significance and size of the effect of more than three dozen potential predictors of police use of force. We grouped these potential predictors into five domains–nature of the arrest, the arrest location, police mobilization, characteristics of the police and characteristics of the suspects–and found statistically significant predictors of police use of force in all of them. (See Table 6 - 1).

When all other available considerations, including the amount of suspect resistance, were included in our model, the police in St. Petersburg used physical force more often than the police in the other five jurisdictions. However, when we used the maximum measure of force, the sheriff's deputies in San Diego County used greater amounts of force than the law enforcement officers from other jurisdictions. These findings suggest that there are real differences in the use of force by the police departments included in this research that cannot be readily explained by the nature of the arrest or the characteristics of the officers or suspects.

When research on the use of force uses all arrests as the denominator in a definition of force, it is useful to include considerations such as the custody status of the suspect, which we found to be associated with reduced amounts of force but it may not be as useful to consider whether the officer is on duty or off duty, which we found not to be related to the amount of force used. Similarly, we found that arrests made by officers not in the patrol division were not more likely to use force.

We found no effect on the amount of force used if the arrest occurred inside a building or not but we did find that for our measure of maximum force the police used less force when the

officers report better visibility; this effect was in the same direction for physical force but the coefficients did not reach the .05 standard level of statistical significance.

We found that how the officer is mobilized to the scene can influence the amount of force used. Officers responding to a call using their lights and sirens or responding to a priority call are consistently likely to use more force. We found some evidence supporting the idea that police use more force when they initiate the contact with the suspect (as opposed to being dispatched to the scene) but this finding held for only the physical force measure, not the maximum force measure. We also controlled for whether the officer called for backup and for the number of police officers at the scene but our research design cannot distinguish whether calls for back-up or additional officers resulted from the use of force or preceded the use of force.

Our findings that male officers use more force than female officers is consistent with most prior research. In addition, we controlled for officer height and weight and these factors, while correlated with officer sex, did not predict any of our measures of police use of force. We did find that younger officers and officers that had previously received medical attention for injuries received on the job are more likely to use physical force and to use greater amounts of maximum force. These findings suggest that male, younger and previously injured officers might benefit most from training or managerial attention concerning use of force policies and practices. We also found that officer perceptions about the suspect's prior weapon use was a better predictor of police use of force than officer perceptions about the location or about the general assaultive nature of the suspect. Again, our design does not help determine whether the officer's

perceptions of the suspect's prior weapon use caused the officer to use more force or whether the increased use of force by the officer prevented suspects from using force or a weapon.

We found that the number of bystanders is a more consistent predictor of the amount of force used by the police than the demeanor of the bystanders toward the police but that research and policy about the use of force would benefit from incorporating the role of bystanders in use of force situations.

Our study found that, when dozens of other consideration are included in the multivariate model, the police still use more force against male suspects; however, they do not use more force against younger suspects or against Black or Hispanic suspects. The findings about conform to much of the prior research on the use of force by the police and suggest that the concerns about the excessive use of force by the police against racial minorities may be less relevant when considering the total amount of force used by the police. During our study period, no citizens were killed by the officers from the six participating police departments and our design is not well suited for studying the relatively rare occurrence of police use of deadly force.

Substantive and Methodological Conclusions

Our multivariate findings lead us to identify the importance of suspect resistance, jurisdictional differences, police mobilization, suspect race, police policies and practices, methods of data collection and analysis, and police–research collaboration.

Suspect Resistance

Our site specific and our multisite findings support the idea that one of the most powerful predictors of police use of force is suspect use of force. Our site specific analyses used statistical

techniques to control for the possibility of mutual causation between police and suspect use of force and still found that suspect use of force to be a major predictor of police use of force. In this analysis, we did not attempt to disentangle the reciprocal effects. We use the direct effect of suspect resistance as a statistical control in analyses with the primary purpose of understanding the role of other potential predictors of force. There are a variety of legitimate statistical procedures that are appropriate for addressing the reciprocity issue, but our findings indicate that the failure to include measures of suspect resistance creates such a grave risk of severely mis-specifying any multivariate model of force that such study designs are not appropriate for descriptive or prescriptive purposes.

Site Differences

We found real differences among the modest number of sites included in this study. Multivariate models that do not control for site differences run a real chance of having mis-specified models of individual level predictors. Our research had more than 900 arrests from six sites; the size of the study improves the statistical power above recommended levels (Cohen, 1980) and increases the generalizability of our findings beyond that which should be accorded individual site studies. We found real differences between departments in the amount of force used that could not be explained by suspect resistance or dozens of other considerations.

Police Mobilization

This research identifies the importance of police mobilization in predicting police use of force. Except for the dichotomous measure for the use of "Contact and Cover" tactics in our Phoenix research, no prior research has included measures of how officers were dispatched to the arrest scene or whether officers had been dispatched as part of a priority call. We found only

partial support for the notion that when the individual police officer initiates the contact with the arrested suspect, more force is use. The type of consideration warrant more explicit and more rigorous attention in future research on force.

Suspect Race

The question of whether more force is used against Black or Hispanic suspects is the single most discussed issue in the research literature and the public policy debate on police use of force. Our bivariate tests found that more physical force was used against Black suspects and our multivariate model of police use of physical force without suspect resistance also found that the more physical force was used against Black suspects. However, in our full model including a measure of suspect resistance, we found that there were no statistically significant differences in the amount of force used against Black or Hispanic suspects compared to White suspects. In addition, there were no statistically significant differences when simultaneously controlling for the race of the officer and the race of the suspects.

Some prior multivariate research on police use of force have reported increased amounts of force against Blacks; some have not. While our research has some methodological improvements over prior research, the one prior research study reporting race effects (Worden, 1995) rivals and in some ways excels our methodological approach, so methodological differences may not fully account for our disparate results. We note that in both of our full models of force, the direction of the coefficients show increased amounts of force used against Black and Hispanic suspects; while neither of these effects meet the traditional .05 level of statistical significance, one of them does meet the .1 level.

Based on the lack of statistical significance at the .05 level in the fully developed models, the consistent direction of the race effects and the marginal statistical significance of one of the race contrasts, our interpretation is that the amount of physical force used by the police against Black or Hispanic suspect is no different or only slightly different than that used against White suspects. In our models based on the maximum force measure, there is no difference in the amount of force used against Black or Hispanic suspects. If there were large race effects, we would expect a large number of studies, even those with modest or weak designs, to find statistically significant race differences. That is not the case. Our findings and the pattern of diverse findings among prior research is consistent with the presence of small race effects, though it may also indicate that no effect exists at all.

The challenge for future research and policy is to assess the substantive significance of such small effects to non-existent effects. On the one hand, even small effects may have large cumulative effects on police–citizen relations; on the other hand, consistent findings of no race effect may also suggest that the public opinion that the police use more force against racial minorities may be more influenced by highly visible journalistic and dramatic accounts of rare incidents than on more systematic accounts of normal police behavior. Of course, the focus of this research is on amount of force, most of which is a lower levels of severity, and public opinion may also be driven by a concern for incidents of excessive or deadly use of force.

Policies and Practices

Our judgment is that the research literature and the public discussion on police use of force would be best advanced, not by ignoring social issues like race, sex and class, but by focusing increased attention on the total amount of force used by police. We found statistically

significant and substantive differences between departments that could not be explained by the nature of the arrests or the amount of suspect resistance. This suggests departmental that there may be departmental policies, practices or customs not captured in our models that increase the amount of force used. We also found differences related to how police are mobilized, to the relationship of suspects to victims, to the number of bystanders and to the age and sex of the officers. Of equal importance is that we did not find that the amount of force varied by the height and weight of officers, the age of the suspect or whether the officer was on duty or off duty. Our research is a highly descriptive account of the use of force in six jurisdictions and not well suited for identifying specific tactics or training that might reduce the use of force by or against the police. However, the origins of this line of research can be traced to a police commander who recognized that he and his department were revising their use of force policies and training without any systematic information about the type of weapons and tactics that were currently used by and against the police. The design of this research and the nature of the sociological findings reported here have modest objectives commensurate with their origins. They are intended as useful sources of information and topics for discussion among experienced police managers and police trainers seeking to identify circumstances where the potential for the use of force is enhanced.

Future revisions of policies and practices need not be conducted in an environment where little is known about the frequency of force, the type of force or the characteristics associated with the use of increased or decreased amounts of force. In addition to increasing the knowledge base for future policy development, the measures and methods developed here have been tested and found feasible in seven diverse jurisdictions. These measures and methods can

be used to assess the amount and predictors of force before and after the introduction of revised law enforcement policies and practices about when, how and how much force should be used by the police. This effort has produced a knowledge base about the use of force and a technology for evaluating the strengths and weaknesses of future police use of force policies and practices.

Data Collection and Analysis Methods

Future research needs to build upon our explicit measures of force, the number of participating jurisdictions, the number of the arrests (or police citizen encounters), the number of use of force incidents, and the use of multivariate statistical procedures to determine the direction, size and statistical significance of individual level predictors of police use of force. Prior research has not been sufficiently explicit in defining what is mean by physical force or in providing any explicit rationale for the measures of force used.

This research expended considerable attention, thought and effort to record police and suspect behavior and to use those indications of concrete behaviors in the explicit construction of alternative measures of police use of force. This effort resulted in the construction of a more traditional dichotomous measure of physical force as well as a more innovative measure that captures more of the variation in the amount of force used. Explicit measurement increased our understanding of what types of behaviors involve force and the distribution of force in a systematic sample of adult custody arrests in several large and mostly urban police agencies.

We have constructed a variety of measures and used two of them in this multisite, multivariate analysis. Future research may refine how police behavior is recorded and develop additional measures of the amount of force but the different distributions of our measures and the differences in predictors of physical force and maximum force argue against reverting to research

designs that rely a single measure of force, especially one whose elements are not well measured or justified. Well defined and alternative measures of force are an essential element of any future research that desires to improve our understanding of the use of force by police.

Our measurement approach has limitations. Our static measurement is most appropriate for the large proportion of arrests whether when none or only one of the parties uses force. Future data collection efforts that can accurately disentangle the time sequencing of forceful behavior by officers and by suspects offer increased knowledge about the minority of incidents where both officers and suspects engage in some form of force or resistance. Our design is also limited to the use of force in adult custody arrests and we cannot discern in what proportion of police citizen encounters officers use of force but no arrest is made or that involve juveniles.

This research drew a large number of arrests and use of force incidents from a modest number of diverse law enforcement agencies. It also collected information on a large number of potential predictors of force. Both of these characteristics enhanced the strength of the multivariate analyses but future research might benefit from collecting sufficient numbers of incidents from more departments or areas of departments to permit stronger tests of individual level, neighborhood level or departmental level analyses.

Researcher – Police Collaboration

The prospects for improve future data collection and analysis are best addressed by researchers familiar with the strengths and weaknesses of this and other research on the use of force. This research effort, however, found that collaboration with experience police managers was a valuable and perhaps essential element of the *design* for data collection and analysis. There should be little doubt that this research was implemented by the participating departments,

with assistance from researchers. What should not be forgotten, however, was the important role that senior police managers from each of the departments played in the intellectual effort to design these studies and to analyses the data generated. In some ways, that collaboration led us to adopt compromises in our idealized research designs to ensure the feasibility of implementing this research. In other ways, that collaboration demonstrated the sophistication of contemporary police mangers and their expectations for high standards of research. Future challenges for researchers may be more likely found in not letting police managers get too far ahead of our improving but still modest research capabilities.

Table 6 - 1: Highlights of Multi-Domain, Multivariate, Multi-Site Findings

	Physical Force						Maximum Force			
	No Suspect Resistance			With Suspect Resistance			With Suspect Resistance			
Physical Force	**b**	**s.e.**	**Exp(b)**	**b**	**s.e.**	**Exp(b)**	**b**	**s.e.**	**Eta**	
Constant/Intercept	1.23	0.78	3.41	1.20	0.88	3.32	**39.93**	2.39	0.036	****
Nature of the Arrest										
Jurisdiction (Colorado Springs)										
San Diego Police	0.13	0.15	1.14	0.00	0.16	1.00	**5.03**	0.35	0.027	****
Dallas	-0.09	0.13	0.91	-0.17	0.15	0.85	**3.95**	0.31	0.021	****
San Diego Sheriff	-0.06	0.14	0.94	-0.14	0.16	0.87	**6.99**	0.37	0.046	****
Charlotte	-0.04	0.14	0.96	-0.19	0.15	0.83	**3.43**	0.34	0.014	****
St. Petersburg	**0.67**	0.12	1.96 ****	**0.58**	0.13	1.78 ****	**3.65**	0.31	0.018	****
Violent Offense	**0.46**	0.09	1.58 ****	0.16	0.10	1.17	**1.25**	0.26	0.003	****
Weekend	0.10	0.07	1.10	**0.16**	0.08	1.18 **	**0.42**	0.18	0.001	**
Bystanders' Demeanor Toward Police	**0.80**	0.12	2.22 ****	**0.38**	0.14	1.47 ***	0.04	0.41	0.000	
Number of Suspects	**-0.22**	0.08	0.81 ***	-0.08	0.08	0.92	**0.55**	0.21	0.001	**
Nature of the Arrest Location										
Location Known for Criminal Activity	**0.30**	0.08	1.35 ****	**0.28**	0.09	1.32 ***	0.21	0.21	0.000	
Location Known to be Hazardous	0.05	0.09	1.05	-0.06	0.11	0.94	0.27	0.27	0.000	
Arrest Occurred Inside	-0.13	0.08	0.88 *	0.00	0.09	1.00				
Better Visibility at Place of Arrest	-0.05	0.01	0.95 ****	-0.03	0.02	0.97 *	**-0.18**	0.04	0.003	****
Police Mobilization										
Officer in Patrol Division							0.37	0.26	0.000	
Suspect Already in Custody	**-0.38**	0.12	0.68 ***	**-0.30**	0.13	0.74 **	**-0.54**	0.27	0.001	**
Police Mobilization (Dispatched)										
Citizen Initiated	-0.02	0.16	0.98	0.09	0.18	1.10	0.07	0.43	0.000	
Police Initiated	0.05	0.08	1.05	**0.25**	0.10	1.29 ***	0.22	0.22	0.000	
Unknown	**-0.23**	0.12	0.80 **	-0.14	0.13	0.87 -		0.29	0.003	****
Officer's Approach (Routine)										
Priority Call	**0.36**	0.10	1.44 ****	**0.34**	0.12	1.40 ***	**1.56**	0.28	0.004	****
Used Lights and Sirens	**0.41**	0.11	1.51 ****	**0.37**	0.12	1.44 ***	**2.57**	0.31	0.009	****
Unknown	**0.29**	0.10	1.33 ***	**0.33**	0.12	1.40 ***	-0.23	0.29	0.000	
Officer Off Duty	**0.44**	0.16	1.55 ***	0.23	0.19	1.26				
Called for Backup	**0.39**	0.07	1.48 ****	**0.41**	0.08	1.51 ****	**1.21**	0.22	0.004	****
Number of Police Officers	**0.52**	0.07	1.69 ****	**0.35**	0.08	1.42 ****	**2.61**	0.19	0.025	****

* = p < .10; ** = p < .05; *** = p <.01; **** p = <.001

Table 6 - 2: Race and Sex Interaction Terms

Racial Interaction Terms

First Formulation: Reference Category is White Police and White Suspect

		Physical Force			Maximum Force		
Officer	Suspect	b	s.e.	Exp(B)	b	s.e.	Eta Sq.
White	Black	0.15	0.181.16		-0.11	0.24	0.000
White	Hispanic	0.14	0.211.15		0.19	0.33	0.000
White	Other	0.23	0.421.25		0.35	0.68	0.000
White	Missing	0.52	0.301.68		0.30	0.47	0.000
Black	White	0.10	0.231.10		-0.59	0.54	0.000
Black	Black	0.35	0.301.42		-0.03	0.40	0.000
Black	Hispanic	-0.02	0.450.98		0.85	0.82	0.000
Black	Other	0.41	0.951.50		-0.56	2.40	0.000
Black	Missing	0.70	0.532.01		-1.48	1.05	0.000
Hispanic	White	**0.49**	0.191.63	***	-0.47	0.55	0.000
Hispanic	Black	-0.11	0.320.90		-0.39	0.60	0.000
Hispanic	Hispanic	-0.39	0.360.68		-0.44	0.64	0.000
Hispanic	Other	-0.35	0.710.71		-2.13	1.56	0.000
Hispanic	Missing	0.76	0.522.13		-0.37	1.21	0.000
Other	White	-0.13	0.330.88		-0.49	0.89	0.000
Other	Black	-0.26	0.560.77		1.51	0.95	0.000
Other	Hispanic	0.01	0.601.01		1.97	1.16	0.000
Other	Other	-1.98	1.240.14		-1.21	1.75	0.000
Other	Missing	0.48	0.921.61		-1.48	2.03	0.000

Second Forumulation: Reference Category is White Officer and White Suspect

		Physical Force			Maximum Force		
Officer	Suspect	b	s.e.	Exp(B)	b	s.e.	Eta Sq.
White	Minority	0.18	0.101.19	*	-0.53	0.37	0.000
White	Missing	0.36	0.201.43	*	0.31	0.47	0.000
Minority	White	**0.38**	0.131.46	***	-0.01	0.21	0.000
Minority	Minority	-0.04	0.190.96		0.03	0.29	0.000
Minority	Missing	0.65	0.371.91	*	-1.06	0.75	0.000

Sexual Interaction Terms

Reference Category is Female Officer and Female Suspect

		Physical Force			Maximum Force			
Officer	Suspect	b	s.e.	Exp(B)	b	s.e.	Eta Sq.	
Male	Female	**0.46**	0.161.58	***	0.83	0.57	0.000	
Female	Male	0.24	0.161.27		0.53	0.62	0.000	
Male	Male	0.29	0.311.33		**1.72**	0.54	0.001	***

* = p < .10; ** = p < .05; *** = p <.01; **** p = <.001

Officer Characteristics												
Age of Officer	**-0.46**	0.19	0.63	**	**-0.56**	0.21	0.57	***	**-2.00**	0.48	0.002	****
Race of Officer (White)												
Black	-0.04	0.11	0.96		0.06	0.12	1.07	-		0.29	0.000	
Hispanic	**0.38**	0.12	1.47	***	**0.42**	0.14	1.52	***	-0.55	0.33	0.000	*
Other	-0.10	0.21	0.91		0.06	0.23	1.07		0.46	0.53	0.000	
Male Officer	**0.37**	0.12	1.45	***	**0.54**	0.14	1.72	****	**1.10**	0.29	0.002	****
Height of Officer												
Weight of Officer												
Police Demeanor Toward Suspect	**0.61**	0.31	1.84	**	0.17	0.36	1.18		**2.75**	1.07	0.001	***
Prior Medical Attention to Officer	**0.44**	0.10	1.55	****	**0.26**	0.11	1.30	**	**0.87**	0.29	0.001	***
Number of Surveys Completed	**-0.10**	0.05	0.91	**	-0.08	0.05	0.92	*	0.00	0.00	0.000	
Suspect Characteristics												
Age of Suspect	-0.14	0.11	0.87		0.00	0.13	1.00		-0.05	0.30	0.000	
Race of Suspect (White)												
Black	**0.28**	0.08	1.32	***	0.17	0.09	1.19	*	0.02	0.22	0.000	
Hispanic	0.21	0.11	1.24	**	0.18	0.12	1.19		0.34	0.29	0.000	
Other	0.37	0.21	1.44	**	**0.57**	0.23	1.77	**	-0.93	0.58	0.000	
Missing	0.43	0.16	1.54	***	0.21	0.18	1.24		0.06	0.42	0.000	
Male Suspect	**0.27**	0.09	1.31	***	**0.35**	0.10	1.42	***	**0.85**	0.22	0.002	****
Suspect Known to be Assaultive	**0.33**	0.12	1.39	***	0.18	0.14	1.19		0.14	0.38	0.000	
Suspect Known to Carry Weapon	**0.30**	0.15	1.34	**	**0.47**	0.17	1.59	***	**1.98**	0.46	0.003	****
Gang/Criminal Group Member	**-0.39**	0.15	0.68	***	**-0.42**	0.17	0.66	**	0.00	0.00	0.000	
Suspect is Intoxicated	**0.59**	0.07	1.81	****	**0.21**	0.08	1.23	**	0.28	0.20	0.000	
Victim Relationship to Arrestee (Stranger)												
Friend	**-0.40**	0.15	0.67	***	-0.29	0.17	0.75	*	**-1.17**	0.40	0.001	***
Family	**-0.24**	0.13	0.79	**	-0.09	0.14	0.92	-		0.34	0.002	****
Victim Not Identified	-0.16	0.09	0.85	*	-0.12	0.10	0.88	-		0.24	0.002	***
Nature of Bystanders (No Bystanders)												
Unknown Relationship	**0.52**	0.09	1.68	****	**0.37**	0.11	1.44	***	**0.91**	0.26	0.002	****
Stranger to Suspect	**0.26**	0.10	1.29	**	0.14	0.12	1.15		**0.52**	0.27	0.001	**
Friend of Suspect	**0.31**	0.11	1.36	***	0.22	0.12	1.24	*	0.44	0.29	0.000	
Suspect Family	**0.39**	0.13	1.48	***	0.24	0.15	1.28		0.10	0.36	0.000	
Suspect Resistance												
Antagonistic					**0.97**	0.10	2.63	****	**1.11**	0.28	0.002	****
Physical Resistance					**2.94**	0.09	19.0	****	**7.30**	0.29	0.080	****
Model Fit (Residual)		6868.10				6868.10				422792.40		
-2 Log Likelihood		6106.51				5014.80				149910.7		****
R Square		0.10				0.22				0.262		

* = p < .10; ** = p < .05; *** = p <.01; **** p = <.001

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Understanding the Use of Force By and Against the Police

Final Report
Grant No. 95-IJ-CX-0066

Appendix A:

Survey Forms and Police Ranking Forms

Joint Centers for Justice Studies, Inc.
Multisite Arrest Tactics Study

INSTRUCTIONS: Complete one form for each adult arrest. This form is to be completed by the arresting officer. This officer will respond as first officer. When additional officers are involved, please record any actions on their part as well.

PLEASE MARK EACH ITEM WITH A CHECK (√) OR A NUMBER AS APPROPRIATE

ARREST/OFFENSE # _____

1. Divison/Assignments (√ All That Apply)

☐ C ☐NE ☐ NW ☐ NC ☐ SE ☐ SW ☐ INV Unit ☐ SO ☐ ICP

☐ Investigative ☐ Administrative

2. Suspect's Custody Status Upon Your Arrival(√)

Not Already in Custody	
Already in Custody: Police, Courts	
Already in Custody: Private Security/Citizen	

3. Officer's Prior Knowledge of Location (√)

No Prior Knowledge		
If Prior Knowledge, What Known	Y	N
Location Believed to be Nonthreatening		
Location Known for Criminal Activity		
Location Believed to be Hazardous to Police		

4. Officer's Prior Knowledge of Suspect (√)

No Prior Knowledge		
If Some Prior Knowledge, What Known?	Y	N
Affiliated Gang Member		
Confirmed Gang-Member		
Believed to Carry Weapons		
Believed to Have a Criminal Record		
Believed to be Cooperative		
Believed to be Assaultive		

5. Suspect's Impairment

	Yes	No	Unknown
Drugs			
Alcohol			
Other			

6. Location of Completed Arrest

Y	N	Inside	Outside	Y	N
		Suspect's Residence	Street		
		Other Residence	Parking Lot		
		Club/Bar	Suspect's Yard		
		Restaurant	Other Yard		
		Retail Store	Other Outside		

7. Visibility at Arrest Completion (Circle Number)

Excellent			Good			Moderate			Poor
10	9	8	7	6	5	4	3	2	1

8. Number of Persons, Including Yourself, Present at Arrest Scene

Number Present	Initial Contact	Completion of Arrest
# of Officers		
# of Suspects		
# of Bystanders		

9. Suspect's Relationships (√ One for Each)

Relationship to Victim		Relationship to Bystanders
	Unknown	
	No Relationship	
	Acquaintance/Friend	
	Family/Intimate	

10. Characteristics of Officers

	1st Officer	2nd Officer
Age	years	years
Height	ft. in.	ft. in.
Weight	lbs.	lbs.
Race	White Black Hispanic Oth.	White Black Hispanic Oth.
Sex	Male Female	Male Female

Officer

11. On-the-Job Medical Attention Before Today

	Y	N
First Aid At Scene		
Treated at Hospital		
Admitted to Hospital		

Y	N	12. Type of Approach	13. Part of Shift (√)	
		Routine Approach	Time Shift	am
		Backup Requested	Began	pm
		Priority Call	Other Duty	
		Used Lights and Sirens	Off Duty	

Y	N	14. Initial Contact with Suspect		Y	N
		Dispatched	On-View		
		Priority Code	Initiated by Citizen		
		Hazard Code	Initiated by Officer		

15. General Demeanor (√)

Type of Demeanor	Civil	Antagonistic
Suspects Demeanor Toward Police		
Bystander Demeanor Toward Police		
Police Demeanor Toward Suspect		

Specific Actions by Officers and by Suspect

16. Suspect's General Response to Police	Y	N
Immediate Compliance with Officer's Requests		
Disrespectful or Obscene Gesture		
Threatening Stance		
Verbal Resistance		
Passive Resistance (go limp, etc.)		
Evade, Hide or Flee From Police		
Impede Officer's Movements		
Resist Cuffing		
Resist Placement in Police Vehicle		
Assaultive toward Police		
Used or Tried to Use Deadly Force Against Police		

Suspect			Officers	
Y	N	17.Words Between Officer & Suspect	Y	N
		Conversational Voice		
		Command Voice		
		Shouting/Cursing		
		Verbal Threats		

18. Type of Restraints Used	Y	N
Hand Cuffs		
Leg Cuffs		
Other More Severe Restraints		

Suspect		19. Type of Flight or Pursuit	Officers	
		No Pursuit/Flight		
Y	N	If Flight or Pursuit, What Type	Y	N
		On Foot/Bicycle		
		In Motor Vehicle		
		In Helicopter		

Suspect				Officers	
Y	N	20. Weaponless Tactics		Y	N
		Compliant	Gentle Hold Only		
		Spit			
		Grab Arm			
		Twist Arm			
		Push, Shove			
		Wrestle, Scuffle			
		Hit or Punch			
		Kick			
		Bite, Scratch			
		Pressure Point			
		Carotid Hold/Lat. Vascular Restraint			
		Control Hold (Specify)_____			
		Other (Specify) _____			

21. Weapon Possession, Threatened Use, Display or Actual Use For Questions About Weapons, a Blank means NO

SUSPECT				Weapons		POLICE			
Possession	Verbal Threat	Display /Brandish	Use			Possession	Verbal Threat	Display /Brandish	Use
				Stick/Blunt Object	Baton				
				Knife/Edged Weapon	Flashlight				
				Handgun					
				Chemical Agent					
				Rifle/Shotgun					
				Motor Vehicle					
				Canine					
				Other Item(specify _____)					

If weapon used, describe how weapon used:

Suspect		22. Injuries During This Arrest	Officers	
Y	N		Y	N
		Complaint of Pain/Strained Muscle, etc		
		Temporary Chemical Irritation		
		Bruise, Abrasion, Scratch, Burn		
		Puncture, Cut		
		Gunshot, Knife Wound		
		Internal Injuries		
		Concussion/Loss of Consciousness		
		Broken Bone or Teeth		
		Other Injury (specify _____		

Suspect		23. Medical Attention This Arrest	Officers	
Y	N		Y	N
		Offered and Refused		
		First Aid at Scene		
		Transported to Hospital		
		Other (specify _____)		

Thank you for your time and effort. All information on this form identifiable to an individual will be kept confidential by the Joint Centers for Justice Studies in accordance with Federal law (42 U.S.C. §3789(g)) which states that these research data are "immune from legal process" and shall not be "used for any purpose in any action, suit, or other judicial, legislative, or administrative proceeding."

Joint Centers for Justice Studies, Inc.
Multisite Arrest Tactics Study

INSTRUCTIONS: Complete one form for each adult arrest. This form is to be completed by the arresting officer. This officer will respond as first officer. When additional officers are involved, please record any actions on their part as well.

PLEASE MARK EACH ITEM WITH A CHECK (√) OR A NUMBER AS APPROPRIATE

Booking # _____

1. Division/Job Assignment (√)

	Central	Falcon	G. Hill	S. Creek
Patrol				
Detectives				
☐ Traffic	☐ Special Operations		☐Investigations	

2. Suspect's Custody Status Upon Your Arrival(√)

Not Already in Custody	
Already in Custody: Police, Courts	
Already in Custody: Private Security/Citizen	

3. Officer's Prior Knowledge of Location (√)

No Prior Knowledge		
If Prior Knowledge of Location, What Known	Y	N
Location Believed to be Nonthreatening		
Location Known for Criminal Activity		
Location Believed to be Hazardous to Police		

4. Officer's Prior Knowledge of Suspect (√)

No Prior Knowledge		
If Some Prior Knowledge, What Known?	Y	N
Affiliated Gang Member		
Confirmed Gang-Member		
Believed to Carry Weapons		
Believed to Have a Criminal Record		
Believed to be Compliant		
Believed to be Assaultive		

5. Suspect's Impairment

	Yes	No	Unknown
Drugs			
Alcohol			
Other			

6. Location of Completed Arrest

Y	N	Inside	Outside	Y	N
		Suspect's Residence	Street		
		Other Residence	Parking Lot		
		Club/Bar	Suspect's Yard		
		Restaurant	Other Yard		
		Retail Store	Other Outside		

7. Visibility at Arrest Completion (Circle Number)

Excellent		Good			Moderate			Poor	
10	9	8	7	6	5	4	3	2	1

8. Number of Persons, Including Yourself, Present at Arrest Scene

Number Present	Initial Contact	Completion of Arrest
# of Officers		
# of Suspects		
# of Bystanders		

9. Suspect's Relationships (√ One for Each)

Relationship to Victim		Relationship to Bystanders
	Unknown	
	No Relationship	
	Acquaintance/Friend	
	Family/Intimate	

10. Characteristics of Officers

	1st Officer	2nd Officer
Age	years	years
Height	ft. in.	ft. in.
Weight	lbs.	lbs.
Race	White Black Hispanic Oth.	White Black Hispanic Oth.
Sex	Male Female	Male Female

Officer

11. On-the-Job Medical Attention Before Today

	Y	N
First Aid At Scene		
Treated at Hospital		
Admitted to Hospital		

12. Type of Approach **13. Part of Shift (√)**

Y	N			
		Routine Approach	Time Shift	am
		Backup Requested	Began	pm
		Priority Call	Other Duty	
		Used Lights and Sirens	Off Duty	

14. Initial Contact with Suspect

Y	N			Y	N
		Dispatched	On-View		
		Priority Code	Initiated by Citizen		
		Hazard Code	Initiated by Officer		

15. General Demeanor (√)

Type of Demeanor	Civil	Antagonistic
Suspects Demeanor Toward Police		
Bystander Demeanor Toward Police		
Police Demeanor Toward Suspect		

Specific Actions by Officers and by Suspect

16. Suspect's General Response to Police	Y	N
Immediate Compliance with Officer's Requests		
Disrespectful or Obscene Gesture		
Threatening Stance		
Verbal Resistance		
Passive Resistance (go limp, etc.)		
Evade, Hide or Flee From Police		
Impede Officer's Movements		
Resist Cuffing		
Resist Placement in Police Vehicle		
Assaultive toward Police		
Used or Tried to Use Deadly Force Against Police		

Suspect			Officers	
Y	N	17. Words Between Officer & Suspect	Y	N
		Conversational Voice		
		Command Voice		
		Shouting/Cursing		
		Verbal Threats		

18. Type of Restraints Used	Y	N
Hand Cuffs		
Leg Cuffs		
Other More Severe Restraints		

Suspect		19. Type of Flight or Pursuit	Officers	
		No Pursuit/Flight		
Y	N	If Flight or Pursuit, What Type	Y	N
		On Foot/Bicycle		
		In Motor Vehicle		
		In Helicopter		

Suspect				Officers	
Y	N	20. Weaponless Tactics		Y	N
		Compliant	Gentle Hold Only		
		Spit			
		Grab Arm			
		Twist Arm			
		Push, Shove			
		Wrestle, Scuffle			
		Hit or Punch			
		Kick			
		Bite, Scratch			
		Pressure Point			
		Carotid Hold/Lat. Vascular Restraint			
		Control Hold (Specify)_____			
		Other (Specify) _____			

21. Weapon Possession, Threatened Use, Display or Actual Use
For Questions About Weapons, a Blank means NO

SUSPECT				Weapons		POLICE			
Possession	Verbal Threat	Display /Brandish	Use			Possession	Verbal Threat	Display /Brandish	Use
				Stick/Blunt Object	Baton				
				Knife/Edged Weapon	Flashlight				
				Handgun					
				Chemical Agent					
				Rifle/Shotgun					
				Motor Vehicle					
				Canine					
				Other Item(specify _____)					

If weapon used, describe how weapon used:

Suspect		22. Injuries During This Arrest	Officers	
Y	N		Y	N
		Complaint of Pain/Strained Muscle, etc		
		Temporary Chemical Irritation		
		Bruise, Abrasion, Scratch, Burn		
		Puncture, Cut		
		Gunshot, Knife Wound		
		Internal Injuries		
		Concussion/Loss of Consciousness		
		Broken Bone or Teeth		
		Other Injury (specify _____		

Suspect		23. Medical Attention This Arrest	Officers	
Y	N		Y	N
		Offered and Refused		
		First Aid at Scene		
		Transported to Hospital		
		Other (specify _____)		

Thank you for your time and effort. All information on this form identifiable to an individual will be kept confidential by the Joint Centers for Justice Studies in accordance with Federal law (42 U.S.C. §3789(g)) which states that these research data are "immune from legal process" and shall not be "used for any purpose in any action, suit, or other judicial, legislative, or administrative proceeding."

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Multisite Arrest Tactics Study

INSTRUCTIONS: Complete one form for each adult arrest. This form is to be completed by the arresting officer. This officer will respond as first officer. When additional officers are involved, please record any actions on their part as well.

PLEASE MARK EACH ITEM WITH A CHECK (√) OR A NUMBER AS APPROPRIATE

Offense # _____ **Date** __/__/__ **Time** _____

Suspect's Name _____

Offense Type ☐Violent ☐ Property ☐ Traffic ☐ Vice ☐ Other

Severity ☐ Felony ☐ Misdemeanor

1. Division/Job Assignment (√)

☐Uniform	Non-uniform ☐

2. Suspect's Custody Status Upon Your Arrival(√)

Not Already in Custody	
Already in Custody: Police, Courts	
Already in Custody: Private Security/Citizen	

3. Officer's Prior Knowledge of Location (√)

No Prior Knowledge		
If Prior Knowledge of Location, What Known	Y	N
Location Believed to be Nonthreatening		
Location Known for Criminal Activity		
Location Believed to be Hazardous to Police		

4. Officer's Prior Knowledge of Suspect (√)

No Prior Knowledge		
If Some Prior Knowledge, What Known?	Y	N
Believed to Associate with a Criminal Group		
Believed to Carry Weapons		
Believed to Have a Criminal Record		
Believed to be Compliant		
Believed to be Assaultive		

5. Suspect's Impairment

	Yes	No	Unknown
Drugs			
Alcohol			
Other			

Y	N	6. Location of Completed Arrest		Y	N
		Inside	**Outside**		
		Suspect's Residence	Street		
		Other Residence	Parking Lot		
		Club/Bar	Suspect's Yard		
		Restaurant	Other Yard		
		Retail Store	Other Outside		

7. Visibility at Arrest Completion (Circle Number)

Excellent			Good			Moderate			Poor
10	9	8	7	6	5	4	3	2	1

8. Number of Persons, Including Yourself, Present at Arrest Scene

Number Present	Initial Contact	Completion of Arrest
# of Officers		
# of Suspects		
# of Bystanders		

9. Suspect's Relationships (√ One for Each)

Relationship to Victim		Relationship to Bystanders
	Unknown	
	No Relationship	
	Acquaintance/Friend	
	Family/Intimate	

10. Characteristics of Suspect & Officers

	Suspect	1st Officer	2nd Officer
Age			
Height			
Weight			
Race	W B H O	W B H O	W B H O
Sex	M F	M F	M F

11. Experience As Police Officer

Years as a Police Officer		
Arrests Made in Last 30 Days	#	#
Arrests Made in Last Year	#	#

Y	N	12. Type of Approach	13. Part of Shift (√)	
		Routine Approach	Time Shift	am
		Backup Requested	Began	pm
		Priority Call	Other Duty	
		Used Lights and Sirens	Off Duty	

Y	N	14. Initial Contact with Suspect		Y	N
		Dispatched	On-View		
		Priority Code	Initiated by Citizen		
		Hazard Code	Initiated by Officer		

15. General Demeanor (√)

Type of Demeanor	Civil	Antagonistic
Suspects Demeanor Toward Police		
Bystander Demeanor Toward Police		
Police Demeanor Toward Suspect		

Specific Actions by Officers and by Suspect

16. Suspect's General Response to Police	Y	N
Immediate Compliance with Officer's Requests		
Disrespectful or Obscene Gesture		
Threatening Stance		
Verbal Resistance		
Passive Resistance (go limp, etc.)		
Evade, Hide or Flee From Police		
Impede Officer's Movements		
Resist Cuffing		
Resist Placement in Police Vehicle		
Assaultive toward Police		
Used or Tried to Use Deadly Force Against Police		

Suspect			Officers	
Y	N	17. Words Between Officer & Suspect	Y	N
		Conversational Voice		
		Command Voice		
		Shouting/Cursing		
		Verbal Threats		

18. Type of Restraints Used	Y	N
Hand Cuffs		
Leg Cuffs		
Other More Severe Restraints		

Suspect		19. Type of Flight or Pursuit	Officers	
		No Pursuit/Flight		
Y	N	If Flight or Pursuit, What Type	Y	N
		On Foot/Bicycle		
		In Motor Vehicle		
		In Helicopter		

Suspect				Officers	
Y	N	20. Weaponless Tactics		Y	N
		Compliant	Gentle Hold Only		
		Spit			
		Grab Arm			
		Twist Arm			
		Push, Shove			
		Wrestle, Scuffle			
		Hit or Punch			
		Kick			
		Bite, Scratch			
		Pressure Point			
		Carotid Hold/Lat. Vascular Restraint			
		Control Hold (Specify)_____			
		Other (Specify) _____			

21. Weapon Possession, Threatened Use, Display or Actual Use For Questions About Weapons, a Blank means NO

SUSPECT				Weapons		POLICE			
Possession	Verbal Threat	Display /Brandish	Use			Possession	Verbal Threat	Display /Brandish	Use
				Stick/Blunt Object	Baton				
				Knife/Edged Weapon	Flashlight				
				Handgun					
				Chemical Agent					
				Rifle/Shotgun					
				Motor Vehicle					
				Canine					
				Other Item(specify _____)					

If weapon used, describe how weapon used:

Suspect			Officers	
Y	N	22. Injuries During This Arrest	Y	N
		Complaint of Pain/Strained Muscle, etc		
		Temporary Chemical Irritation		
		Bruise, Abrasion, Scratch, Burn		
		Puncture, Cut		
		Gunshot, Knife Wound		
		Internal Injuries		
		Concussion/Loss of Consciousness		
		Broken Bone or Teeth		
		Other Injury (specify _____		

Suspect			Arresting Officer	
Y	N	23. Medical Attention This Arrest	Y	N
		Offered and Refused		
		First Aid at Scene		
		Transported to Hospital		
		Other (specify _____)		

24. Job Related Medical Attention Before Today	Y	N
First Aid at Scene		
Treated At Hospital		
Admitted to Hospital		

Joint Centers for Justice Studies, Inc.
Multisite Arrest Tactics Study

Police Officer Ranking of Force

The Joint Centers for Justice Studies, in cooperation with the St. Petersburg Police Department, is conducting a study of the use of force by and against the police during arrests. We want your opinion about how much force is involved in the use of different types of actions by suspects and by police officers. This survey will take about 5 minutes to complete.

We have constructed a list of 54 items that suspects might do or say during an arrest. We have included separate items for weapon possession, verbally threatening to use of weapon, displaying or brandish a weapon and actually using a weapon.

We would like you to rank these items from 1 to 100. For example, a suspect who immediately complies with the police would be ranked as a score of 1. A suspect who uses deadly force would be ranked with a score of 100. We want to know how you would rank all the other items compared to these two. Some items--like using a motor vehicle as a weapon--do not happen very often but we would still like your judgment about how much force would be involved if it did happen.

There is a separate list for ranking 44 police actions. In this listing, a single officer making an arrest where there is no pursuit involved, no restraints used, no tactics used, and the police neither verbally threaten, display or actually use a weapon would be ranked as a score of 1. The use of deadly force would be ranked with a score of 100. Again, we would like to know where you would rank each item relative to these two extremes.

Of course, each item could involve a great variety of force in different circumstances. We would like to know **from your own personal experience**, how much force you associate with each item on average. We would like these ratings to be based on your own perceptions, ideally from arrests that you yourself have completed or directly observed and not necessarily on the basis of official departmental policy.

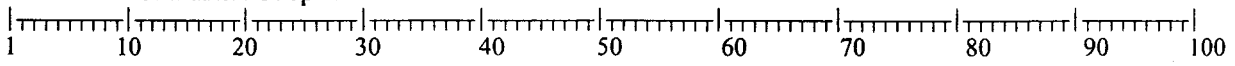
These surveys are anonymous but we would like to know how many years of experience you have had as a police officer. Thank you for your assistance.

POLICE ACTIONS AT ARREST

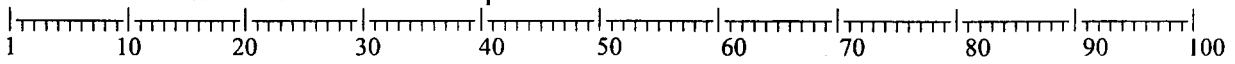
Please Mark With An "X"

1=Single officer making an arrest with no pursuit, restraint, tactics, or weapons
Police use deadly force=100

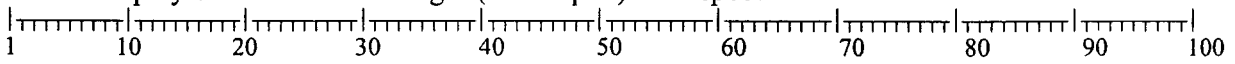
Police Hit or Punch Suspect



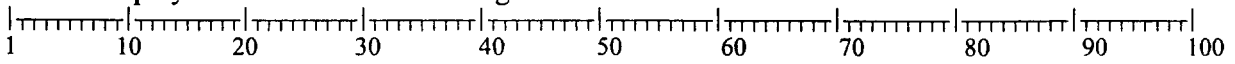
Police Use Pressure Point Hold on Suspect



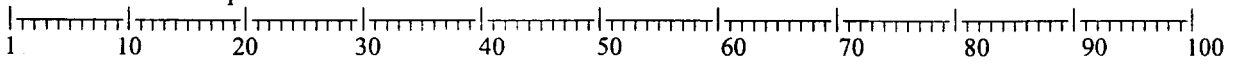
Police Display or Brandish Flashlight (as weapon) at Suspect



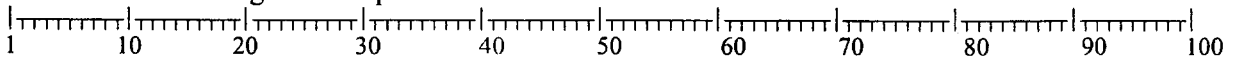
Police Display or Brandish Chemical Agent



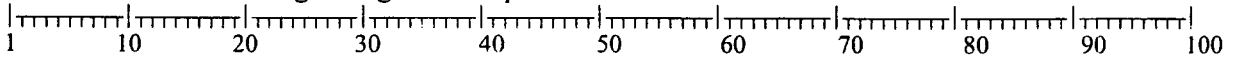
Police Pursue Suspect with Motor Vehicle



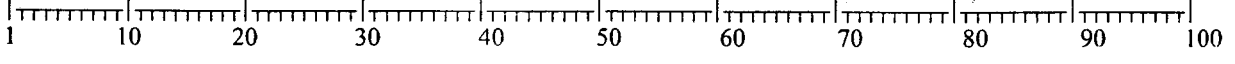
Police Use Baton Against Suspect



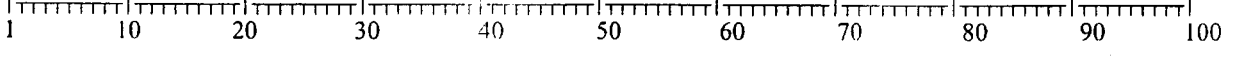
Police Use Chemical Agent Against Suspect



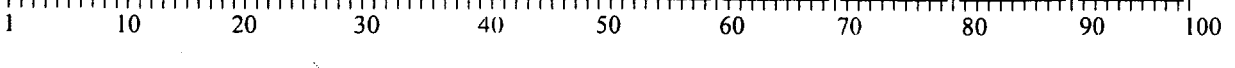
Police Shout or Curse at Suspect



Police Verbally Threaten Suspect with Flashlight (as weapon)

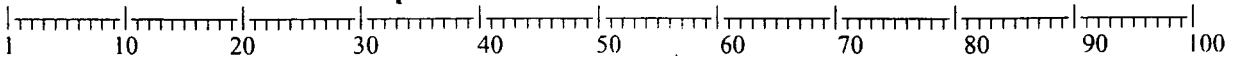


Police Use Leg Cuffs on Suspect

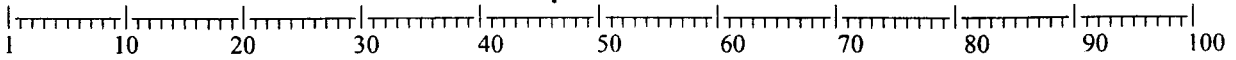


1=Single officer making an arrest with no pursuit, restraint, tactics, or weapons Police use deadly force=100

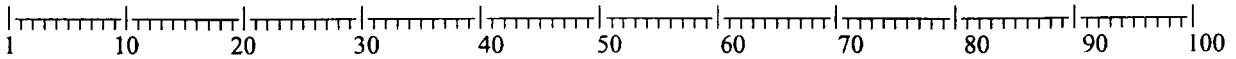
Police Use Hand Cuffs on Suspect



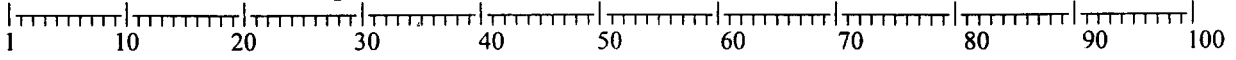
Police Use Conversational Voice with Suspect



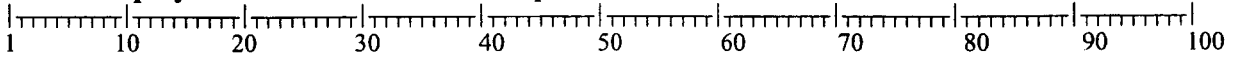
Two or More Officers Present at Time of Arrest



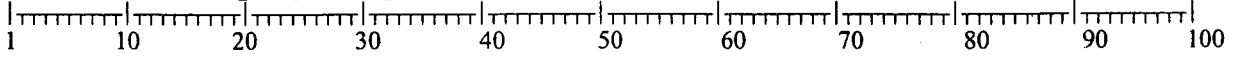
Police Push or Shove Suspect



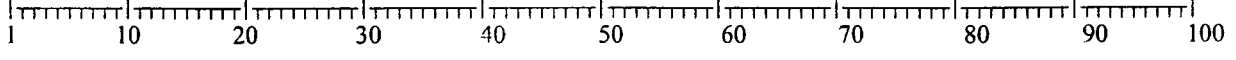
Police Display or Brandish Baton at Suspect



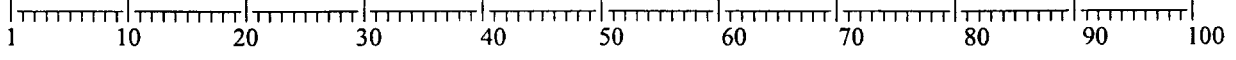
Police Use Flashlight (as weapon) Against Suspect



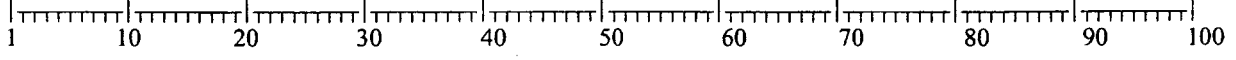
Police Make Verbal Threats Against Suspect



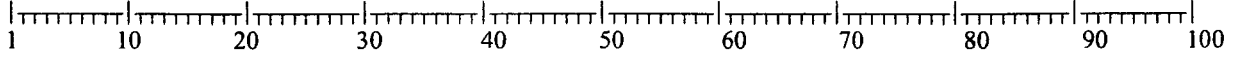
Police Pursue Suspect by Helicopter



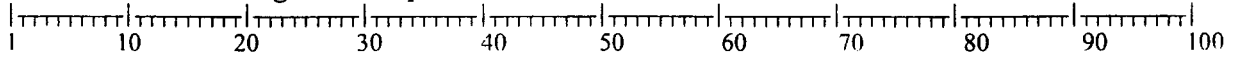
Police Pursues Suspect on Foot or Bicycle



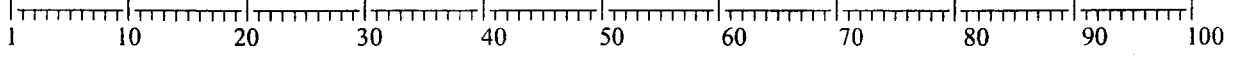
Police Bite or Scratch Suspect



Police Use Canine Against Suspect



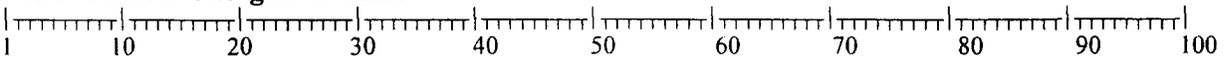
Police Verbally Threaten Suspect with Use of Motor Vehicle (as weapon)



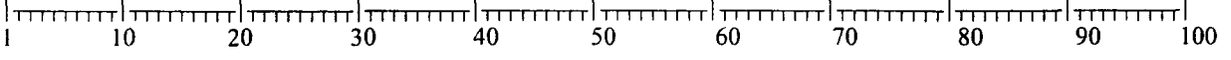
1=Single officer making an arrest with no pursuit, restraint, tactics, or weapons

Police use deadly force=100

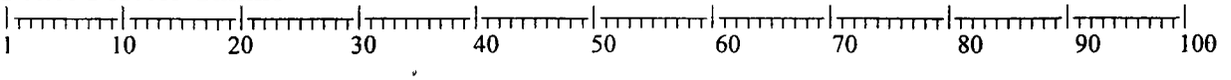
Police Possess Shotgun or Rifle



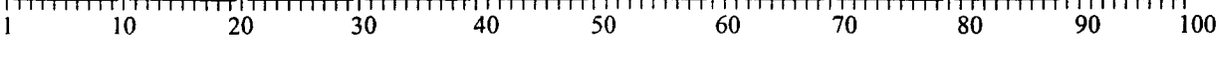
Police Twist Suspect's Arm



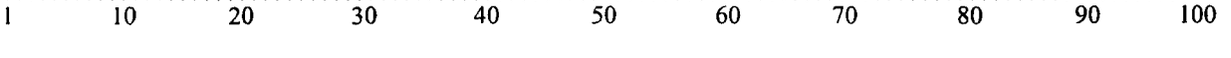
Police Possess Canine



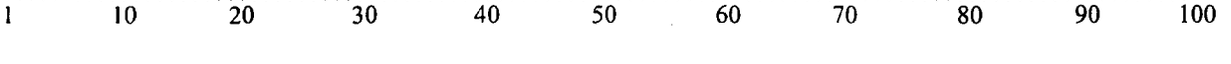
Police Grab Suspect's Arm



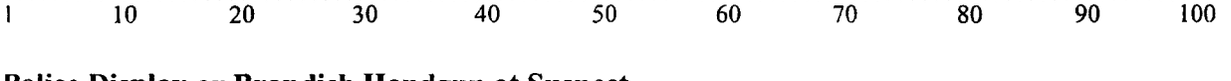
Police Verbally Threaten Suspect with Chemical Agent



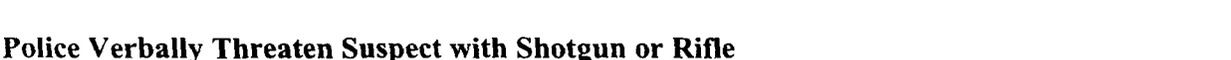
Police Spit at Suspect



Police Verbally Threaten Suspect with Baton

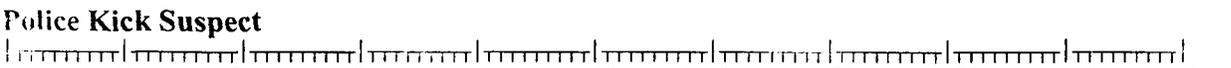


Police Display or Brandish Handgun at Suspect

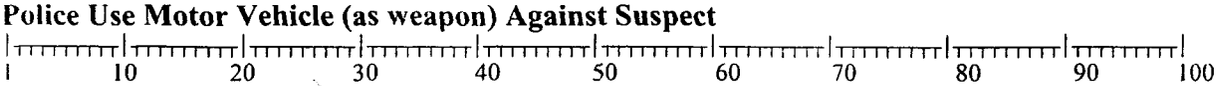


Police Verbally Threaten Suspect with Shotgun or Rifle

Police Use Control Hold on Suspect



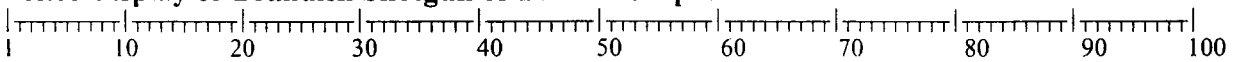
Police Kick Suspect



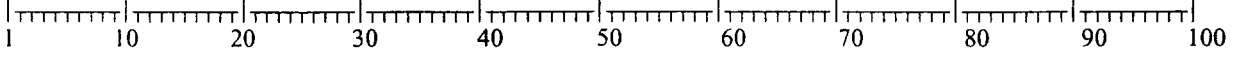
Police Use Motor Vehicle (as weapon) Against Suspect

1=Single officer making an arrest with no pursuit, restraint, tactics, or weapons Police use deadly force=100

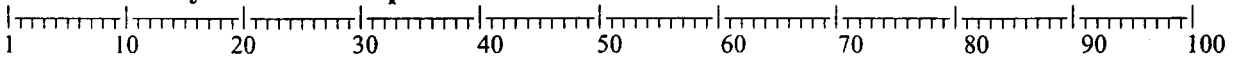
Police Display or Brandish Shotgun or Rifle at Suspect



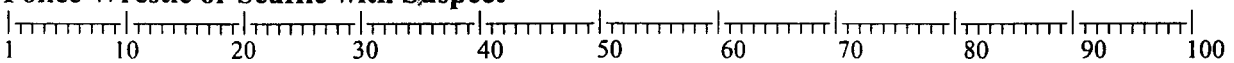
Police Verbally Threaten Suspect with Handgun



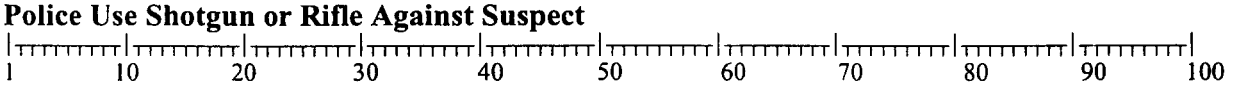
Police Verbally Threaten Suspect with Canine



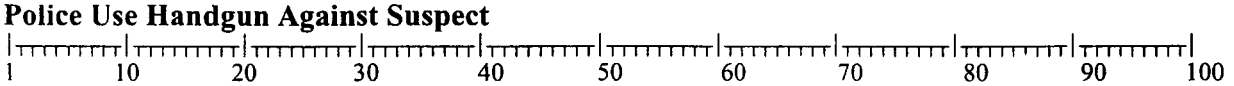
Police Wrestle or Scuffle with Suspect



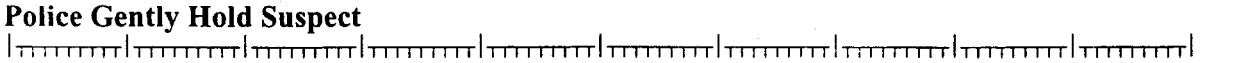
Police Use Shotgun or Rifle Against Suspect



Police Use Handgun Against Suspect

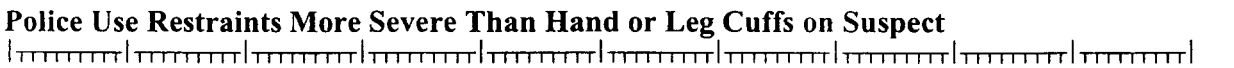


Police Gently Hold Suspect



Police Use Command Voice with Suspect

Police Use Restraints More Severe Than Hand or Leg Cuffs on Suspect



Police Use Carotid Hold or Lateral Vascular Restraint on Suspect

END OF POLICE ACTIONS AT ARREST

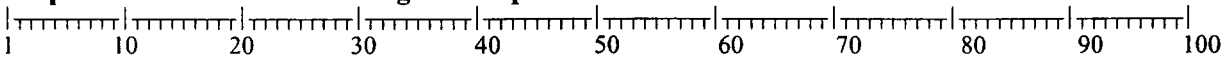
THANK YOU FOR YOUR PARTICIPATION IN THIS STUDY

SUSPECT ACTIONS AT ARREST

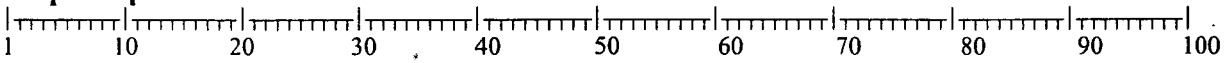
Please Mark With An "X"

1= Suspect immediately complies with the police Suspect uses deadly force=100

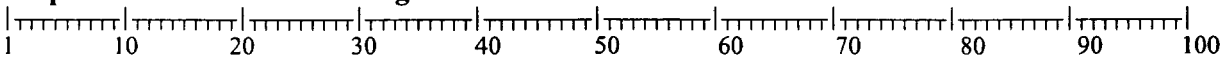
Suspect Possesses Knife or Edged Weapon



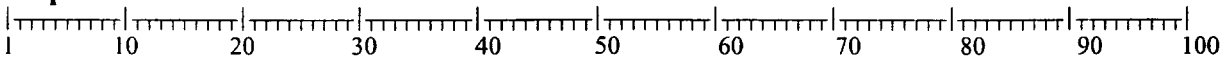
Suspect Spits at Police



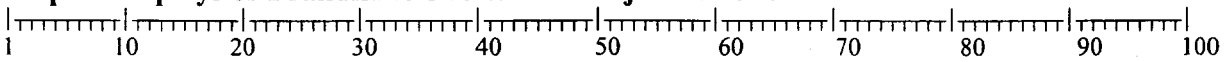
Suspect Possesses Chemical Agent



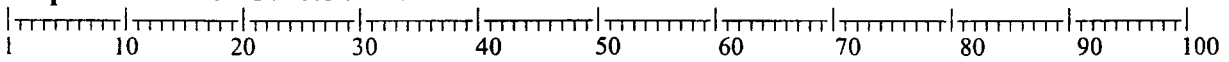
Suspect Possesses Canine



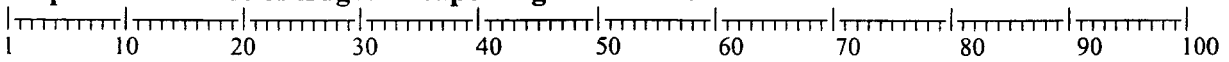
Suspect Displays or Brandishes Stick/Blunt Object at Police



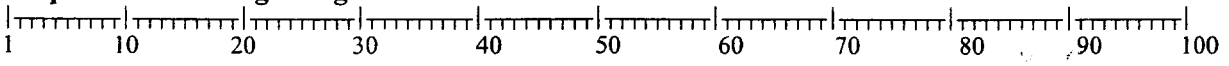
Suspect Shouts or Curses at Police



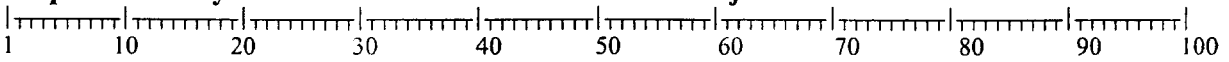
Suspect Uses Knife or Edged Weapon Against Police



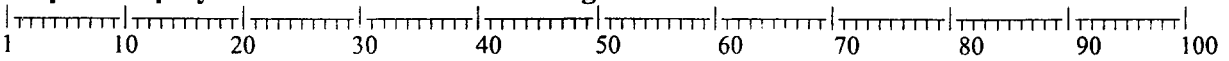
Suspect Uses Handgun Against Police



Suspect Verbally Threatens Police with Stick/Blunt Object

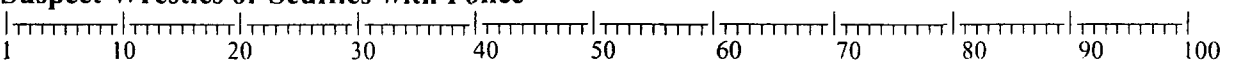


Suspect Displays or Brandishes Chemical Agent at Police

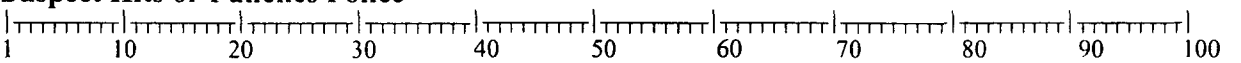


1= Suspect immediately complies with the police Suspect uses deadly force=100

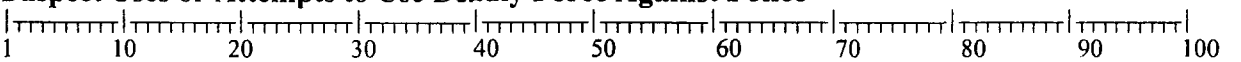
Suspect Wrestles or Scuffles with Police



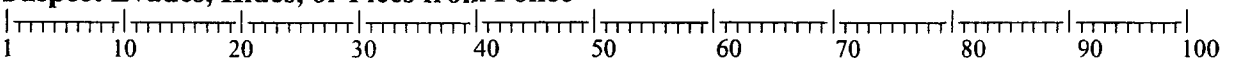
Suspect Hits or Punches Police



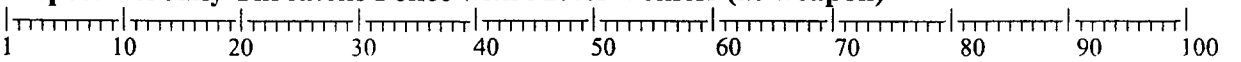
Suspect Uses or Attempts to Use Deadly Force Against Police



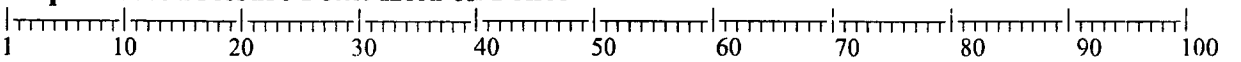
Suspect Evades, Hides, or Flees from Police



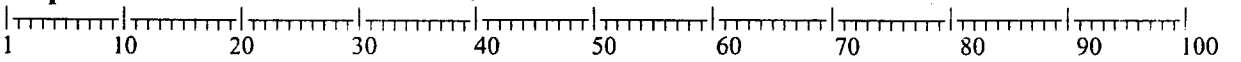
Suspect Verbally Threatens Police with Motor Vehicle (as weapon)



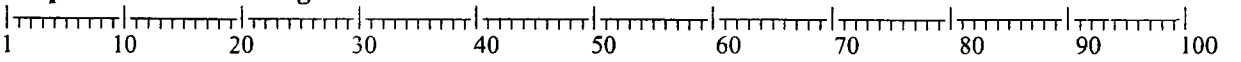
Suspect Uses Pressure Point Hold on Police



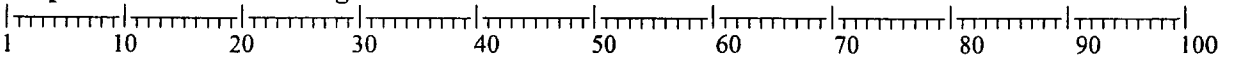
Suspect Uses Command Voice with Police



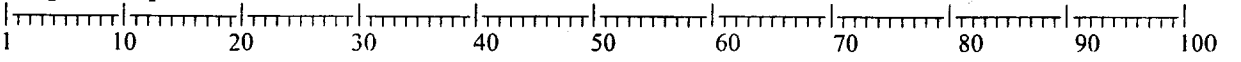
Suspect Resists Cuffing



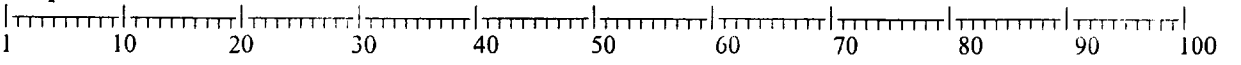
Suspect Exhibits an Antagonistic Demeanor Towards Police



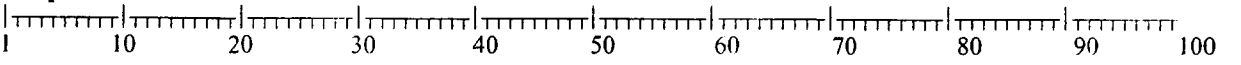
Suspect Impedes Officer's Movements



Suspect Pushes or Shoves Police

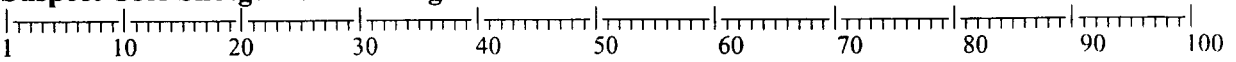


Suspect Uses Conversational Voice with Police

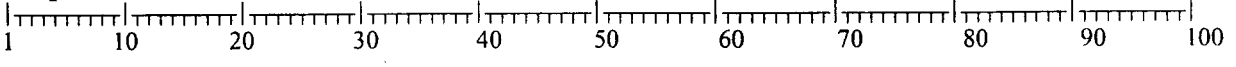


1= Suspect immediately complies with the police **Suspect uses deadly force=100**

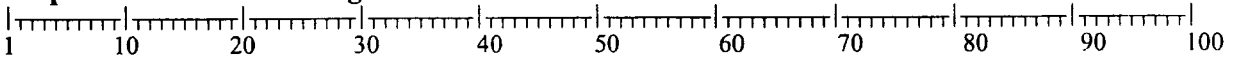
Suspect Uses Shotgun or Rifle Against Police



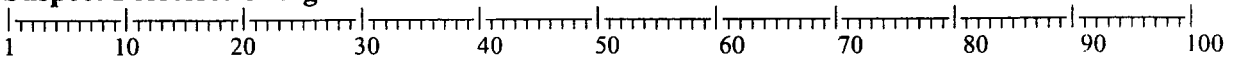
Suspect Uses Carotid Hold or Lateral Vascular Restraints Against Police



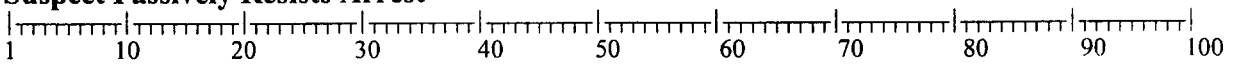
Suspect Takes Threatening Stance



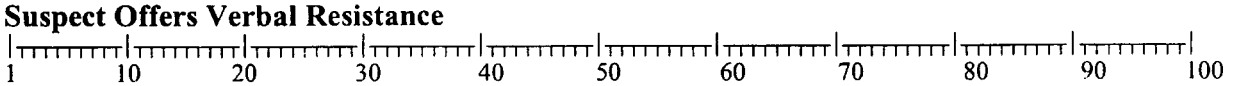
Suspect Possesses Shotgun or Rifle



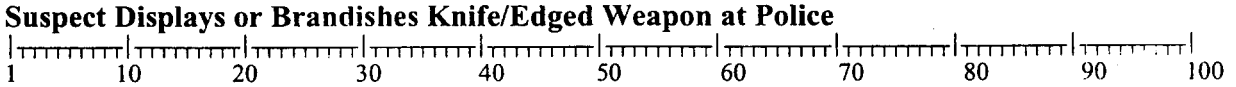
Suspect Passively Resists Arrest



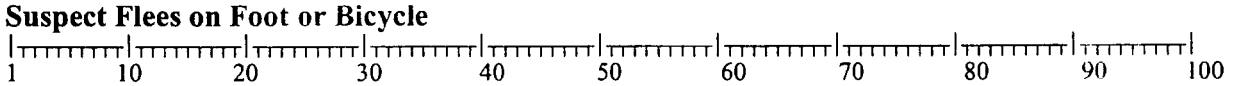
Suspect Offers Verbal Resistance



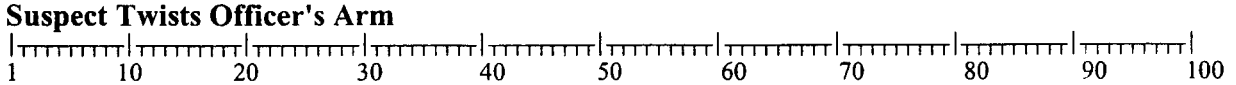
Suspect Displays or Brandishes Knife/Edged Weapon at Police



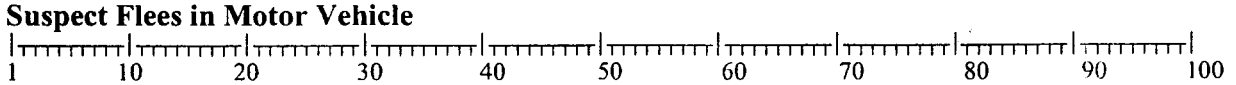
Suspect Flees on Foot or Bicycle



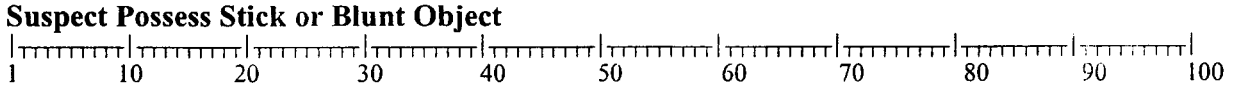
Suspect Twists Officer's Arm



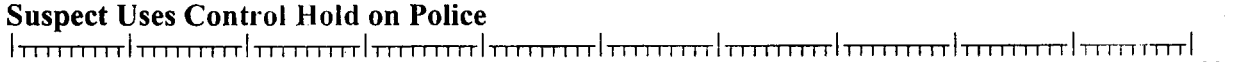
Suspect Flees in Motor Vehicle



Suspect Possess Stick or Blunt Object

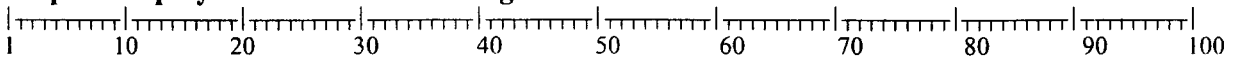


Suspect Uses Control Hold on Police

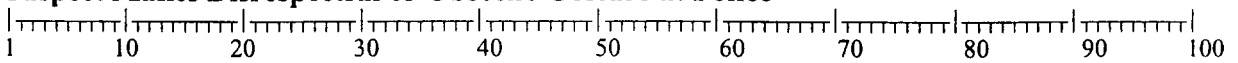


1= Suspect immediately complies with the police **Suspect uses deadly force=100**

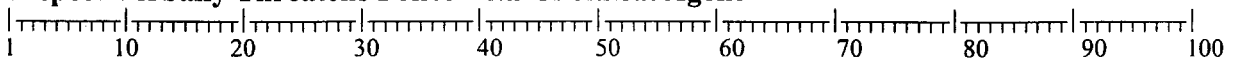
Suspect Displays or Brandishes Handgun at Police



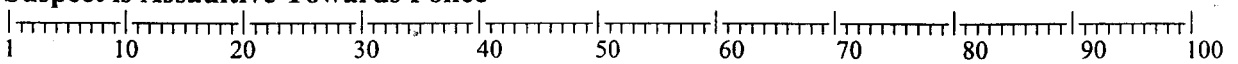
Suspect Makes Disrespectful or Obscene Gesture at Police



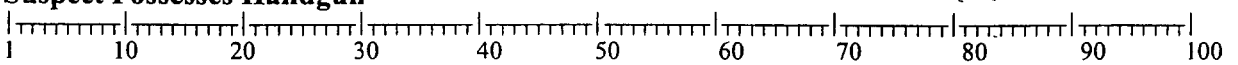
Suspect Verbally Threatens Police with Chemical Agent



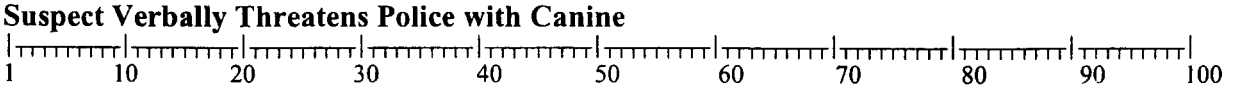
Suspect is Assaultive Towards Police



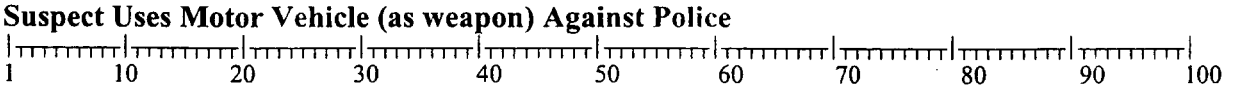
Suspect Possesses Handgun



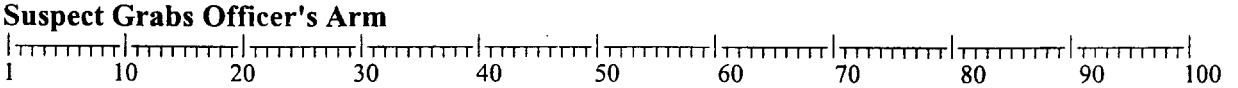
Suspect Verbally Threatens Police with Canine



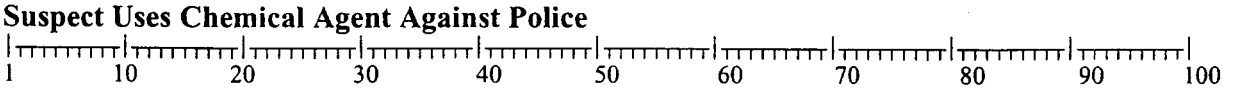
Suspect Uses Motor Vehicle (as weapon) Against Police



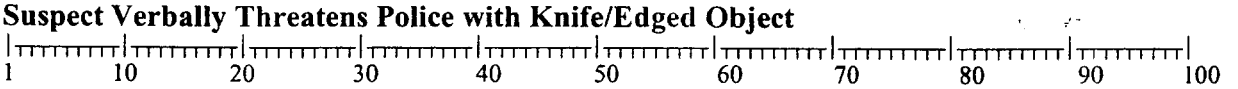
Suspect Grabs Officer's Arm



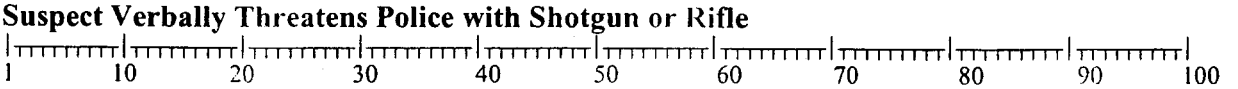
Suspect Uses Chemical Agent Against Police



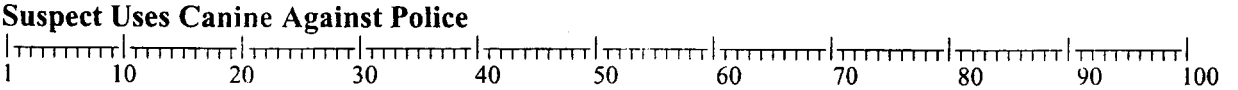
Suspect Verbally Threatens Police with Knife/Edged Object



Suspect Verbally Threatens Police with Shotgun or Rifle

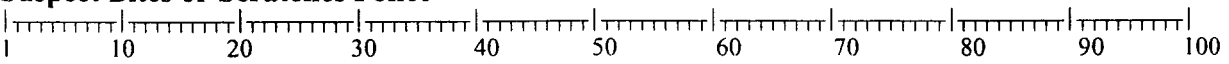


Suspect Uses Canine Against Police

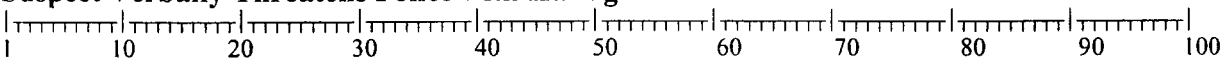


1= Suspect immediately complies with the police **Suspect uses deadly force=100**

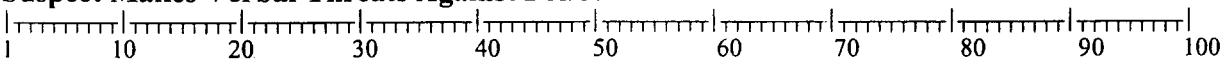
Suspect Bites or Scratches Police



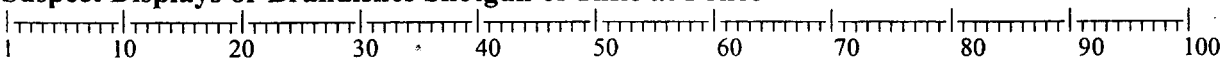
Suspect Verbally Threatens Police with Handgun



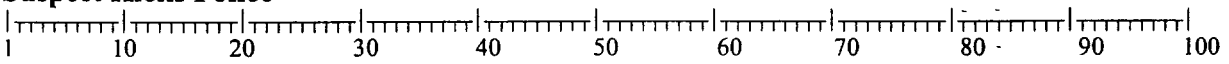
Suspect Makes Verbal Threats Against Police



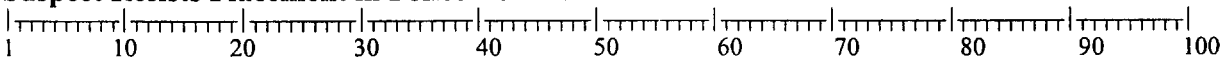
Suspect Displays or Brandishes Shotgun or Rifle at Police



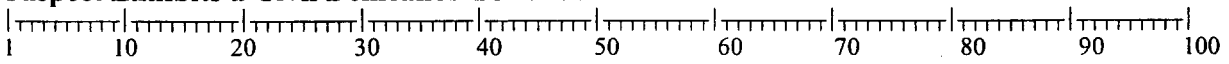
Suspect Kicks Police



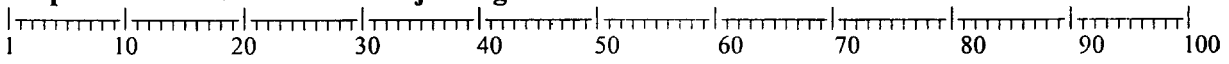
Suspect Resists Placement in Police Vehicle



Suspect Exhibits a Civil Demeanor Towards Police



Suspect Uses Stick or Blunt Object Against Police



END OF SUSPECT ACTIONS AT ARREST

PLEASE COMPLETE NEXT SECTION ON POLICE ACTIONS AT ARREST

Understanding the Use of Force By and Against the Police

Final Report
Grant No. 95-IJ-CX-0066

Appendix B:

Characteristics of

Research Sample

by Site

Table B-1: Characteristics of the Arrest Situation

		Total		Jurisdiction											
				Charlotte		Springs		Dallas		St. Pete		SD Police		SD Sheriff	
		Number	Percent	#	%	#	%	#	%	#	%	#	%	#	%
All Police Surveys	Total	7,512	100.0%	1,314	100.0%	1,290	100.0%	1,456	100.0%	1,547	100.0%	947	100.0%	958	100.0%
Felony Charge	No	1,851	53.6%							769	49.7%	616	65.0%	466	48.6%
	Yes	1,601	46.4%							778	50.3%	331	35.0%	492	51.4%
Violent Offense	No	6,088	81.0%	992	75.5%	1,127	87.4%	1,193	81.9%	1,242	80.3%	751	79.3%	783	81.7%
	Yes	1,424	19.0%	322	24.5%	163	12.6%	263	18.1%	305	19.7%	196	20.7%	175	18.3%
Property Offense	No	6,466	86.1%	1,067	81.2%	1,136	88.1%	1,257	86.3%	1,300	84.0%	863	91.1%	843	88.0%
	Yes	1,046	13.9%	247	18.8%	154	11.9%	199	13.7%	247	16.0%	84	8.9%	115	12.0%
Vice Offense	No	6,505	86.6%	1,101	83.8%	1,189	92.2%	1,274	87.5%	1,331	86.0%	697	73.6%	913	95.3%
	Yes	1,007	13.4%	213	16.2%	101	7.8%	182	12.5%	216	14.0%	250	26.4%	45	4.7%
Traffic Offense	No	6,827	90.9%	1,221	92.9%	1,247	96.7%	1,344	92.3%	1,367	88.4%	856	90.4%	792	82.7%
	Yes	685	9.1%	93	7.1%	43	3.3%	112	7.7%	180	11.6%	91	9.6%	166	17.3%
Custody Status	On Street	6,485	86.3%	1,076	81.9%	1,098	85.1%	1,209	83.0%	1,379	89.1%	831	87.8%	892	93.1%
	In Custody	1,027	13.7%	238	18.1%	192	14.9%	247	17.0%	168	10.9%	116	12.2%	66	6.9%
Officer Knows Location	No	2,558	34.1%	352	26.8%	566	43.9%	471	32.3%	536	34.6%	278	29.4%	355	37.1%
	Yes	4,954	65.9%	962	73.2%	724	56.1%	985	67.7%	1,011	65.4%	669	70.6%	603	62.9%
Location Known for Criminal	No	4,506	60.0%	715	54.4%	976	75.7%	788	54.1%	917	59.3%	488	51.5%	622	64.9%
Activity	Yes	3,006	40.0%	599	45.6%	314	24.3%	668	45.9%	630	40.7%	459	48.5%	336	35.1%
Location Known to be Hazardous	No	6,276	83.5%	1,003	76.3%	1,172	90.9%	1,156	79.4%	1,311	84.7%	792	83.6%	842	87.9%
	Yes	1,236	16.5%	311	23.7%	118	9.1%	300	20.6%	236	15.3%	155	16.4%	116	12.1%
Officer Knows Suspect	No	5,470	72.8%	896	68.2%	981	76.0%	1,049	72.0%	1,127	72.9%	712	75.2%	705	73.6%
	Yes	2,042	27.2%	418	31.8%	309	24.0%	407	28.0%	420	27.1%	235	24.8%	253	26.4%
Police Believe Suspect to be	No	6,853	91.2%	1,140	86.8%	1,203	93.3%	1,274	87.5%	1,446	93.5%	898	94.8%	892	93.1%
Compliant	Yes	659	8.8%	174	13.2%	87	6.7%	182	12.5%	101	6.5%	49	5.2%	66	6.9%
Police Believe Suspect to be	No	7,017	93.4%	1,212	92.2%	1,243	96.4%	1,361	93.5%	1,438	93.0%	889	93.9%	874	91.2%
Assaultive	Yes	495	6.6%	102	7.8%	47	3.6%	95	6.5%	109	7.0%	58	6.1%	84	8.8%
Gang/Criminal Group Member	No	7,092	94.4%	1,309	99.6%	1,211	93.9%	1,426	97.9%	1,419	91.7%	876	92.5%	851	88.8%
	Yes	420	5.6%	5	0.4%	79	6.1%	30	2.1%	128	8.3%	71	7.5%	107	11.2%
Police Believe Suspect Carries	No	7,173	95.5%	1,227	93.4%	1,251	97.0%	1,398	96.0%	1,482	95.8%	909	96.0%	906	94.6%
Weapon	Yes	339	4.5%	87	6.6%	39	3.0%	58	4.0%	65	4.2%	38	4.0%	52	5.4%
Police Believe Suspect Has	No	6,279	83.6%	1,053	80.1%	1,099	85.2%	1,230	84.5%	1,291	83.5%	817	86.3%	789	82.4%
Criminal Record	Yes	1,233	16.4%	261	19.9%	191	14.8%	226	15.5%	256	16.5%	130	13.7%	169	17.6%
Arrest Occurred Inside	Other	5,033	67.0%	812	61.8%	747	57.9%	1,041	71.5%	1,067	69.0%	672	71.0%	694	72.4%
	Yes	2,479	33.0%	502	38.2%	543	42.1%	415	28.5%	480	31.0%	275	29.0%	264	27.6%
Arrest Occurred at a Residence	No	6,011	80.0%	992	75.5%	940	72.9%	1,252	86.0%	1,258	81.3%	772	81.5%	797	83.2%
	Yes	1,501	20.0%	322	24.5%	350	27.1%	204	14.0%	289	18.7%	175	18.5%	161	16.8%

Table B-2: Time of Day and Bystanders at Arrest

		Total		Jurisdiction: Charlotte		Springs		Dallas		St. Pete		SD Police		SD Sheriff	
		#	%	#	%	#	%	#	%	#	%	#	%	#	%
All Police Surveys	Total	7,512	100.0%	1,314	100.0%	1,290	100.0%	1,456	100.0%	1,547	100.0%	947	100.0%	958	100.0%
Day of Week	Sunday	873	12.1%	169	12.9%	137	11.0%	159	13.3%	146	9.4%	110	11.6%	152	15.9%
	Monday	877	12.2%	115	8.8%	162	13.0%	141	11.8%	189	12.2%	144	15.2%	126	13.2%
	Tuesday	957	13.3%	188	14.3%	166	13.3%	150	12.6%	223	14.4%	118	12.5%	112	11.7%
	Wednesday	1,130	15.7%	208	15.8%	199	15.9%	182	15.3%	296	19.1%	134	14.1%	111	11.6%
	Thursday	1,114	15.5%	221	16.8%	182	14.6%	200	16.8%	232	15.0%	163	17.2%	116	12.1%
	Friday	1,171	16.3%	186	14.2%	233	18.7%	183	15.4%	261	16.9%	147	15.5%	161	16.8%
	Saturday	1,084	15.0%	226	17.2%	170	13.6%	177	14.8%	200	12.9%	131	13.8%	180	18.8%
Friday 6 p.m. to	No	4,637	61.7%	741	56.4%	865	67.1%	942	64.7%	969	62.6%	583	61.6%	537	56.1%
Monday 6 a.m.	Yes	2,875	38.3%	573	43.6%	425	32.9%	514	35.3%	578	37.4%	364	38.4%	421	43.9%
Night Time	No	3,043	40.5%	528	40.2%	572	44.3%	462	31.7%	639	41.3%	470	49.6%	372	38.8%
	Yes	4,469	59.5%	786	59.8%	718	55.7%	994	68.3%	908	58.7%	477	50.4%	586	61.2%
Visibility at Place of	Poor	127	1.7%	15	1.1%	18	1.4%	60	4.1%	9	0.6%	12	1.3%	13	1.4%
Arrest	2	152	2.0%	23	1.8%	41	3.2%	24	1.6%	22	1.4%	16	1.7%	26	2.7%
	3	258	3.4%	57	4.3%	45	3.5%	60	4.1%	41	2.7%	30	3.2%	25	2.6%
	Moderate	468	6.2%	69	5.3%	96	7.4%	112	7.7%	79	5.1%	50	5.3%	62	6.5%
	5	562	7.5%	111	8.4%	103	8.0%	109	7.5%	111	7.2%	55	5.8%	73	7.6%
	6	683	9.1%	139	10.6%	89	6.9%	151	10.4%	152	9.8%	62	6.5%	90	9.4%
	Good	959	12.8%	163	12.4%	191	14.8%	186	12.8%	157	10.1%	129	13.6%	133	13.9%
	8	971	12.9%	176	13.4%	177	13.7%	211	14.5%	200	12.9%	114	12.0%	93	9.7%
	9	618	8.2%	100	7.6%	122	9.5%	132	9.1%	122	7.9%	69	7.3%	73	7.6%
	Excellent	2,714	36.1%	461	35.1%	408	31.6%	411	28.2%	654	42.3%	410	43.3%	370	38.6%
Bystanders Present At	No	4,079	54.3%	719	54.7%	710	55.0%	776	53.3%	699	45.2%	601	63.5%	574	59.9%
Any Time	Yes	3,433	45.7%	595	45.3%	580	45.0%	680	46.7%	848	54.8%	346	36.5%	384	40.1%
Number of Bystanders	0	4,006	53.3%	774	58.9%	741	57.4%	816	56.0%	777	50.2%	632	66.7%	266	27.8%
at Initial Contact	1	1,420	18.9%	175	13.3%	193	15.0%	191	13.1%	293	18.9%	107	11.3%	461	48.1%
	2	752	10.0%	141	10.7%	136	10.5%	146	10.0%	178	11.5%	70	7.4%	81	8.5%
	3	409	5.4%	79	6.0%	76	5.9%	89	6.1%	78	5.0%	41	4.3%	46	4.8%
	4	245	3.3%	48	3.7%	31	2.4%	44	3.0%	70	4.5%	22	2.3%	30	3.1%
	5 or more	680	9.1%	97	7.4%	113	8.8%	170	11.7%	151	9.8%	75	7.9%	74	7.7%

Table B-3: Suspect Relationship to Bystanders and Victims

		Jurisdiction													
		Total		Charlotte		Springs		Dallas		St. Pete		SD Police		SD Sheriff	
		#	%	#	%	#	%	#	%	#	%	#	%	#	%
All Police Surveys	Total	7,512	100.0%	1,314	1	1,290	100.0%	1,456	100.0%	1,547	100.0%	947	100.0%	958	100.0%
Increase in the Number of	-5 or Less	111	1.5%	19	1.4%	29	2.2%	27	1.9%	18	1.2%	16	1.7%	2	0.2%
Bystanders	-4	37	0.5%	6	0.5%	11	0.9%	4	0.3%	7	0.5%	8	0.8%	1	0.1%
	-3	64	0.9%	17	1.3%	12	0.9%	15	1.0%	7	0.5%	10	1.1%	3	0.3%
	-2	121	1.6%	26	2.0%	19	1.5%	18	1.2%	36	2.3%	12	1.3%	10	1.0%
	-1	191	2.5%	48	3.7%	30	2.3%	22	1.5%	45	2.9%	31	3.3%	15	1.6%
	0	6,437	85.7%	1,084	82.5%	1,126	87.3%	1,258	86.4%	1,267	81.9%	821	86.7%	881	92.0%
	1	167	2.2%	36	2.7%	25	1.9%	31	2.1%	38	2.5%	19	2.0%	18	1.9%
	2	129	1.7%	25	1.9%	13	1.0%	31	2.1%	36	2.3%	10	1.1%	14	1.5%
	3	67	0.9%	13	1.0%	9	0.7%	13	0.9%	19	1.2%	7	0.7%	6	0.6%
	4	43	0.6%	12	0.9%	1	0.1%	5	0.3%	18	1.2%	3	0.3%	4	0.4%
	5 or more	145	1.9%	28	2.1%	15	1.2%	32	2.2%	56	3.6%	10	1.1%	4	0.4%
Bystander Stranger to	No	5,818	77.4%	988	75.2%	979	75.9%	1,086	74.6%	1,239	80.1%	755	79.7%	771	80.5%
Suspect	Yes	1,694	22.6%	326	24.8%	311	24.1%	370	25.4%	308	19.9%	192	20.3%	187	19.5%
Bystander Friend of	No	6,485	86.3%	1,108	84.3%	1,098	85.1%	1,296	89.0%	1,302	84.2%	839	88.6%	842	87.9%
Suspect	Yes	1,027	13.7%	206	15.7%	192	14.9%	160	11.0%	245	15.8%	108	11.4%	116	12.1%
Bystander Related to	No	6,933	92.3%	1,207	91.9%	1,158	89.8%	1,345	92.4%	1,408	91.0%	909	96.0%	906	94.6%
Suspect	Yes	579	7.7%	107	8.1%	132	10.2%	111	7.6%	139	9.0%	38	4.0%	52	5.4%
Victim Stranger to	No	5,216	69.4%	772	58.8%	900	69.8%	1,081	74.2%	1,139	73.6%	729	77.0%	595	62.1%
Suspect	Yes	2,296	30.6%	542	41.2%	390	30.2%	375	25.8%	408	26.4%	218	23.0%	363	37.9%
Victim Friend of Suspect	No	7,023	93.5%	1,206	91.8%	1,197	92.8%	1,389	95.4%	1,439	93.0%	901	95.1%	891	93.0%
	Yes	489	6.5%	108	8.2%	93	7.2%	67	4.6%	108	7.0%	46	4.9%	67	7.0%
Victim Related to	No	6,501	86.5%	1,182	90.0%	1,048	81.2%	1,222	83.9%	1,348	87.1%	851	89.9%	850	88.7%
Suspect'	Yes	1,011	13.5%	132	10.0%	242	18.8%	234	16.1%	199	12.9%	96	10.1%	108	11.3%

Table B-4: Mot[redacted]ation of the Police

		Jurisdiction													
		Total		Charlotte		Springs		Dallas		St. Pete		SD Police		SD Sheriff	
		#	%	#	%	#	%	#	%	#	%	#	%	#	%
All Police Surveys	Total	7512	100.0%	1314	100.0%	1290	100.0%	1456	100.0%	1547	100.0%	947	100.0%	958	100.0%
Number of Officers at Initial Contact	1.0	2896	38.6%	515	39.2%	549	42.6%	492	33.8%	639	41.3%	304	32.1%	397	41.4%
	2.0	3192	42.5%	526	40.0%	471	36.5%	754	51.8%	645	41.7%	444	46.9%	352	36.7%
	3.0	789	10.5%	129	9.8%	154	11.9%	110	7.6%	175	11.3%	97	10.2%	124	12.9%
	4.0	312	4.2%	62	4.7%	63	4.9%	62	4.3%	32	2.1%	54	5.7%	39	4.1%
	5 or more	323	4.3%	82	6.2%	53	4.1%	38	2.6%	56	3.6%	48	5.1%	46	4.8%
Increase in the Number of Police	-5 or Less	53	.7%	13	1.0%	14	1.1%	1	.1%	4	.3%	12	1.3%	9	.9%
	-4.0	17	.2%	6	.5%	1	.1%	3	.2%			6	.6%	1	.1%
	-3.0	57	.8%	18	1.4%	12	.9%	8	.5%	1	.1%	10	1.1%	8	.8%
	-2.0	99	1.3%	21	1.6%	15	1.2%	12	.8%	16	1.0%	20	2.1%	15	1.6%
	-1.0	331	4.4%	81	6.2%	38	2.9%	48	3.3%	55	3.6%	64	6.8%	45	4.7%
	.0	4400	58.6%	741	56.4%	771	59.8%	806	55.4%	922	59.6%	594	62.7%	566	59.1%
	1.0	1396	18.6%	229	17.4%	257	19.9%	277	19.0%	344	22.2%	100	10.6%	189	19.7%
	2.0	717	9.5%	111	8.4%	115	8.9%	187	12.8%	133	8.6%	85	9.0%	86	9.0%
	3.0	204	2.7%	40	3.0%	34	2.6%	59	4.1%	30	1.9%	26	2.7%	15	1.6%
	4.0	129	1.7%	27	2.1%	13	1.0%	36	2.5%	24	1.6%	18	1.9%	11	1.1%
	5 or more	109	1.5%	27	2.1%	20	1.6%	19	1.3%	18	1.2%	12	1.3%	13	1.4%
Officer in Patrol Division	No	1122	14.9%	296	22.5%	119	9.2%	204	14.0%	126	8.1%	96	10.1%	281	29.3%
	Yes	6390	85.1%	1018	77.5%	1171	90.8%	1252	86.0%	1421	91.9%	851	89.9%	677	70.7%
Officer Duty Status	On Duty	7233	96.3%	1272	96.8%	1237	95.9%	1392	95.6%	1502	97.1%	936	98.8%	894	93.3%
	Off Duty	279	3.7%	42	3.2%	53	4.1%	64	4.4%	45	2.9%	11	1.2%	64	6.7%
Routine Approach Only	No	2961	39.4%	752	57.2%	661	51.2%	543	37.3%	518	33.5%	236	24.9%	251	26.2%
	Yes	4551	60.6%	562	42.8%	629	48.8%	913	62.7%	1029	66.5%	711	75.1%	707	73.8%
Priority Call	No	6263	83.4%	1138	86.6%	750	58.1%	1246	85.6%	1304	84.3%	908	95.9%	917	95.7%
	Yes	1249	16.6%	176	13.4%	540	41.9%	210	14.4%	243	15.7%	39	4.1%	41	4.3%
Used Lights and Sirens	No	6742	89.7%	1123	85.5%	1162	90.1%	1277	87.7%	1446	93.5%	865	91.3%	869	90.7%
	Yes	770	10.3%	191	14.5%	128	9.9%	179	12.3%	101	6.5%	82	8.7%	89	9.3%
Hazard Code Used	No	6089	98.2%			1238	96.0%	1429	98.1%	1525	98.6%	943	99.6%	954	99.6%
	Yes	109	1.8%			52	4.0%	27	1.9%	22	1.4%	4	.4%	4	.4%
Emergency Dispatch	No	1279	97.3%	1279	97.3%										
	Yes	35	2.7%	35	2.7%										
Called for Backup	No	5620	74.8%	938	71.4%	1038	80.5%	1166	80.1%	1016	65.7%	777	82.0%	685	71.5%
	Yes	1892	25.2%	376	28.6%	252	19.5%	290	19.9%	531	34.3%	170	18.0%	273	28.5%
Police Antagonistic Toward Suspect	No	7460	99.3%	1302	99.1%	1286	99.7%	1437	98.7%	1541	99.6%	939	99.2%	955	99.7%
	Yes	52	.7%	12	.9%	4	.3%	19	1.3%	6	.4%	8	.8%	3	.3%
Police Initiated Contact With Arrestee	No	4770	63.5%	796	60.6%	807	62.6%	1013	69.6%	923	59.7%	542	57.2%	689	71.9%
	Yes	2742	36.5%	518	39.4%	483	37.4%	443	30.4%	624	40.3%	405	42.8%	269	28.1%
Citizen Initiated Contact with Police	No	7167	95.4%	1286	97.9%	1234	95.7%	1369	94.0%	1467	94.8%	896	94.6%	915	95.5%
	Yes	345	4.6%	28	2.1%	56	4.3%	87	6.0%	80	5.2%	51	5.4%	43	4.5%

Table B-5: Personal Characteristics of the Police

		Total		Jurisdiction: Charlotte		Springs		Dallas		St. Pete		SD Police		SD Sheriff	
		#	%	#	%	#	%	#	%	#	%	#	%	#	%
All Police Surveys	Total	7512	100.0%	1314	100.0%	1290	100.0%	1456	100.0%	1547	100.0%	947	100.0%	958	100.0%
First Officer White	Not White	2071	27.6%	299	22.8%	271	21.0%	530	36.4%	347	22.4%	349	36.9%	275	28.7%
	White	5441	72.4%	1015	77.2%	1019	79.0%	926	63.6%	1200	77.6%	598	63.1%	683	71.3%
First Officer Black	Not Black	6698	89.2%	1112	84.6%	1223	94.8%	1245	85.5%	1305	84.4%	880	92.9%	933	97.4%
	Black	814	10.8%	202	15.4%	67	5.2%	211	14.5%	242	15.6%	67	7.1%	25	2.6%
First Officer Hispanic	Not Hispanic	6934	92.3%	1303	99.2%	1166	90.4%	1256	86.3%	1534	99.2%	829	87.5%	846	88.3%
	Hispanic	578	7.7%	11	.8%	124	9.6%	200	13.7%	13	.8%	118	12.5%	112	11.7%
First Officer is Male	No	1162	15.5%	190	14.5%	225	17.4%	197	13.5%	233	15.1%	178	18.8%	139	14.5%
	Yes	6350	84.5%	1124	85.5%	1065	82.6%	1259	86.5%	1314	84.9%	769	81.2%	819	85.5%
Height Category: First Officer	Less Than 5 Three	96	1.3%	14	1.1%	16	1.2%	27	1.9%	10	.6%	13	1.4%	16	1.7%
	Five Three+	566	7.5%	73	5.6%	78	6.0%	147	10.1%	121	7.8%	107	11.3%	40	4.2%
	Five Six+	1429	19.0%	225	17.1%	222	17.2%	339	23.3%	292	18.9%	181	19.1%	170	17.7%
	Five Nine+	2632	35.0%	513	39.0%	431	33.4%	422	29.0%	565	36.5%	308	32.5%	393	41.0%
	Six Foot+	2280	30.4%	410	31.2%	429	33.3%	440	30.2%	449	29.0%	262	27.7%	290	30.3%
	Six Three or More	509	6.8%	79	6.0%	114	8.8%	81	5.6%	110	7.1%	76	8.0%	49	5.1%
First Officers Weight	Less than 125 lbs	232	3.1%	50	3.8%	56	4.3%	34	2.3%	25	1.6%	37	3.9%	30	3.1%
	126-150	891	11.9%	109	8.3%	140	10.9%	237	16.3%	210	13.6%	120	12.7%	75	7.8%
	151-175	1688	22.5%	313	23.8%	339	26.3%	325	22.3%	323	20.9%	221	23.3%	167	17.4%
	176-200	2762	36.8%	532	40.5%	454	35.2%	494	33.9%	522	33.7%	346	36.5%	414	43.2%
	201-225	1109	14.8%	182	13.9%	185	14.3%	193	13.3%	250	16.2%	134	14.1%	165	17.2%
	226 - 250	612	8.1%	89	6.8%	85	6.6%	143	9.8%	147	9.5%	63	6.7%	85	8.9%
	More than 250	218	2.9%	39	3.0%	31	2.4%	30	2.1%	70	4.5%	26	2.7%	22	2.3%
First Officer Age Category	20-24	331	4.4%	131	10.0%	41	3.2%	63	4.3%	35	2.3%	48	5.1%	13	1.4%
	25-29	2391	31.8%	678	51.6%	285	22.1%	419	28.8%	512	33.1%	272	28.7%	225	23.5%
	30-34	2495	33.2%	297	22.6%	377	29.2%	529	36.3%	547	35.4%	393	41.5%	352	36.7%
	35-39	1098	14.6%	127	9.7%	269	20.9%	201	13.8%	194	12.5%	133	14.0%	174	18.2%
	40-44	671	8.9%	44	3.3%	186	14.4%	136	9.3%	122	7.9%	63	6.7%	120	12.5%
	45-50	362	4.8%	25	1.9%	101	7.8%	58	4.0%	101	6.5%	18	1.9%	59	6.2%
	50 Plus	164	2.2%	12	.9%	31	2.4%	50	3.4%	36	2.3%	20	2.1%	15	1.6%

Table B-5: Personal Characteristics of the Police (Continued)

		Total		Charlotte		Springs		Dallas		St. Pete		SD Police		SD Sheriff	
		#	%	#	%	#	%	#	%	#	%	#	%	#	%
Prior Medical Attention to Officer	No	6743	89.8%	1262	96.0%	1187	92.0%	1275	87.6%	1353	87.5%	838	88.5%	828	86.4%
	Yes	769	10.2%	52	4.0%	103	8.0%	181	12.4%	194	12.5%	109	11.5%	130	13.6%
Surveys Completed by this Officer	1.0	1780	23.7%	270	20.5%	184	14.3%	602	41.3%	236	15.3%	319	33.7%	169	17.6%
	2.0	1118	14.9%	272	20.7%	112	8.7%	296	20.3%	84	5.4%	206	21.8%	148	15.4%
	3.0	974	13.0%	192	14.6%	141	10.9%	213	14.6%	119	7.7%	192	20.3%	117	12.2%
	4.0	819	10.9%	212	16.1%	176	13.6%	136	9.3%	83	5.4%	112	11.8%	100	10.4%
	5.0	580	7.7%	130	9.9%	120	9.3%	70	4.8%	120	7.8%	55	5.8%	85	8.9%
	6.0	486	6.5%	66	5.0%	120	9.3%	60	4.1%	126	8.1%	30	3.2%	84	8.8%
	7.0	418	5.6%	84	6.4%	84	6.5%	35	2.4%	159	10.3%	7	.7%	49	5.1%
	8.0	263	3.5%	32	2.4%	96	7.4%	16	1.1%	95	6.1%	8	.8%	16	1.7%
	9.0	287	3.8%	36	2.7%	63	4.9%	18	1.2%	98	6.3%	18	1.9%	54	5.6%
	10.0	220	2.9%	20	1.5%	80	6.2%	10	.7%	60	3.9%			50	5.2%
	11.0	173	2.3%			44	3.4%			97	6.3%			32	3.3%
	12.0	72	1.0%			24	1.9%			48	3.1%				
	13.0	39	.5%							39	2.5%				
	14.0	111	1.5%			14	1.1%			83	5.4%			14	1.5%
	15.0	29	.4%							29	1.9%				
	16.0	48	.6%			32	2.5%			16	1.0%				
	17.0	51	.7%							34	2.2%			17	1.8%
	21.0	21	.3%							21	1.4%				
	23.0	23	.3%											23	2.4%

Table B-6 : Nature of the Suspect

		Total		Jurisdiction: Charlotte		Springs		Dallas		St. Pete		SD Police		SD Sheriff	
		#	%	#	%	#	%	#	%	#	%	#	%	#	%
All Police Surveys	Total	7512	100.0%	1314	100.0%	1290	100.0%	1456	100.0%	1547	100.0%	947	100.0%	958	100.0%
Number of Suspects at	.0	54	.7%	10	.8%	13	1.0%	10	.7%	9	.6%	5	.5%	7	.7%
Initial Contact	1.0	5546	73.8%	1003	76.3%	961	74.5%	975	67.0%	1210	78.2%	684	72.2%	713	74.4%
	2.0	1162	15.5%	151	11.5%	193	15.0%	292	20.1%	217	14.0%	154	16.3%	155	16.2%
	3.0	404	5.4%	64	4.9%	66	5.1%	102	7.0%	70	4.5%	61	6.4%	41	4.3%
	4.0	175	2.3%	42	3.2%	32	2.5%	38	2.6%	23	1.5%	20	2.1%	20	2.1%
	5 or more	171	2.3%	44	3.3%	25	1.9%	39	2.7%	18	1.2%	23	2.4%	22	2.3%
Increase in the Number of	-5 or Less	24	.3%	4	.3%	3	.2%	10	.7%	2	.1%	2	.2%	3	.3%
Suspects	-4.0	42	.6%	8	.6%	7	.5%	9	.6%	5	.3%	5	.5%	8	.8%
	-3.0	37	.5%	5	.4%	10	.8%	10	.7%	7	.5%	2	.2%	3	.3%
	-2.0	96	1.3%	21	1.6%	21	1.6%	27	1.9%	5	.3%	18	1.9%	4	.4%
	-1.0	320	4.3%	53	4.0%	66	5.1%	65	4.5%	60	3.9%	54	5.7%	22	2.3%
	.0	6795	90.5%	1190	90.6%	1135	88.0%	1298	89.1%	1429	92.4%	845	89.2%	898	93.7%
	1.0	137	1.8%	20	1.5%	32	2.5%	28	1.9%	33	2.1%	13	1.4%	11	1.1%
	2.0	35	.5%	8	.6%	6	.5%	7	.5%	3	.2%	5	.5%	6	.6%
	3.0	13	.2%	3	.2%	3	.2%	2	.1%	2	.1%	2	.2%	1	.1%
	4.0	2	.0%			1	.1%							1	.1%
	5 or more	11	.1%	2	.2%	6	.5%			1	.1%	1	.1%	1	.1%
Suspect Impaired by	No	5171	68.8%	907	69.0%	929	72.0%	984	67.6%	1096	70.8%	723	76.3%	532	55.5%
Alcohol	Yes	2341	31.2%	407	31.0%	361	28.0%	472	32.4%	451	29.2%	224	23.7%	426	44.5%
Suspect Impaired by Drugs	No	6558	87.3%	1161	88.4%	1198	92.9%	1261	86.6%	1433	92.6%	775	81.8%	730	76.2%
	Yes	954	12.7%	153	11.6%	92	7.1%	195	13.4%	114	7.4%	172	18.2%	228	23.8%
Suspect is Intoxicated	No	4553	60.6%	840	63.9%	867	67.2%	878	60.3%	1030	66.6%	588	62.1%	350	36.5%
	Yes	2959	39.4%	474	36.1%	423	32.8%	578	39.7%	517	33.4%	359	37.9%	608	63.5%
Suspect is Sober	Other	5592	74.4%	844	64.2%	879	68.1%	1096	75.3%	1206	78.0%	744	78.6%	823	85.9%
	Yes	1920	25.6%	470	35.8%	411	31.9%	360	24.7%	341	22.0%	203	21.4%	135	14.1%
Suspect Antagonistic	No	5969	79.5%	1034	78.7%	1090	84.5%	1137	78.1%	1193	77.1%	747	78.9%	768	80.2%
Toward Police	Yes	1543	20.5%	280	21.3%	200	15.5%	319	21.9%	354	22.9%	200	21.1%	190	19.8%
Bystanders Antagonistic	No	7110	94.6%	1224	93.2%	1243	96.4%	1366	93.8%	1466	94.8%	900	95.0%	911	95.1%
Toward Police	Yes	402	5.4%	90	6.8%	47	3.6%	90	6.2%	81	5.2%	47	5.0%	47	4.9%

Table B-7 : Personal Characteristics of the Suspect

		Jurisdiction													
		Total		Charlotte		Springs		Dallas		St. Pete		SD Police		SD Sheriff	
		#	%	#	%	#	%	#	%	#	%	#	%	#	%
All Police Surveys	Total	7512	100.0%	1314	100.0%	1290	100.0%	1456	100.0%	1547	100.0%	947	100.0%	958	100.0%
White Suspect	No	4698	62.5%	890	67.7%	613	47.5%	1145	78.6%	906	58.6%	634	66.9%	510	53.2%
	Yes	2814	37.5%	424	32.3%	677	52.5%	311	21.4%	641	41.4%	313	33.1%	448	46.8%
Black Suspect	No	4587	61.1%	430	32.7%	1004	77.8%	846	58.1%	747	48.3%	673	71.1%	887	92.6%
	Yes	2925	38.9%	884	67.3%	286	22.2%	610	41.9%	800	51.7%	274	28.9%	71	7.4%
Hispanic Suspect	No	6458	86.0%	1314	100.0%	1089	84.4%	1192	81.9%	1528	98.8%	712	75.2%	623	65.0%
	Yes	1054	14.0%			201	15.6%	264	18.1%	19	1.2%	235	24.8%	335	35.0%
Suspect is Male	No	1819	24.2%	247	18.8%	297	23.0%	520	35.7%	321	20.7%	188	19.9%	246	25.7%
	Yes	5693	75.8%	1067	81.2%	993	77.0%	936	64.3%	1226	79.3%	759	80.1%	712	74.3%
Height Category: Suspect	< Five Three	323	5.2%			66	5.1%	77	5.3%	69	4.5%	55	5.8%	56	5.8%
	Five Three+	808	13.0%			132	10.2%	216	14.8%	152	9.8%	161	17.0%	147	15.3%
	Five Six+	2085	33.6%			438	34.0%	647	44.4%	445	28.8%	275	29.0%	280	29.2%
	Five Nine+	1645	26.5%			325	25.2%	281	19.3%	515	33.3%	260	27.5%	264	27.6%
	Six Foot+	1114	18.0%			273	21.2%	205	14.1%	301	19.5%	164	17.3%	171	17.8%
	> Six Two	223	3.6%			56	4.3%	30	2.1%	65	4.2%	32	3.4%	40	4.2%
Suspect's Weight	< 125 lbs	545	8.8%			123	9.5%	103	7.1%	133	8.6%	102	10.8%	84	8.8%
	126-150	1946	31.4%			354	27.4%	598	41.1%	426	27.5%	288	30.4%	280	29.2%
	151-175	1834	29.6%			472	36.6%	331	22.7%	447	28.9%	282	29.8%	302	31.5%
	176-200	1238	20.0%			226	17.5%	263	18.1%	364	23.5%	196	20.7%	189	19.7%
	201-225	351	5.7%			58	4.5%	91	6.3%	98	6.3%	43	4.5%	61	6.4%
	226 - 250	185	3.0%			39	3.0%	38	2.6%	53	3.4%	28	3.0%	27	2.8%
	> 250	99	1.6%			18	1.4%	32	2.2%	26	1.7%	8	.8%	15	1.6%
Suspect's Age Category	16-19	750	10.0%	193	14.7%	145	11.2%	170	11.7%	131	8.5%	42	4.4%	69	7.2%
	20-24	1474	19.6%	255	19.4%	348	27.0%	240	16.5%	303	19.6%	148	15.6%	180	18.8%
	25-29	1322	17.6%	212	16.1%	231	17.9%	283	19.4%	222	14.4%	190	20.1%	184	19.2%
	30-34	1404	18.7%	223	17.0%	227	17.6%	304	20.9%	283	18.3%	177	18.7%	190	19.8%
	35-39	1142	15.2%	183	13.9%	156	12.1%	220	15.1%	246	15.9%	185	19.5%	152	15.9%
	40-44	712	9.5%	114	8.7%	104	8.1%	124	8.5%	172	11.1%	120	12.7%	78	8.1%
	45-50	404	5.4%	72	5.5%	47	3.6%	69	4.7%	103	6.7%	44	4.6%	69	7.2%
	50 Plus	304	4.0%	62	4.7%	32	2.5%	46	3.2%	87	5.6%	41	4.3%	36	3.8%

Table B-8: Combinations of Police and Suspect Characteristics

		Total		Jurisdiction									
				Charlotte		Springs		Dallas		St. Pete		SD Police		SD Sheriff	
		#	%	#	%	#	%	#	%	#	%	#	%	#	%
All Police Surveys	Total	7512	100.0%	1314	100.0%	1290	100.0%	1456	100.0%	1547	100.0%	947	100.0%	958	100.0%
White Police / White	No	5268	70.1%	973	74.0%	743	57.6%	1245	85.5%	988	63.9%	712	75.2%	607	63.4%
Suspect	Yes	2244	29.9%	341	26.0%	547	42.4%	211	14.5%	559	36.1%	235	24.8%	351	36.6%
White Police / Black	No	5408	72.0%	645	49.1%	1075	83.3%	1067	73.3%	953	61.6%	763	80.6%	905	94.5%
Suspect	Yes	2104	28.0%	669	50.9%	215	16.7%	389	26.7%	594	38.4%	184	19.4%	53	5.5%
White Police / Hispanic	No	6795	90.5%	1314	100.0%	1127	87.4%	1299	89.2%	1532	99.0%	799	84.4%	724	75.6%
Suspect	Yes	717	9.5%			163	12.6%	157	10.8%	15	1.0%	148	15.6%	234	24.4%
Other Police / Other	No	5065	67.4%	1010	76.9%	925	71.7%	757	52.0%	1168	75.5%	567	59.9%	638	66.6%
Suspect	Yes	2447	32.6%	304	23.1%	365	28.3%	699	48.0%	379	24.5%	380	40.1%	320	33.4%
Suspect Heavier Than	90+ Lighter	556	9.0%			51	4.0%	305	20.9%	100	6.5%	52	5.5%	48	5.0%
Police	51 to 90 lbs Lighter	1076	17.4%			213	16.5%	214	14.7%	296	19.1%	157	16.6%	196	20.5%
	11 to 50 lbs Lighter	1930	31.1%			406	31.5%	391	26.9%	490	31.7%	321	33.9%	322	33.6%
	Within 20 lbs	1540	24.8%			389	30.2%	279	19.2%	394	25.5%	247	26.1%	231	24.1%
	11 to 50 lbs Heavier	809	13.1%			174	13.5%	174	12.0%	204	13.2%	138	14.6%	119	12.4%
	51 to 90 Heavier	211	3.4%			42	3.3%	69	4.7%	49	3.2%	20	2.1%	31	3.2%
	90+ lbs Heavier	76	1.2%			15	1.2%	24	1.6%	14	.9%	12	1.3%	11	1.1%
Suspect Taller than	Foot or More Shorter	130	2.1%			26	2.0%	28	1.9%	35	2.3%	21	2.2%	20	2.1%
Police	9-11" Shorter	161	2.6%			33	2.6%	39	2.7%	35	2.3%	31	3.3%	23	2.4%
	6-8" Shorter	832	13.4%			159	12.3%	260	17.9%	163	10.5%	120	12.7%	130	13.6%
	3-5" Shorter	1614	26.0%			234	18.1%	439	30.2%	455	29.4%	291	30.7%	195	20.4%
	Within 4 Inches	2476	39.9%			613	47.5%	482	33.1%	606	39.2%	332	35.1%	443	46.2%
	3-5" Taller	644	10.4%			144	11.2%	146	10.0%	172	11.1%	89	9.4%	93	9.7%
	6-8" Taller	244	3.9%			60	4.7%	48	3.3%	56	3.6%	51	5.4%	29	3.0%
	9-11" Taller	72	1.2%			18	1.4%	12	.8%	14	.9%	10	1.1%	18	1.9%
	Foot or More Taller	25	.4%			3	.2%	2	.1%	11	.7%	2	.2%	7	.7%
Suspect Older Than	Younger 20+ Years	332	4.4%	36	2.7%	97	7.5%	80	5.5%	57	3.7%	16	1.7%	46	4.8%
Officer	Younger 11 to 20	1223	16.3%	138	10.5%	323	25.0%	256	17.6%	241	15.6%	95	10.0%	170	17.7%
	Younger 1 to 10 Years	2463	32.8%	436	33.2%	425	32.9%	487	33.4%	493	31.9%	319	33.7%	303	31.6%
	Same Age	292	3.9%	59	4.5%	42	3.3%	60	4.1%	56	3.6%	40	4.2%	35	3.7%
	Older 1 to 10 Years	2086	27.8%	379	28.8%	299	23.2%	380	26.1%	440	28.4%	328	34.6%	260	27.1%
	Older 11 to 20 Years	858	11.4%	188	14.3%	82	6.4%	154	10.6%	201	13.0%	118	12.5%	115	12.0%
	Older 20+ Years	258	3.4%	78	5.9%	22	1.7%	39	2.7%	59	3.8%	31	3.3%	29	3.0%

Understanding the Use of Force By and Against the Police

Final Report
Grant No. 95-IJ-CX-0066

Appendix C:

Site Specific Reports

Charlottte - Mecklenburg Police Department

Understanding the Use of Force By and Against the Police in Charlotte-Mecklenburg

Summary of Results

A systematic survey of 1314 adult custody arrests made by the Charlotte - Mecklenburg Police Department during three weeks in January and February 1997 evaluated the extent to which 51 characteristics of offense situations, police officers, and arrested suspects are associated with increases and decreases in four measures of force. This study, conducted by Dr. Joel Garner and his colleagues at the Joint Centers for Justice Studies, found that:

1. Charlotte-Mecklenburg officers use some physical force in 17.0 % of all adult custody arrests.

2. Suspects use some physical force in 13.4% of all adult custody arrests.

3. Using four different measures of force, the amount of force used by police or by suspects is at the low end of severity on each measure of force.

4. Weapons are used by officers in 1.8% of all arrests. The weapon most frequently used by the officers is pepper spray (11 out of 1314 arrests).

5. Of 51 factors that might potentially influence the amount of force used by officers and by suspects, this study found that:

> The single, most consistent predictor of the use of force by officers is the use of force by suspects.

14 factors predicted **three or four** measures of force, 17 factors predicted only **one or two** measures of force, and 20 factors **did not predict any** of our measures of force.

14 Consistent Predictors of Force in the Charlotte - Mecklenburg Police Department

Characteristics Associated with **Increased** Use of Force	
Suspect Use of Force	Number of Police at Initial Contact
Suspect Intoxicated by Drugs	Increase in Number of Police at Scene
Suspect Demeanor Toward Police	Previous Injury to Officer
Suspect is Male	Officer is Male
Violent Offense	Police Call for Back-up
Presence of Bystanders	Priority Call to the Police
White Police / Black Suspect	
Characteristics Associated with **Decreased** Use of Force	
Arrest Occurred in a Residence	Good Visibility at Scene of Arrest

17 Inconsistent Predictors of Force in the Charlotte - Mecklenburg Police Department

Factors Associated with **Increased** Use of Force	
Vice Offense	Police Antagonistic Toward Suspects
Location Known for Criminal Behavior	Suspect Intoxicated by Alcohol
Suspect Member of a Gang	Police Initiated Contact with Suspect
Suspect Known to Carry Weapons	Officer Off Duty
Arrest Occurred at Night	Height of Officer
Factors Associated with Decreased Use of Force	
Traffic Offense	Suspect and Victims Friends
Officer Knows Suspect	Suspect and Victim Family
Offense Occurred Inside (Not a Residence)	Officer Makes Repeat Arrests in Study
	Suspect Already in Custody

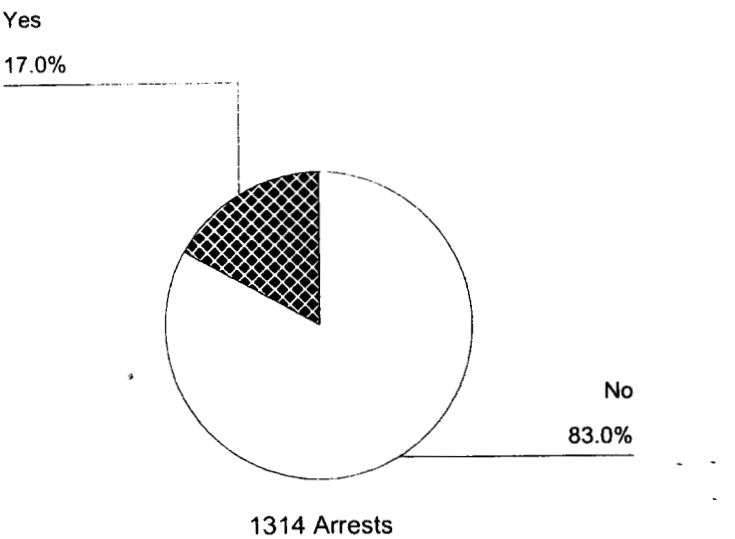
20 Consistent Non-Predictors of Force in the Charlotte - Mecklenburg Police Department

Property Offense	Suspect and Bystanders Friends
Officer Knows Location	Officer in Patrol Division
Location Known to be Hazardous	Number of Suspects
Suspect Known to be Compliant	Increase in the Number of Suspects
Suspect Known to be Assaultive	Suspect Antagonistic Toward Bystanders
Suspect Known to have a Criminal Record	Citizen Initiated Contact with Police
Arrest Occurred on a Weekend	Officer Use Lights and Sirens
Number of Bystanders at Initial Contact	Emergency Dispatch
Increase in the Number of Bystanders	Weight of Officer
Age of Suspect	Age of Officer

6. Interviews with a subsample of 251 suspects indicate officers used some physical force with 19.1% of interviewed arrestees.

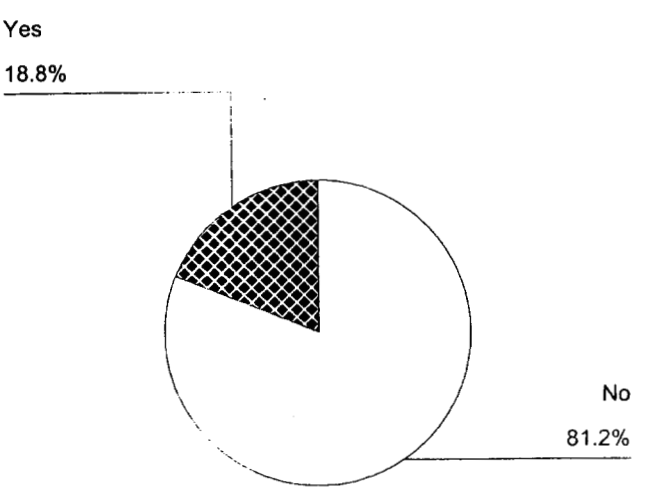
7. Comparable studies in six other jurisdictions report that other law enforcement agencies used levels of force similar to those reported in Charlotte - Mecklenburg.

Police Use Physical Force in Charlotte



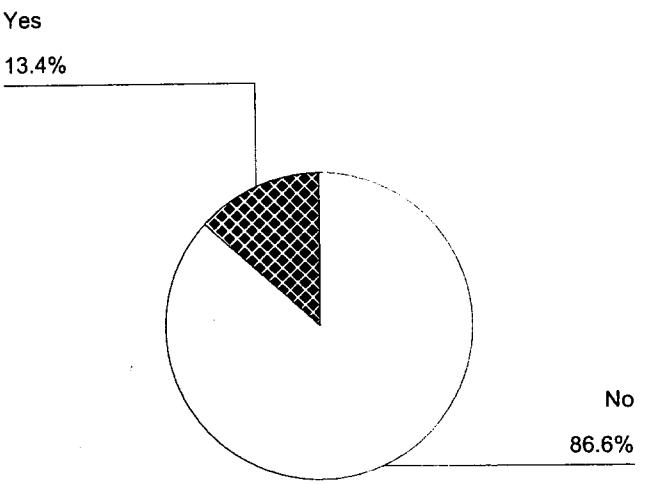
1314 Arrests

Police Use or Threaten Physical Force in Charlotte



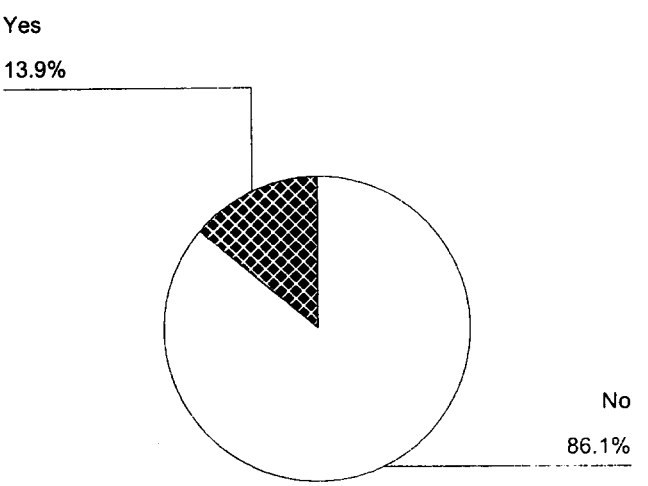
1314 Arrests

Suspects Use Physical Force in Charlotte



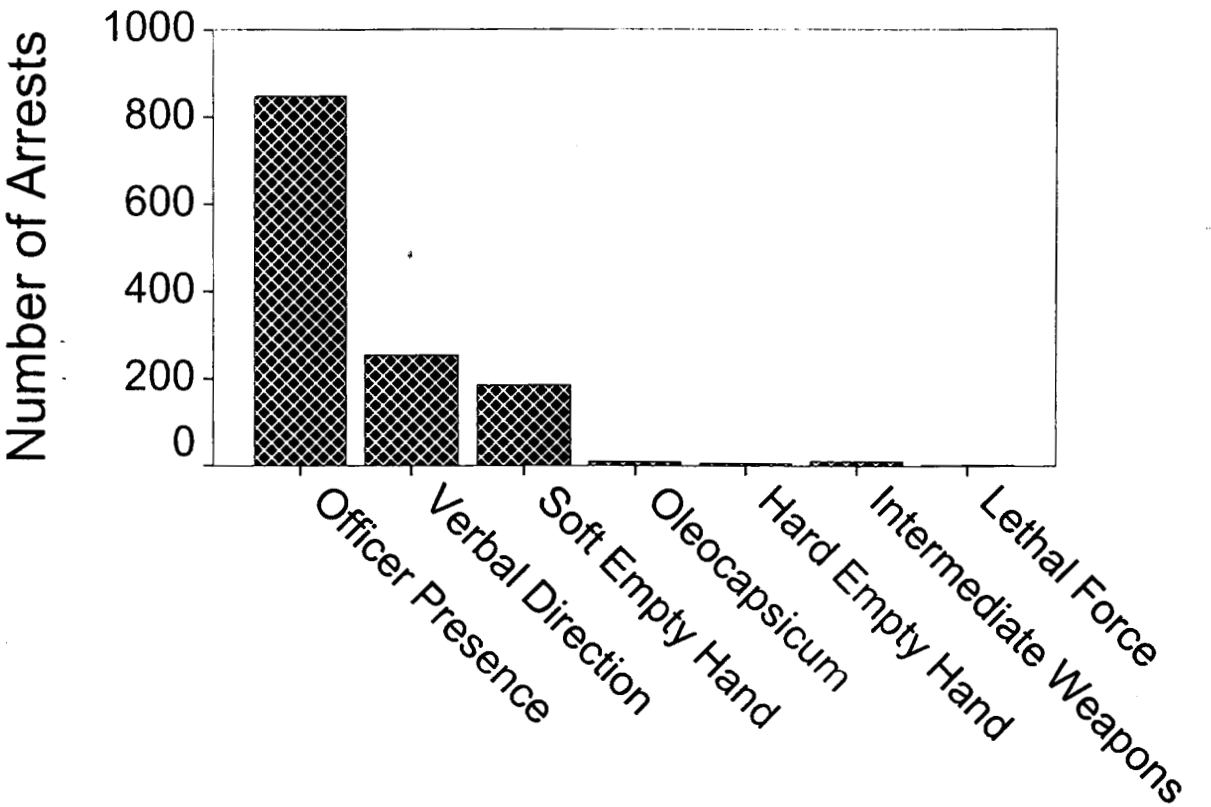
1314 Arrests

Suspect Threatens or Uses Physical Force in Charlotte



1314 Arrests

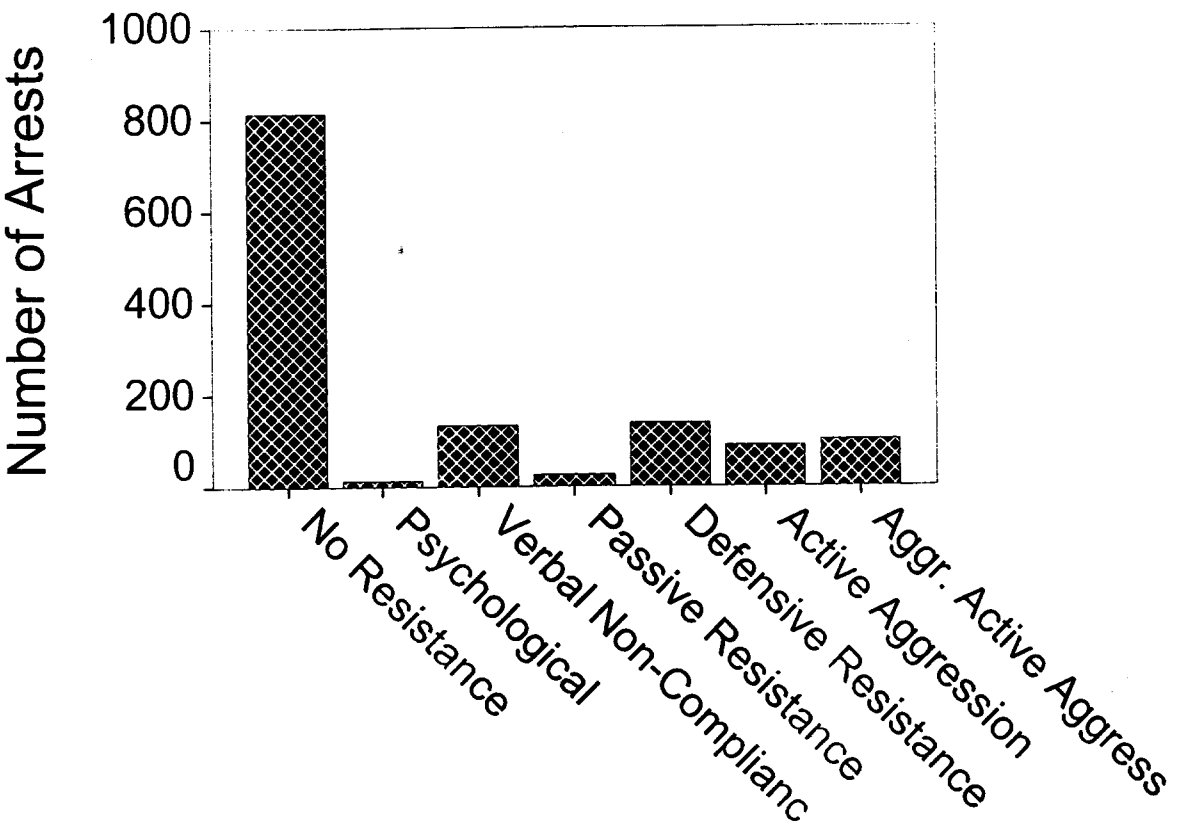
Police Continuum of Force in Charlotte



Charlotte Continuum of Force

1314 Arrests

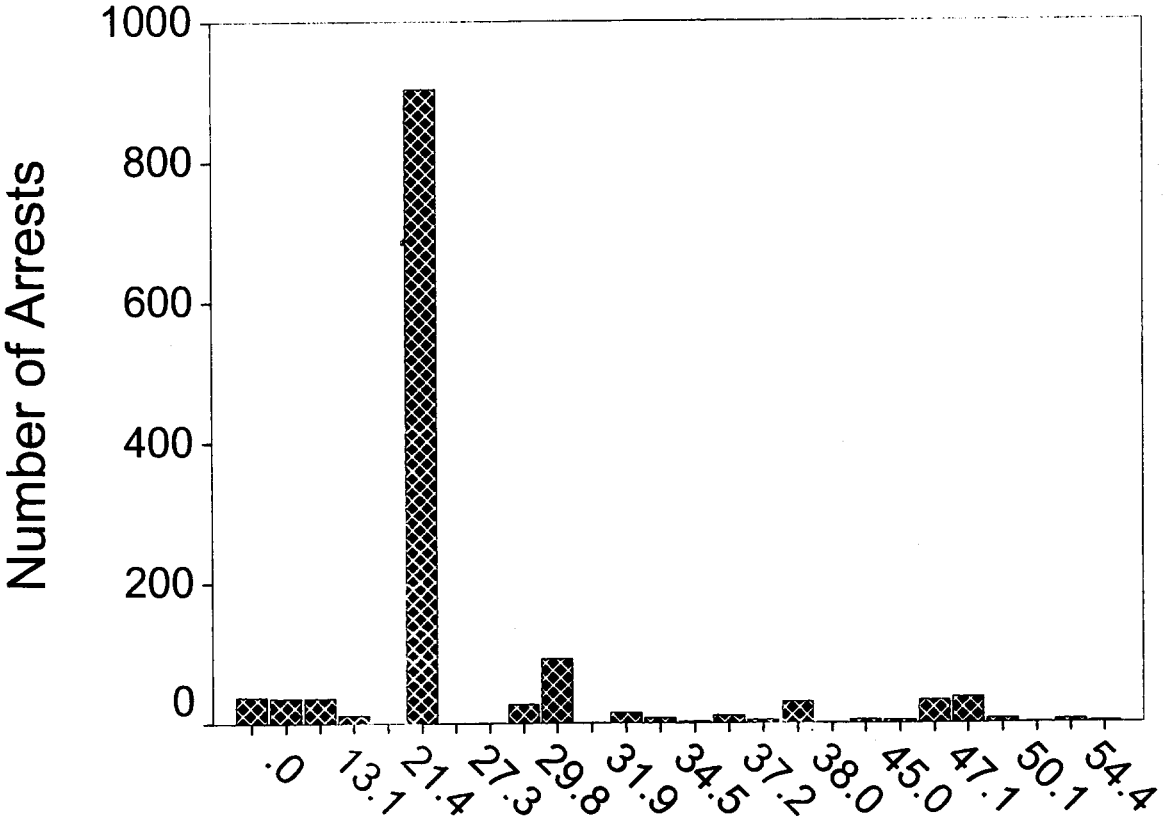
Suspect Resistance in Charlotte



Charlotte Resistance by Suspect

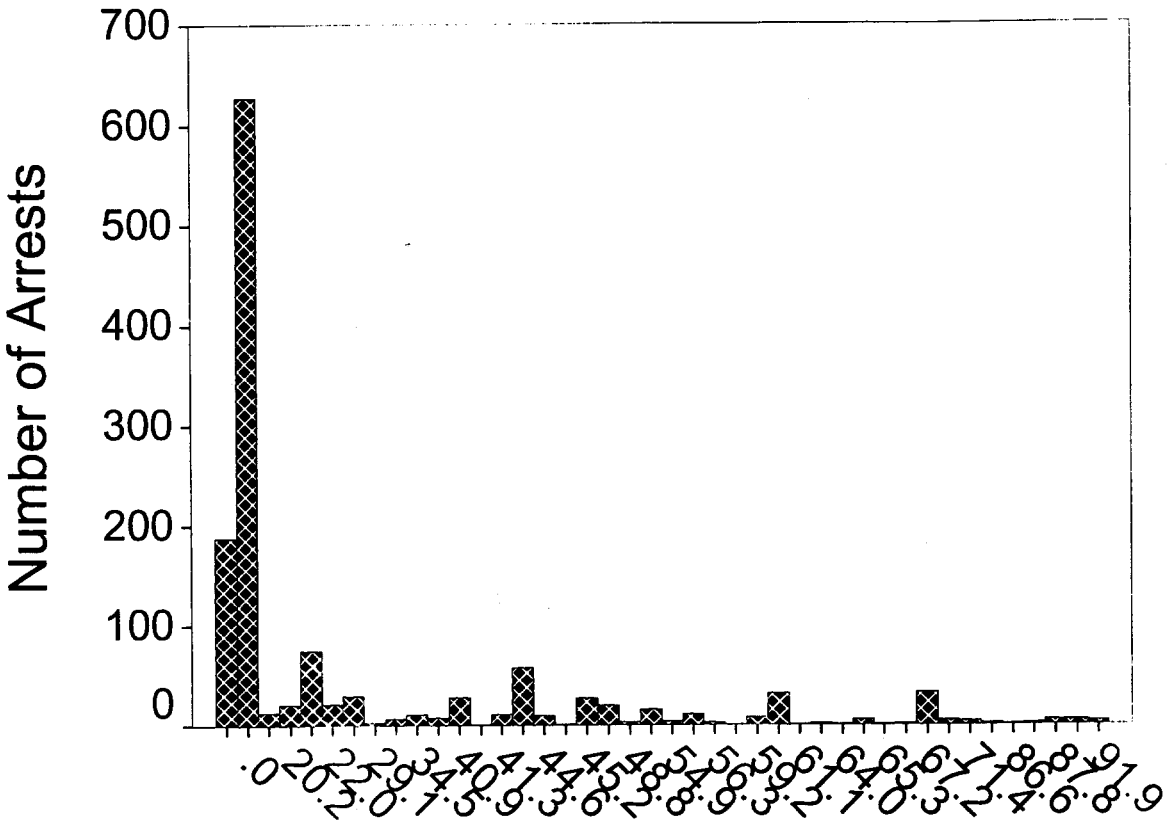
1314 Arrests

Police Maximum Force in Charlotte



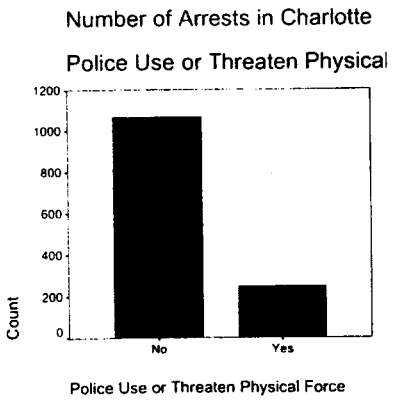
1314 Arrests

Suspect Maximum Force in Charlotte

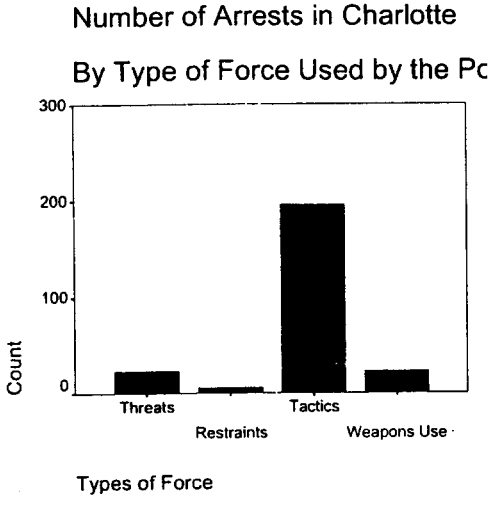


1314 Arrests

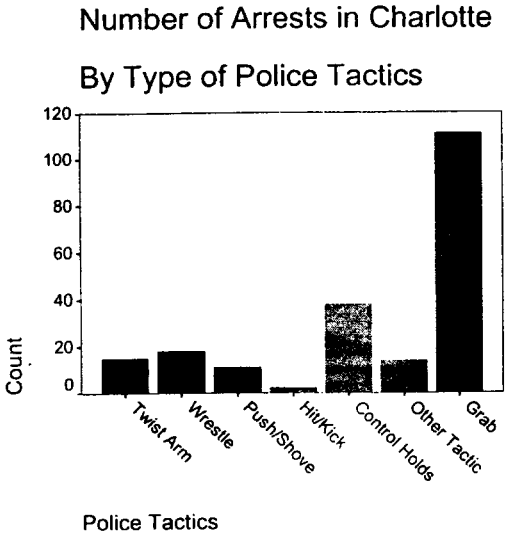
In Charlotte, Most Arrests Do Not Involve Force



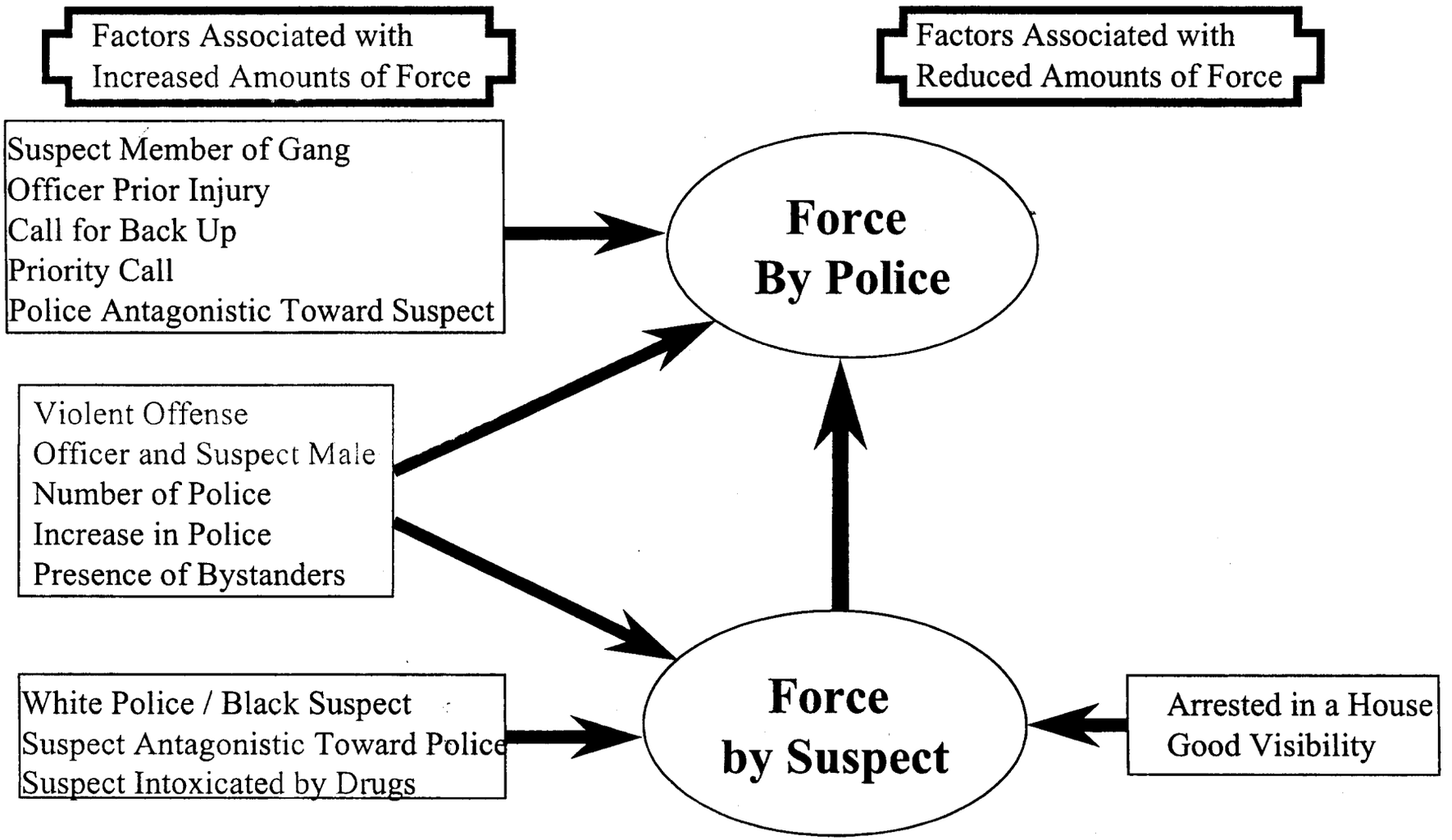
In Charlotte, Most Arrests with Force Involve Weaponless Tactics Only



In Charlotte, Most Tactics Involve Grabbing Only



Charlotte - Mecklenburg Police Department
Use of Force



3/8/98

Understanding the Use of Force By and Against the Police

Final Report
Grant No. 95-IJ-CX-0066

Appendix C:

Site Specific Reports

Colorado Springs Police Department

Understanding the Use of Force By and Against the Police in Colorado Springs

Summary of Results

A systematic survey of 1290 adult custody arrests made by the Colorado Springs Police Department during seven weeks in July, August, and September 1996 evaluated the extent to which 54 characteristics of offense situations, police officers, and arrested suspects are associated with increases and decreases in four measures of force. This study, conducted by Dr. Joel Garner and his colleagues at the Joint Centers for Justice Studies, found that:

1. Colorado Springs officers use some physical force in 12.7% of all adult custody arrests.

2. Suspects use some physical force in 9.5% of all adult custody arrests.

3. Using four different measures of force, the amount of force used by police or by suspects is at the low end of severity on each measure of force.

4. Weapons are used by officers in 1.4% of all arrests. The weapon most frequently used by the officers is pepper spray (7 out of 1290 arrests).

5. Of 54 factors that might potentially influence the amount of force used by officers and by suspects, this study found that:

> The single, most consistent predictor of the use of force by officers is the use of force by suspects.
>
> 10 factors predicted **three or four** measures of force,
> 13 factors predicted only **one or two** measures of force, and
> 31 factors **did not predict any** of our measures of force.

10 Consistent Predictors of Force in the Colorado Springs Police Department

Characteristics Associated with Increased Use of Force	
Suspect Use of Force	Number of Police at Initial Contact
Suspect Intoxication	Increase in the Number of Police
Suspect Demeanor Toward Police	Officers Use Lights and Sirens
Violent Offense	Presence of Bystanders
Location Known to be Hazardous	
Characteristics Associated with Decreased Use of Force	
Arrest Occurred in a Residence	

13 Inconsistent Predictors of Force in the Colorado Springs Police Department

Factors Associated with Increased Use of Force	
Property Offense	Officer in Patrol Division
Vice Offense	Officers Call for Backup
Suspect Known to be Assaultive	Officer is Male
Suspect Known to Carry Weapons	Suspect is Male
Priority Call	White Police / Black Suspect
	White Police / Hispanic Suspect
Factors Associated with Decreased Use of Force	
Good Visibility at Place of Arrest	Number of Bystanders at Initial Contact

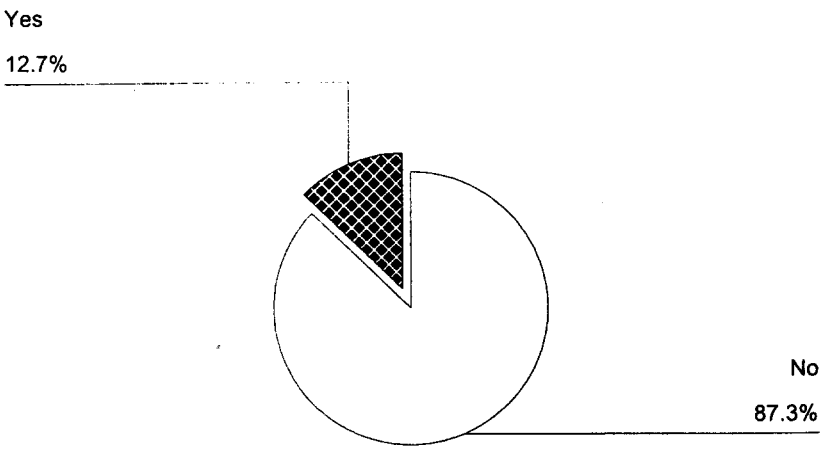
31 Consistent Non-Predictors of Force in the Colorado Springs Police Department

Traffic Offense	Officer On Duty/Off Duty Status
Suspect Already in Custody	Officer Prior Medical Attention
Officer Knows Location	Number of Repeat Arrests in Study
Location Known for Criminal Behavior	Police Demeanor Toward Suspect
Officers Knows Suspect	Number of Suspects
Suspect Known to be Compliant	Increase in Number of Suspects
Suspect Member of a Gang	Suspect Demeanor Toward Bystanders
Suspect Known to have Criminal Record	Citizen Initiated Contact with Police
Arrest Occurred Inside	Police Initiated Contact with Suspect
Arrest Occurred On a Weekend	Suspect Height
Arrest Occurred at Night	Officer Height
Increase in Number of Bystanders	Suspect Weight
Suspect and Bystanders Friends	Officer Weight
Suspect and Bystanders Family	Suspect Age
Suspect and Victim Friends	Officer Age
Suspect and Victim Family	

6. Interviews with a subsample of 239 suspects indicate officers used some physical force with 19.2% of interviewed arrestees.

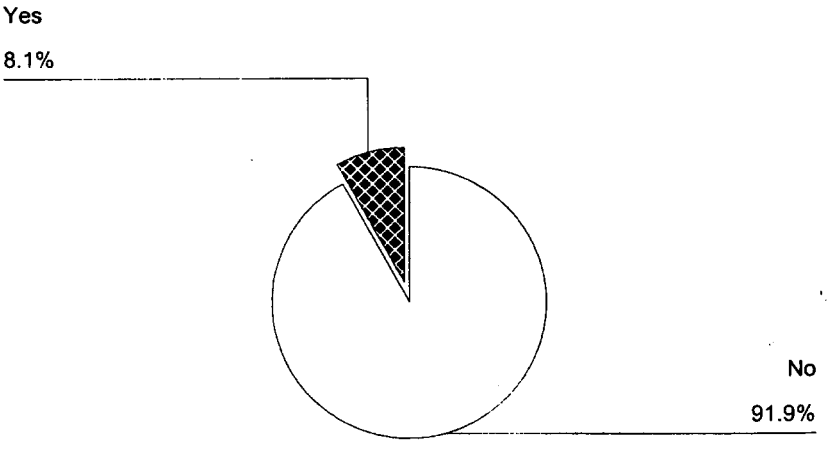
7. Comparable studies in six other jurisdictions report that other law enforcement agencies used levels of force similar to those reported in Colorado Springs.

Police Use of Physical Force in Colorado Springs



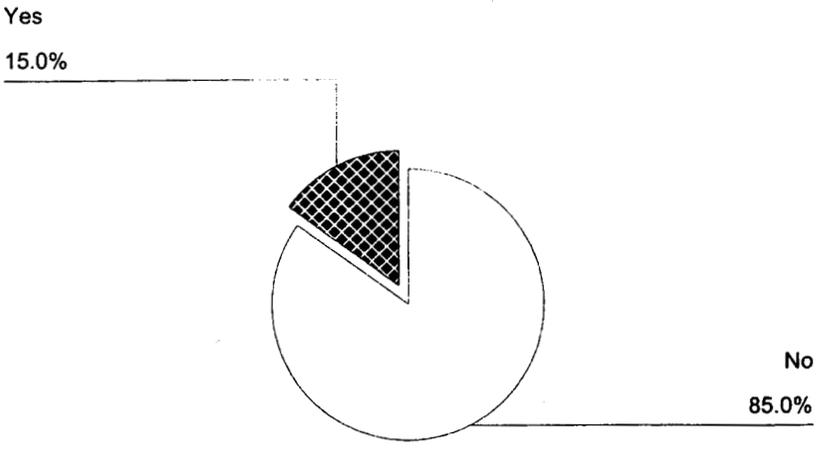
1290 Arrests

Suspect Use of Physical Force in Colorado Springs



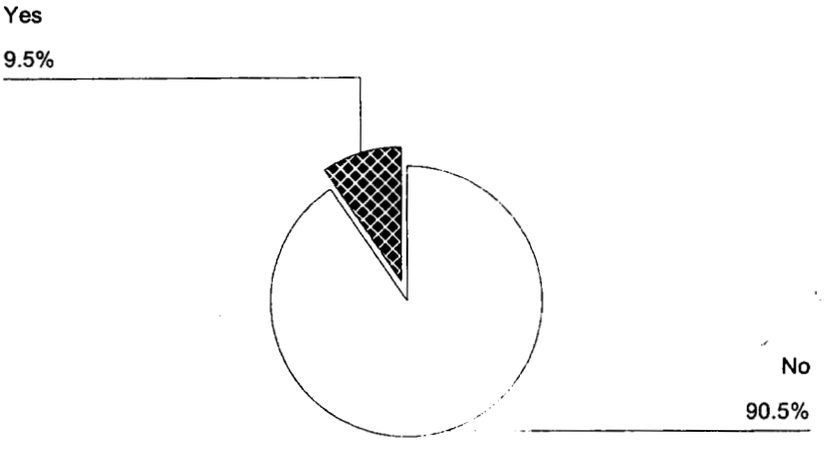
1290 Arrests

Police Use or Threat of Physical Force in Colorado Springs



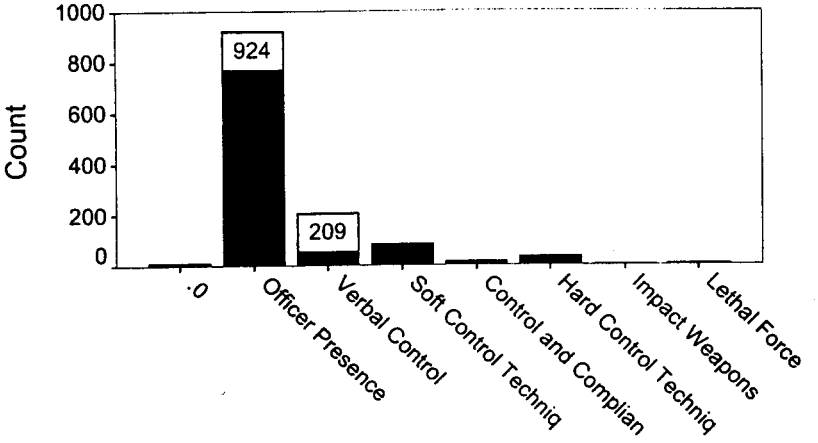
1290 Arrests

Suspect Use or Threat of Physical Force in Colorado Springs



1290 Arrests

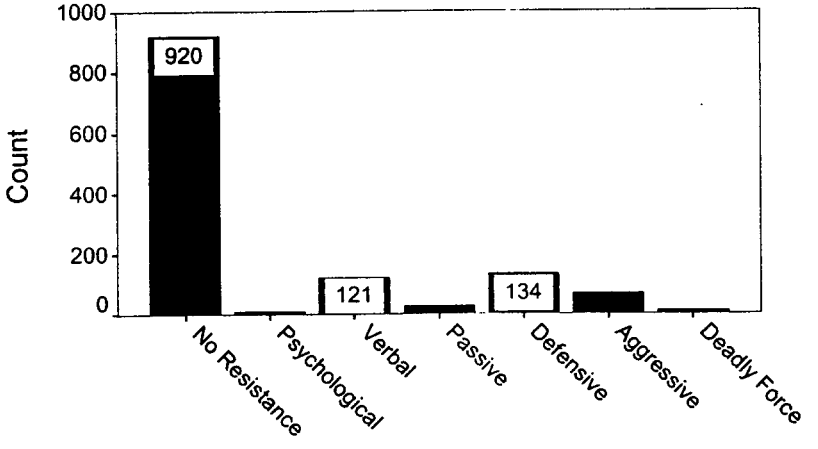
Police Continuum of Force in Colorado Springs



Springs Continuum of Force

1290 Arrests

Suspect Resistance in Colorado Springs

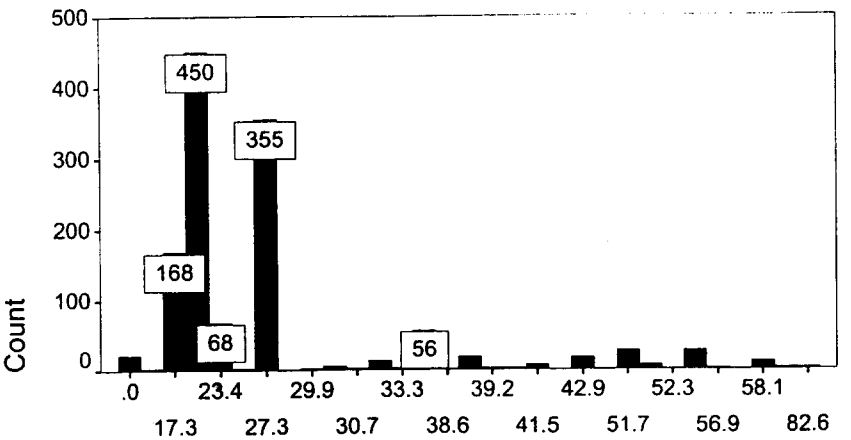


Springs Resistance by Suspect

1290 Arrests

Police Maximum Force

in Colorado Springs

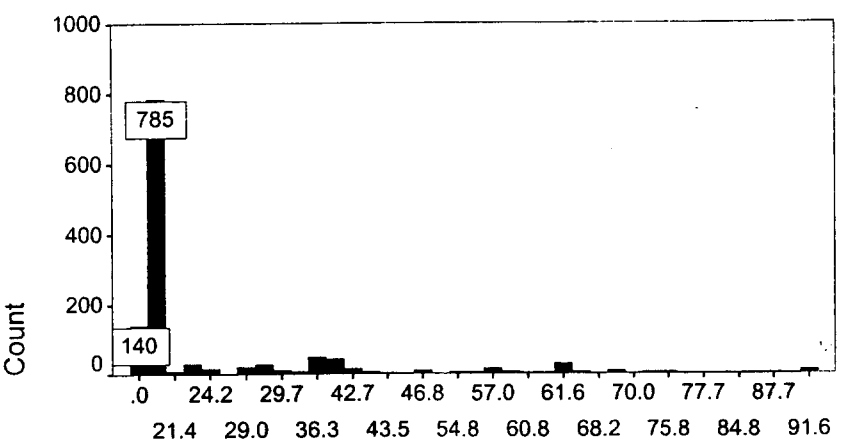


Springs Maximum Police Force Measure

1290 Arrests

Suspect Maximum Force

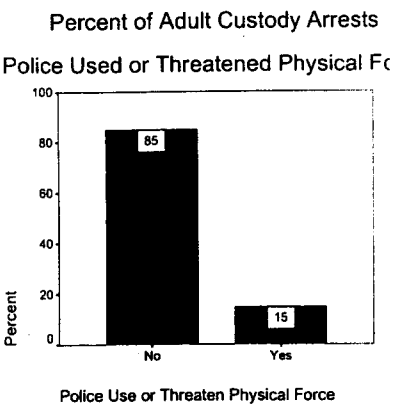
in Colorado Springs



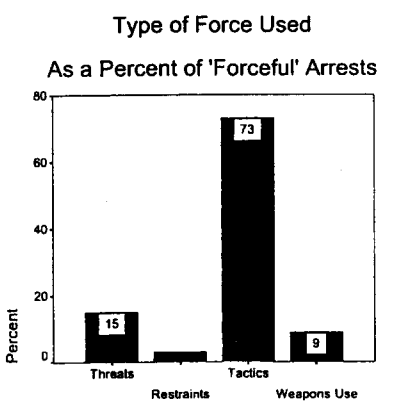
Springs Maximum Suspect Force

1290 Arrests

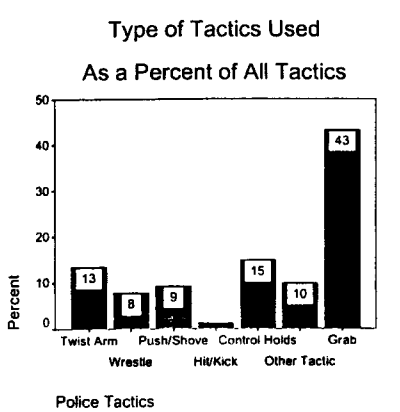
In Colorado Springs, Most Arrests Do Not Involve Force



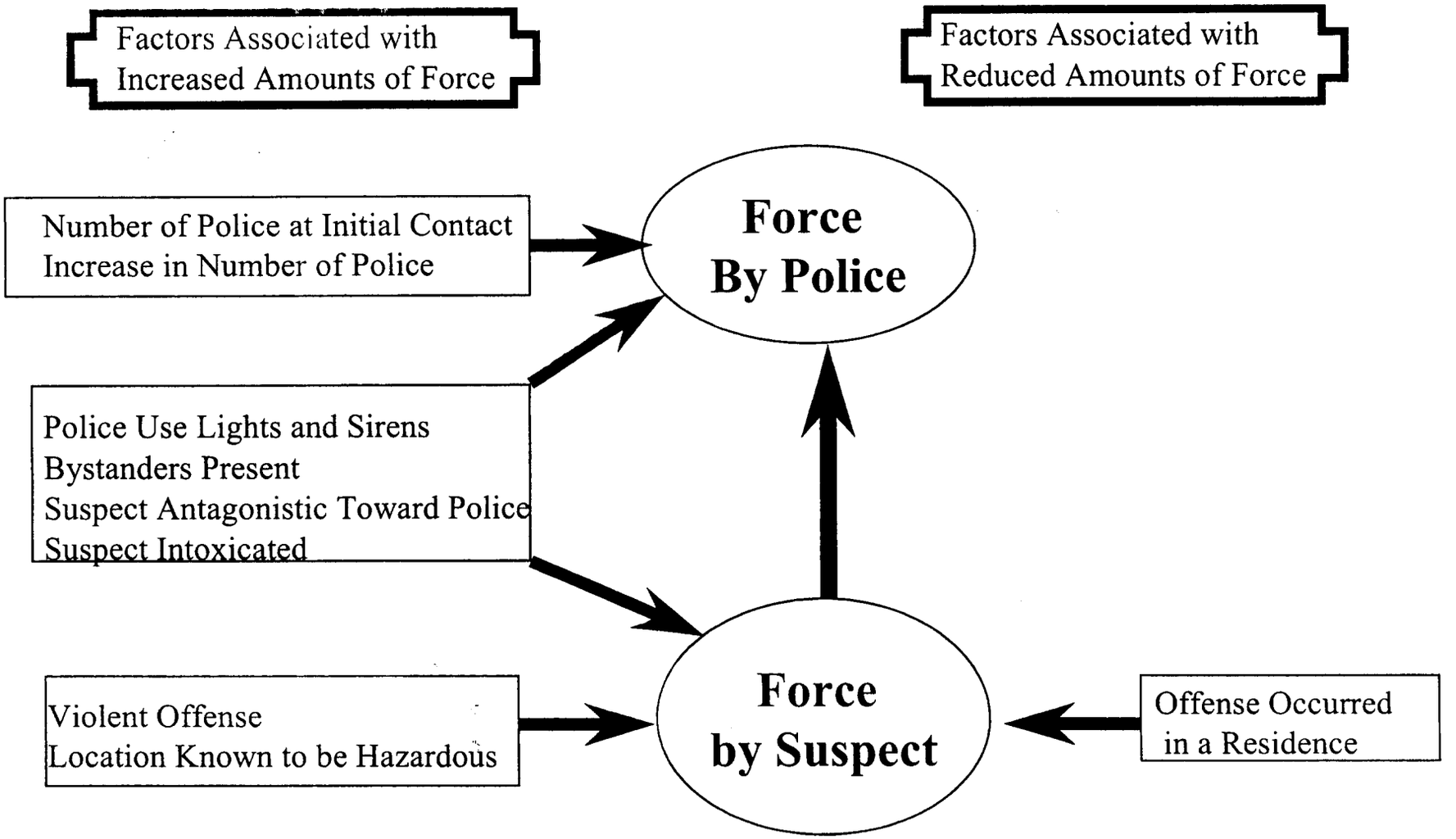
In Colorado Springs, Most Arrests with Force Involve Weaponless Tactics Only



In Colorado Springs, Most Tactics Involve Grabbing Only



Colorado Springs Police Department
Use of Force



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Understanding the Use of Force By and Against the Police

Final Report
Grant No. 95-IJ-CX-0066

Appendix C:

Site Specific Reports

Dallas
Police Department

Understanding the Use of Force By and Against the Police in Dallas

Summary of Results

A systematic survey of 1456 adult custody arrests made by the Dallas Police Department during two weeks in October 1996 evaluated the extent to which 55 characteristics of offense situations, police officers, and arrested suspects are associated with increases and decreases in four measures of force. This study, conducted by Dr. Joel Garner and his colleagues at the Joint Centers for Justice Studies, found that:

1. Dallas officers use some physical force in 16.0% of all adult custody arrests.

2. Suspects use some physical force in 12.2% of all adult custody arrests.

3. In those instances when some form of force is used by the police officers or by suspects, the amount of force used is typically at the low end of our four measures of force severity.

4. Weapons are used by officers in 1.5% of all arrests. The weapon most frequently used by the officers is pepper spray (14 out of 1456 arrests).

5. Of 55 factors that might potentially influence the amount of force used by officers and by suspects,

   The single, best predictor of use of force by officers is use of force by suspects.

   21 factors **did not predict any** of our measures of force
   21 factors predicted only **one or two** measures of force, and
   13 factors predicted **three or four** measures of force,.

13 Consistent Predictors of Force in the Dallas Police Department

Characteristics Associated with **Increased** Use of Force	
Suspect Use of Force	Number of Police at Initial Contact
Suspect Antagonistic toward Police	Increased Number of Police at Scene
Suspect Intoxicated	Priority Call to the Police
Number of Bystanders	Use of Lights and Sirens
Prior Injury to Officer	Call for Back Up
Characteristics Associated with **Decreased** Use of Force	
Suspect Already in Custody	Traffic Offense
Good Visibility at the Scene of the Arrest	

21 Inconsistent Predictors of Force in the Dallas Police Department

Factors Associated with **Increased** Use of Force	Factors Associated with **Decreased** Use of Force
Violent Offense	Suspect in Gang
Property Offense	Suspect Believed to be Compliant
Location Known for Criminal Behavior	Police Initiated Contact
Suspect Known to Carry Weapons	Citizen Initiated Contact
Suspect Known to Have Criminal Record	Police Officer is Male
In a Residence	Suspect is Male
On a Weekend	Weight of Officer
Presence of Bystanders	Weight of Suspect
Increase in Number of Bystanders	Repeat Arrests in Study
Suspect Antagonistic Toward Bystanders	
Police Antagonistic Toward Suspect	
Factor Associated with Both an **Increased** and a **Decreased** Use of Force	
Number of Suspects at Initial Contact	

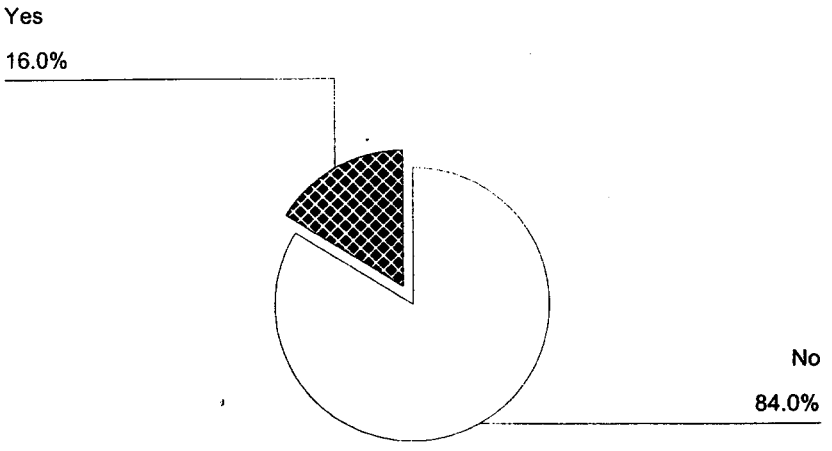
21 Consistent Non-Predictors of Force in the Dallas Police Department

Vice Offense	Officer in Patrol Division
Officer Knows Location	On Duty/Off Duty Status of Officer
Location Known to be Hazardous	Increase in the Number of Suspects
Officer Knows Suspect	Officer and Suspect Height
Suspect Known to be Compliant	Officer and Suspect Age
Suspect Known to be Assaultive	Officer and Suspect Race
Suspect and Victim Friends	Suspect and Bystander Friends
Suspect and Victim Related	Suspect and Bystanders Related
Arrest Occurred Inside	Arrest Occurred at Night

6. Interviews with a subsample of 239 suspects indicate police officers used some form of physical force with about 19.3% of all interviewed arrestees.

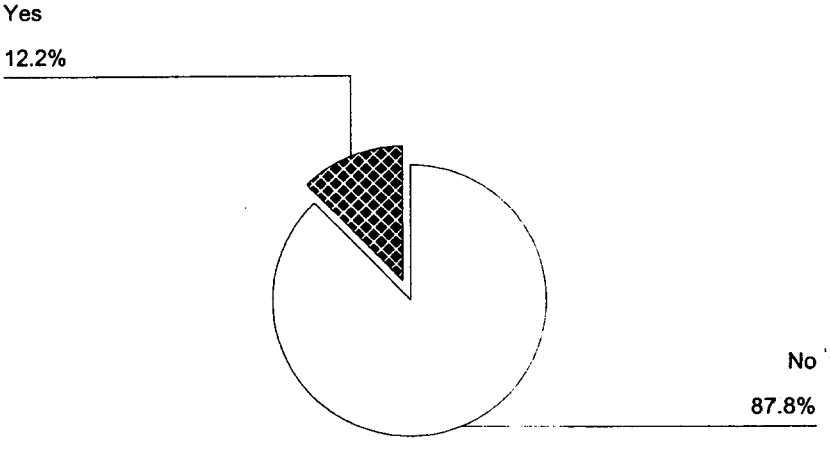
7. Comparable studies in six other jurisdictions report that other law enforcement agencies used levels of force similar to those reported in Dallas.

Police Use of Physical Force in Dallas



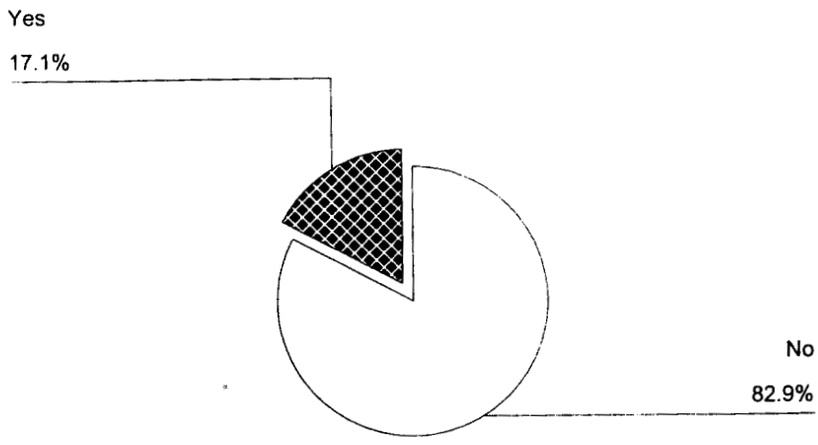
1456 Arrests

Suspect Use of Physical Force in Dallas



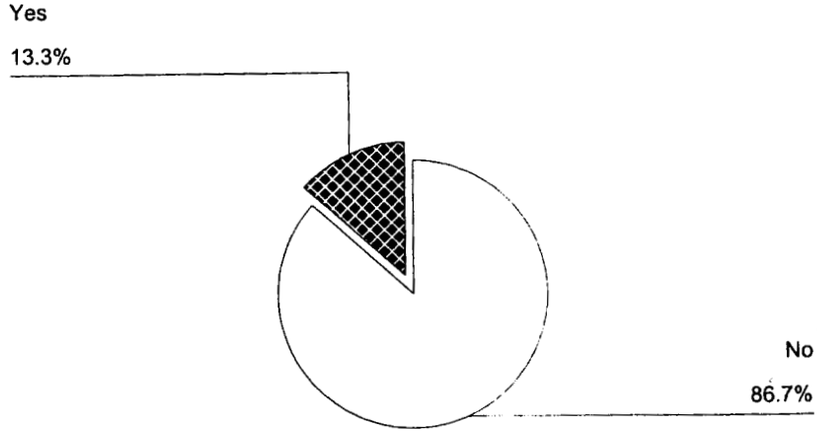
1456 Arrests

Police Use or Threat of Physical Force in Dallas



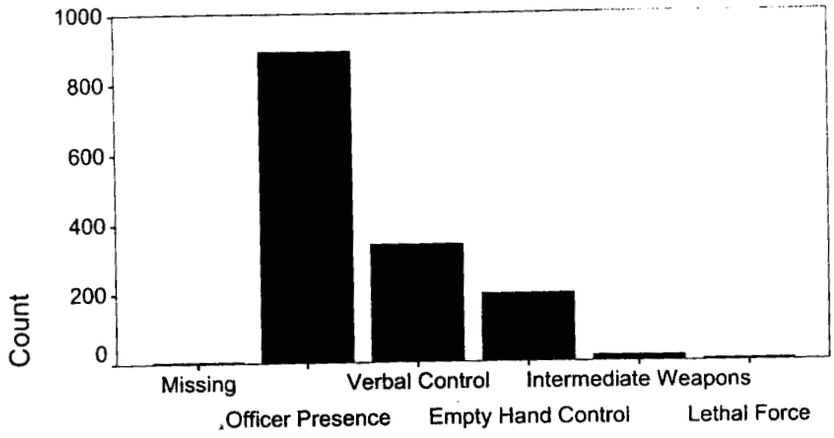
1456 Arrests

Suspect Use or Threat of Physical Force in Dallas



1456 Arrests

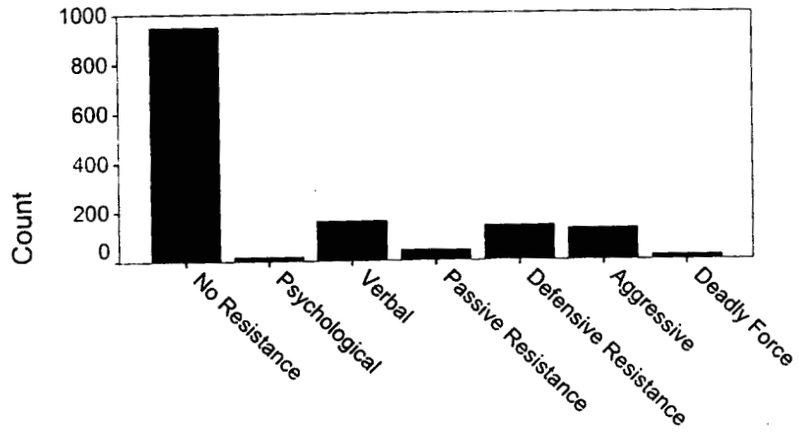
Police Continuum of Force in Dallas



Dallas Continuum of Force

1456 Arrests

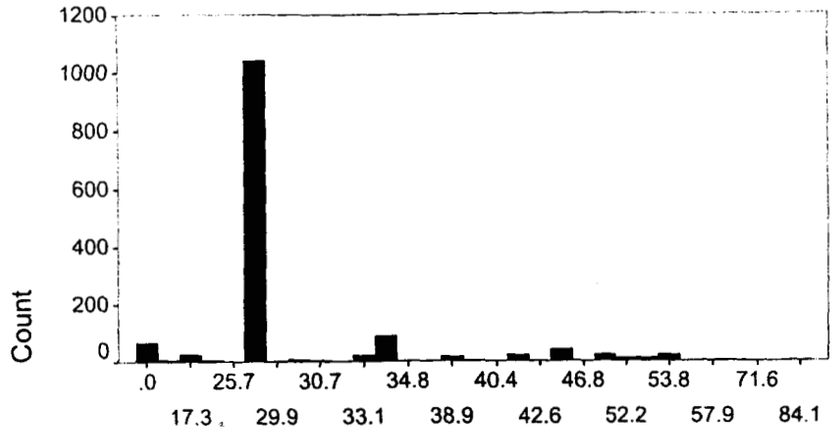
Suspect Resistance in Dallas



Dallas Resistance by Suspect

1456 Arrests

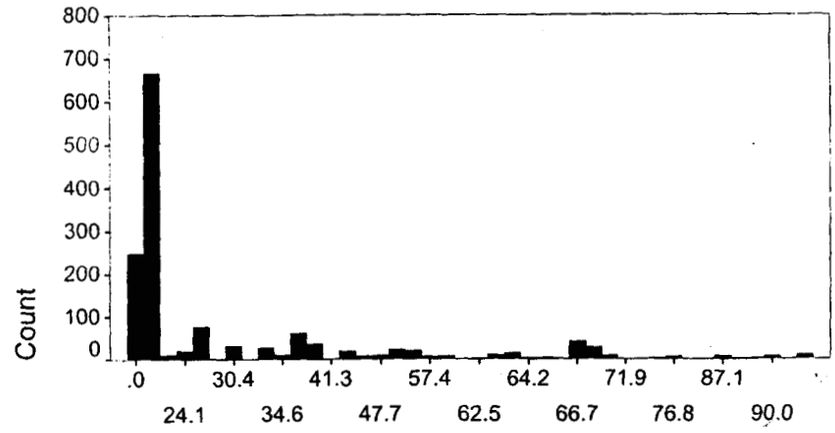
Police Maximum Force in Dallas



Dallas Maximum Police Force Measure

1456 Arrests

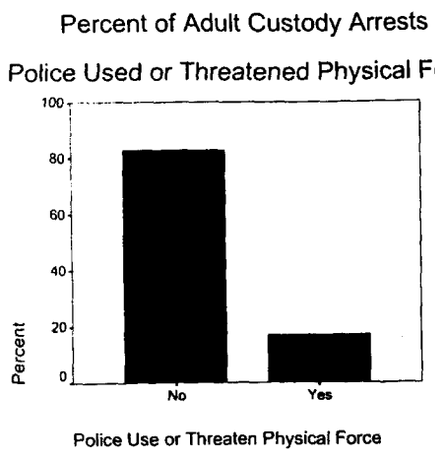
Suspect Maximum Force in Dallas



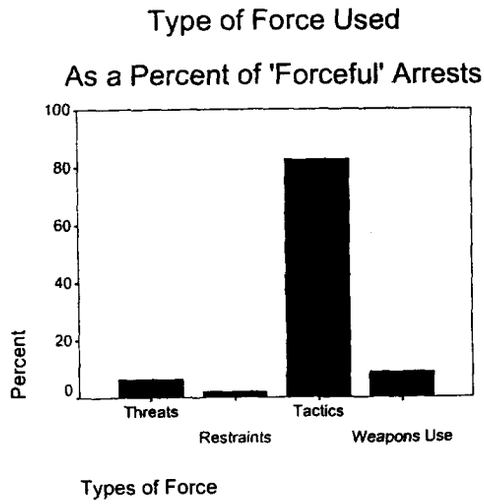
Dallas Maximum Suspect Force

1456 Arrests

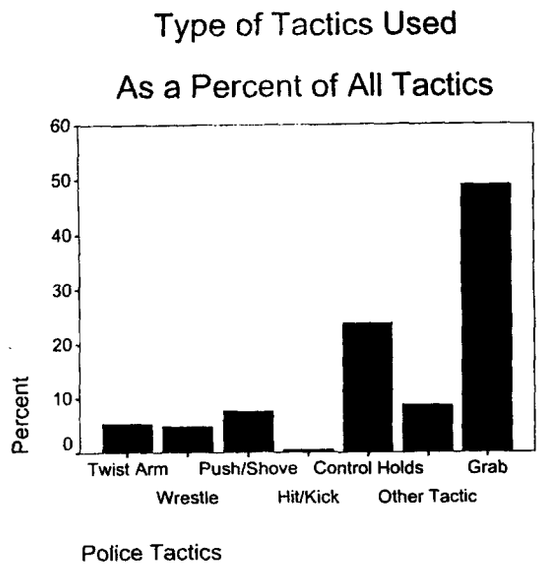
In Dallas, Most Arrests Do Not Involve Force



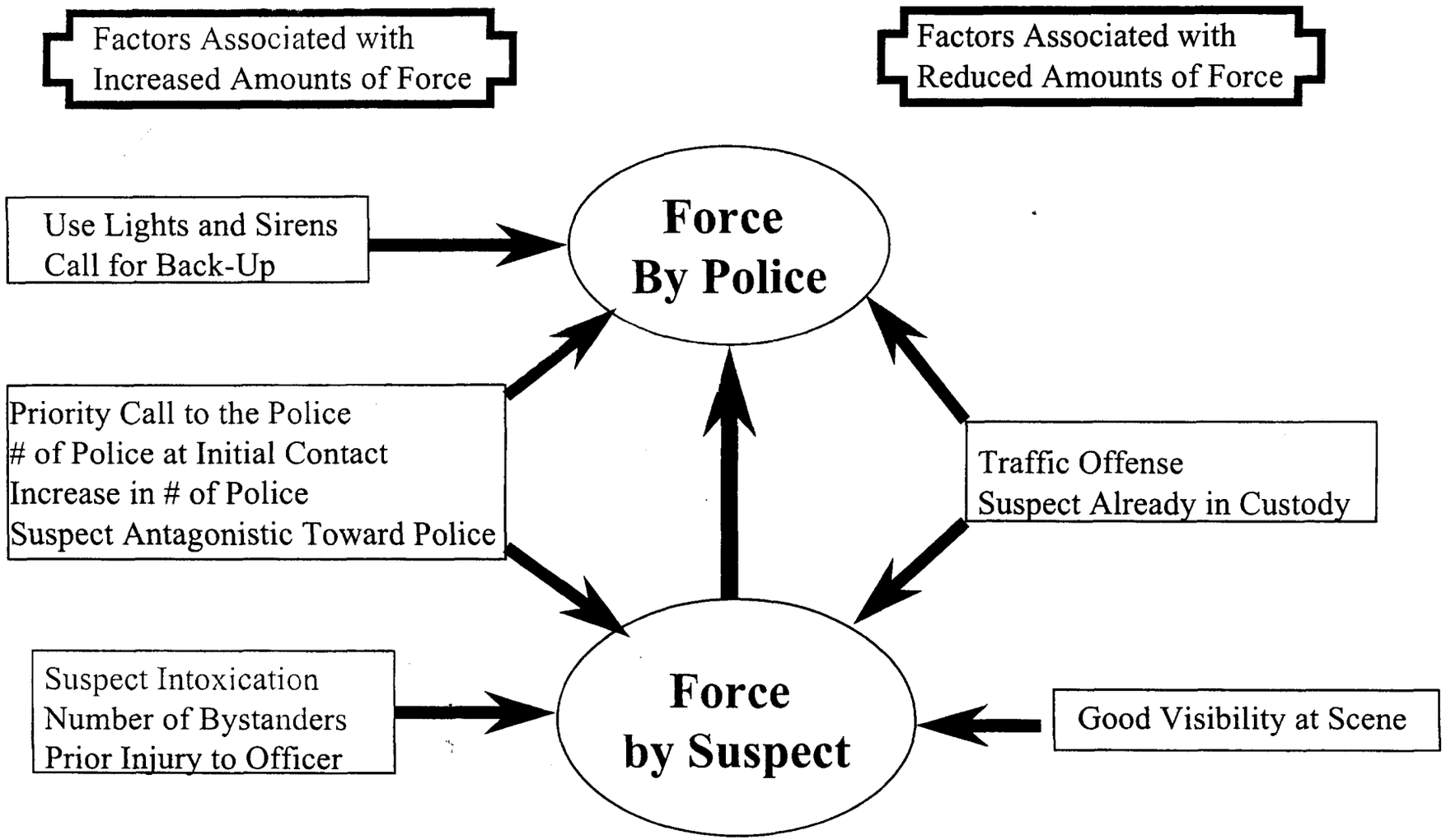
In Dallas, Most Arrests with Force Involve Weaponless Tactics Only



In Dallas, Most Tactics Involve Grabbing Only



Dallas Police Department
Use of Force



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Understanding the Use of Force By and Against the Police

Final Report
Grant No. 95-IJ-CX-0066

Appendix C:

Site Specific Reports

San Diego Police Department

Understanding the Use of Force By and Against the Police in the City of San Diego

Summary of Results

A systematic survey of 947 adult custody arrests made by the San Diego Police Department during four weeks in October and November 1996 evaluated the extent to which 59 characteristics of offense situations, police officers, and arrested suspects are associated with increases and decreases in four measures of force. This study, conducted by Dr. Joel Garner and his colleagues at the Joint Centers for Justice Studies, found that:

1. San Diego officers use some physical force in 15.6% of all adult custody arrests.

2. Suspects use some physical force in 10.8% of all adult custody arrests.

3. Using four different measures of force, the amount of force used by police or by suspects is typically zero or at the low end of each measure force severity.

4. Weapons are used by officers in 1.9% of all arrests. The weapon most frequently used by the officers is pepper spray (4 out of 947 arrests).

5. Of 59 factors that might potentially influence the amount of force used by officers and by suspects, this study found that:

   The single, most consistent predictor of the use of force by officers is use of force by suspects.

   10 factors predicted **three or four** measures of force,
   18 factors predicted only **one or two** measures of force, and
   31 factors **did not predict any** of our measures of force.

10 Consistent Predictors of Force in the San Diego Police Department

Characteristics Associated with **Increased** Use of Force	
Suspect Use of Force	Number of Police at Initial Contact
Violent Offense	Increased Number of Police at Scene
Suspect Antagonistic Toward Police	Citizen Initiates Contact with Police
Suspect Intoxicated	More Arrests By Officer in Past Month
Characteristics Associated with **Decreased** Use of Force	
Officer Dispatched	Arrest Occurs in a Residence

18 Inconsistent Predictors of Force in the San Diego Police Department

Factors Associated with **Increased** Use of Force	Factors Associated with **Decreased** Use of Force
Felony Charge	Traffic Offense
Location Known for Criminal Behavior	Suspect Already in Custody
Location Known to be Hazardous	Suspect Believed to be Compliant
Suspect Believed to be Assaultive	Suspect and Victim Family
Suspect Known to Carry Weapons	Length of Time on Police Force
Suspect Known to have Criminal Record	Police Antagonistic Toward Suspect
Night Time	Officer is Male
Suspect and Bystanders Family	Suspect is Male
Police Used Lights and Sirens	
Suspect Antagonistic Toward Bystanders	

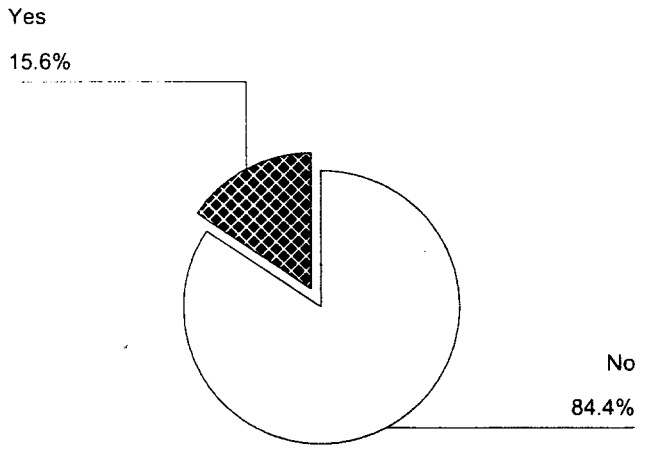
31 Consistent Non-Predictors of Force in the San Diego Police Department

Property Offense	Officer Calls for Backup
Vice Offense	On Duty/Off Duty Status of Officer
Officer Knows Location	Officer in Patrol Division
Officer Knows Suspect	Prior Injury to Officer
Suspect Member of Criminal Group/Gang	Repeat Arrests in Study
Arrest Occured Inside	Number of Suspects at Initial Contact
Visibility at Time of Arrest	Increase in the Number of Suspects
Arrest Occured on a Weekend	Officer Height
Bystanders Present	Suspect Height
Number of Bystanders at Initial Contact	Officer Weight
Increase in Number of Bystanders	Suspect Weight
Suspect and Bystander Friends	Officer Race
Suspect and Victim Friends	Suspect Race
Police Initiated Contact with Suspect	Officer Age
Priority Call	Suspect Age
Hazard Call	

6. Interviews with a subsample of 99 suspects indicate officers used some physical force with 27.3% of interviewed arrestees.

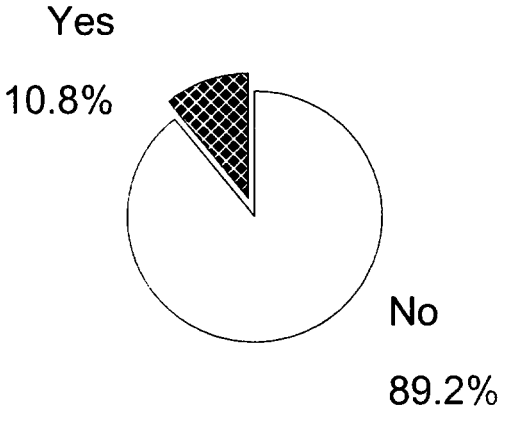
7. Comparable studies in six other jurisdictions report that other law enforcement agencies used levels of force similar to those reported in San Diego.

Police Use of Physical Force in San Diego Police Department



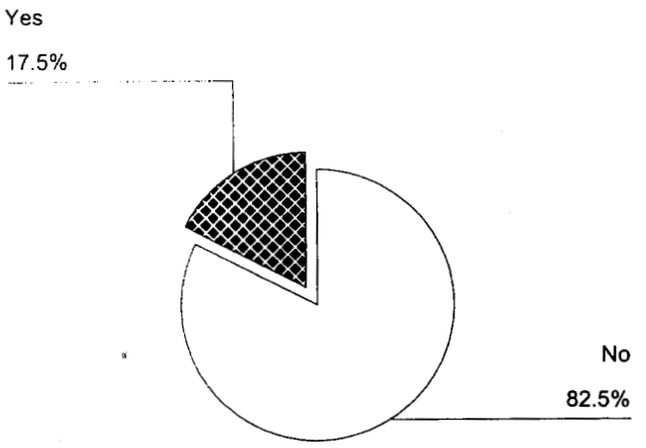
947 Arrests

Suspect Use of Physical Force in San Diego



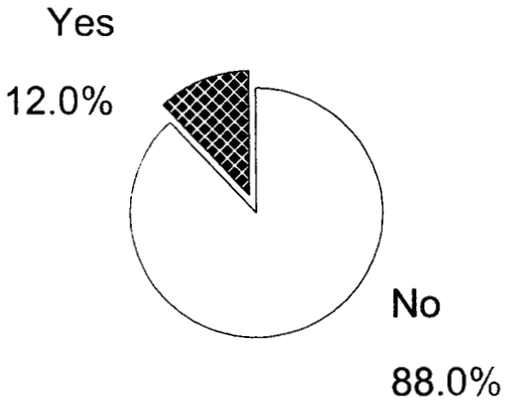
947 Arrests

Police Use or Threat of Physical Force in San Diego Police Department



947 Arrests

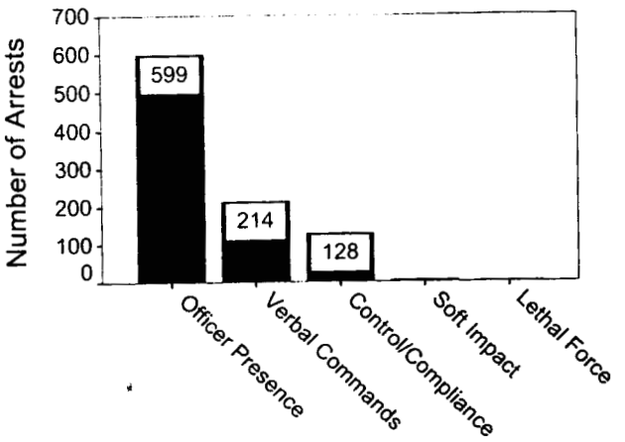
Suspect Use or Threat of Physical Force in San Diego



947 Arrests

Police Continuum of Force

in San Diego Police Department

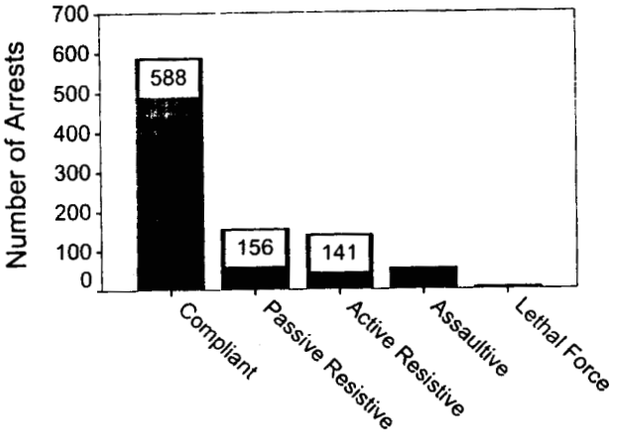


SD Police Continuum of Force

947 Arrests

Suspect Resistance During Arrests

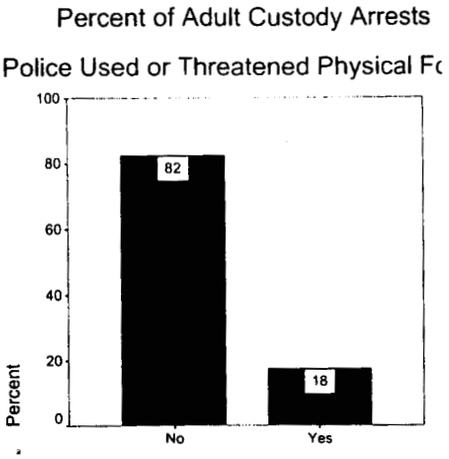
by the San Diego Police Department



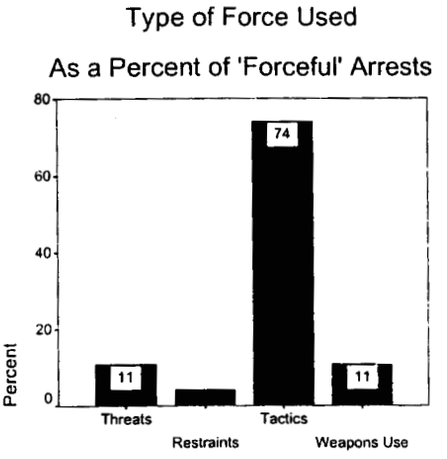
SDPD Resistance by Suspect

947 Arrests

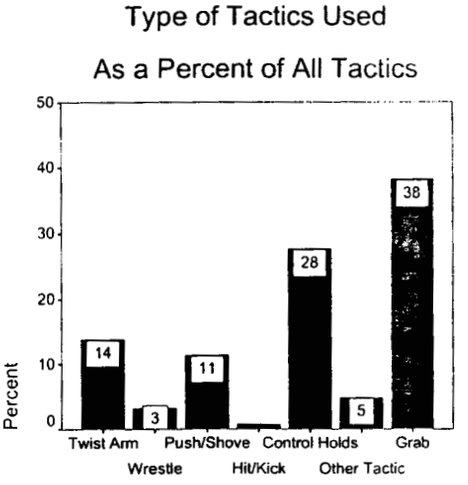
In San Diego, Most Arrests Do Not Involve Force



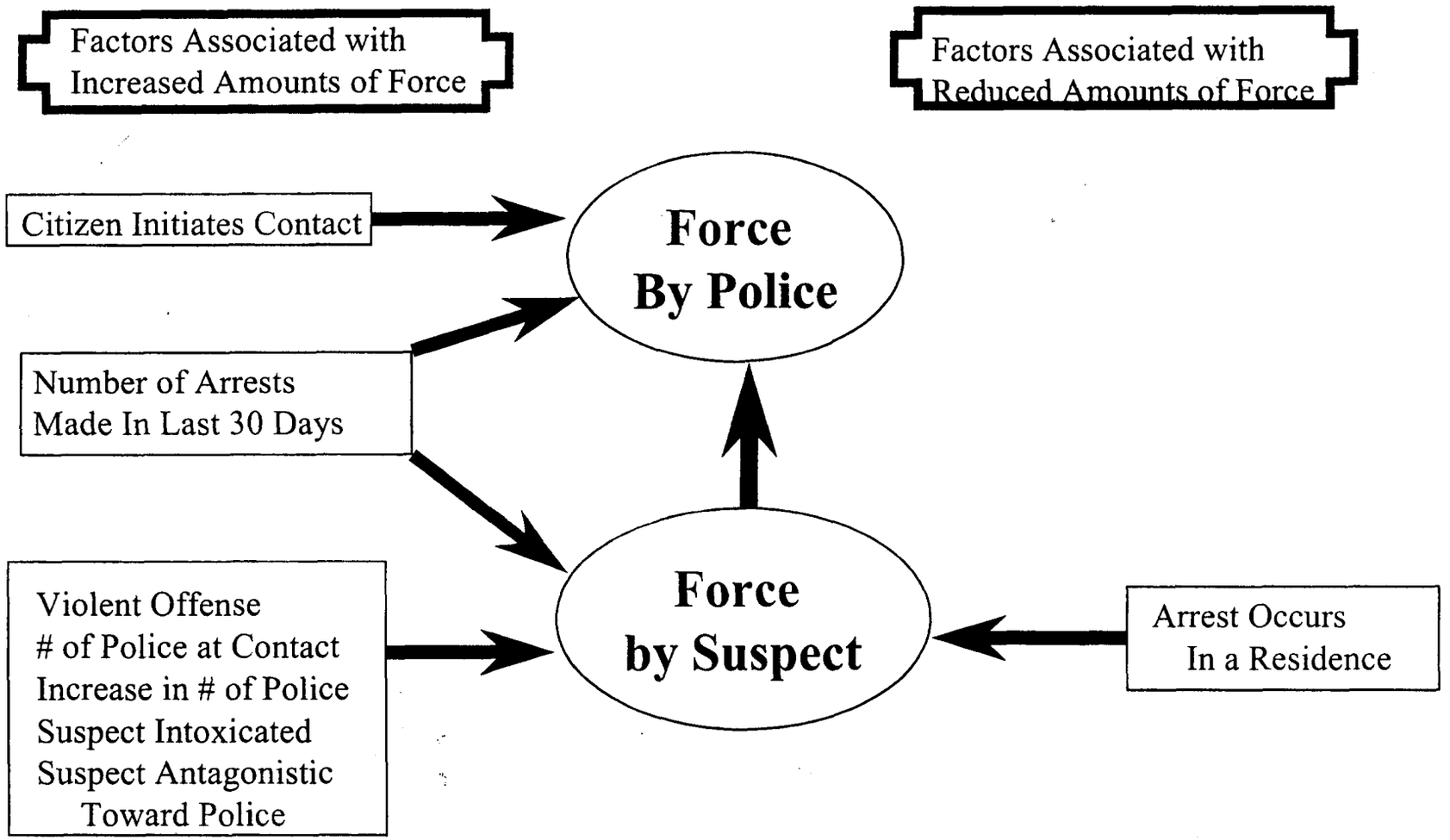
In San Diego, Most Arrests with Force Involve Weaponless Tactics Only



In San Diego, The Most Common Tactic Is Grabbing Only



Factors Associated with the Use of Force
San Diego Police Department



3/2/98

Understanding the Use of Force By and Against the Police

Final Report
Grant No. 95-IJ-CX-0066

Appendix C:

Site Specific Reports

San Diego County Sheriff's Office

Understanding the Use of Force By and Against San Diego County Sheriff s Deputies

Summary of Results

A systematic survey of 958 adult custody arrests made by the San Diego County Sheriff s Office during six weeks in October and November 1996 evaluated the extent to which 52 characteristics of offense situations, sheriff's deputies, and arrested suspects are associated with increases and decreases in four measures of force. This study, conducted by Dr. Joel Garner and his colleagues at the Joint Centers for Justice Studies, found that:

1. Sheriff s deputies use some physical force in 16.6% of all adult custody arrests.

2. Suspects use some physical force in 13.3% of all adult custody arrests.

3. In those instances when some form of force is used by the sheriff s deputies or by suspects, the amount of force used is typically at the low end of our four measures of force severity.

4. Weapons are used by deputies in 4.1% of all arrests. The weapon most frequently used by the deputies is pepper spray (13 out of 958 arrests).

5. Of 54 factors that might potentially influence the amount of force used by deputies and by suspects,

   The single, best predictor of use of force by deputies is use of force by suspects.

   30 factors **did not predict any** of our measures of force,
   14 factors predicted only **one or two** measures of force, and
   10 factors predicted **three or four** measures of force

10 Consistent Predictors of Force in the San Diego County Sheriff s Office

Characteristics Associated with **Increased** Use of Force	Characteristics Associated with **Decreased** Use of Force
Suspect Use of Force	Victim and Suspect Related
Violent Offense	Good Visibility at Place of Arrest
Priority Call	More Arrests by Deputy in Past 30 Days
Deputy Calls for Back-up	Deputy Taller than Suspect
Suspect Antagonistic Toward Police	
White Police / Hispanic Suspect	

14 Inconsistent Predictors of Force in San Diego County Sheriff's Office

Factors Associated with Increased Use of Force	Factors Associated with Decreased Use of Force
Felony Charge	Suspect Already in Custody
Suspect Believed to be Compliant	Deputy Believes Location is Hazardous
Suspect Believed to Carry Weapons	Suspect Gang Member
Time of Day	Suspect and Victim Friends
Presence of Bystanders	Deputy Initiates Contact
Number of Police	Suspect Heavier than Deputy
Suspect and Officer are Male	

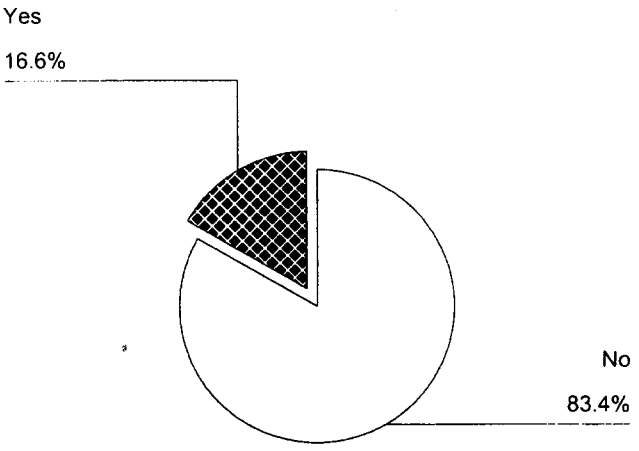
30 Consistent Non-Predictors of Force in the San Diego County Sheriff s Office

Traffic, Vice or Property Offense	Citizen Initiated Contact At Scene
Deputy Knows Location	Arrest Occurred Inside
Location Known for Criminal Behavior	Arrest Occurred in a Residence
Deputy Knows Suspect	Arrest Occurred on a Weekend
Deputy Knows Location	Number of Suspects Arrested
Deputy in Patrol Division	Suspect Believed to Have Criminal Record
Weight of Deputy	Suspect Believed to be Assaultive
Age of Deputy	Age of Suspect
Deputy On Duty/Off Duty Status	Suspect Member of Gang
Number of Arrests in Past Year	Suspect Intoxication
Number of Arrests in Study	Suspect Demeanor Toward Bystanders
Length of Service in Sheriff's Office	Number of Bystanders
Prior Injury to Deputy	Bystanders Related to Suspect
White Police /Black Suspect	Bystanders Friend of Suspect

6. Interviews with a subsample of 112 suspects indicate deputies used physical force in about 23.2% of all arrests.

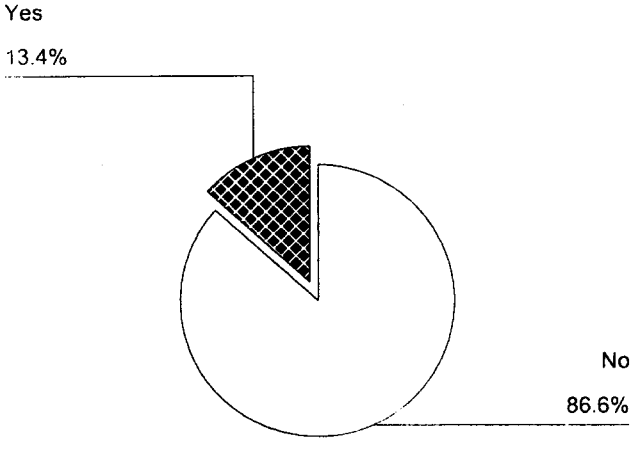
7. Comparable studies in six other jurisdictions report that other law enforcement agencies used levels of force similar to those reported in San Diego County.

Use of Physical Force by Deputies in San Diego County



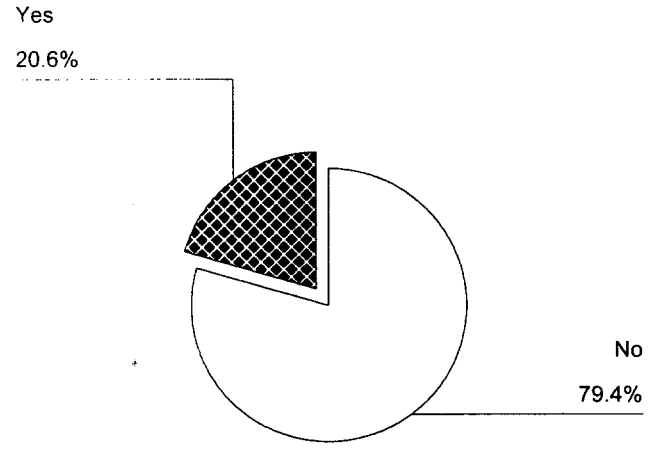
958 Arrests

Use of Physical Force by Suspects in San Diego County



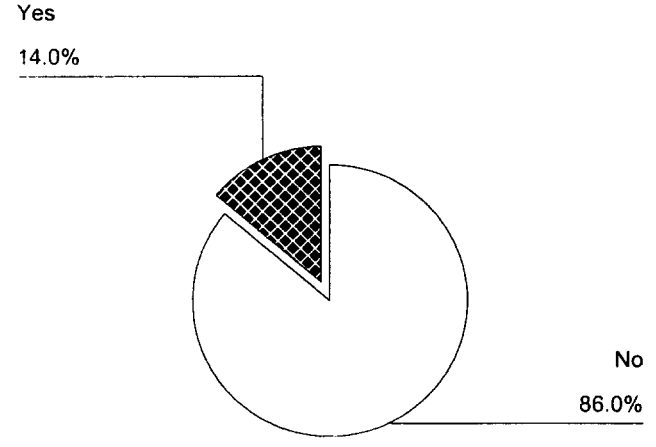
958 Arrests

Deputies Use or Threat of Physical Force in San Diego County



958 Arrests

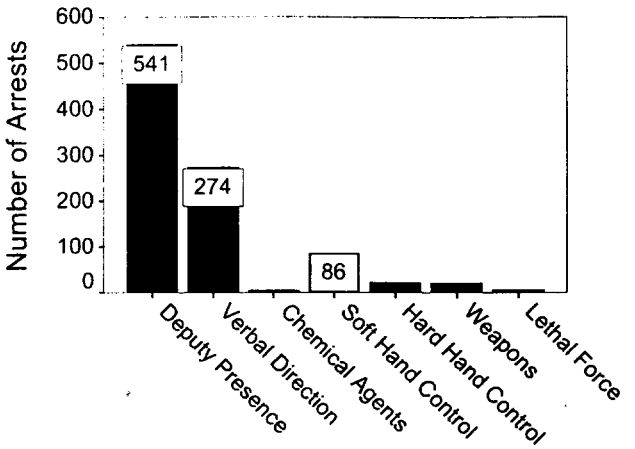
Suspect Use or Threat of Physical Force in San Diego County



958 Arrests

Continuum of Force

in San Diego County Sheriff's Office

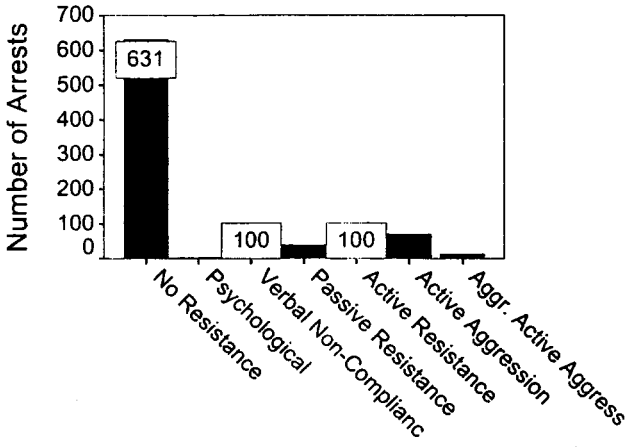


Sheriff's Continuum of Force

958 Arrests

Suspect Resistance

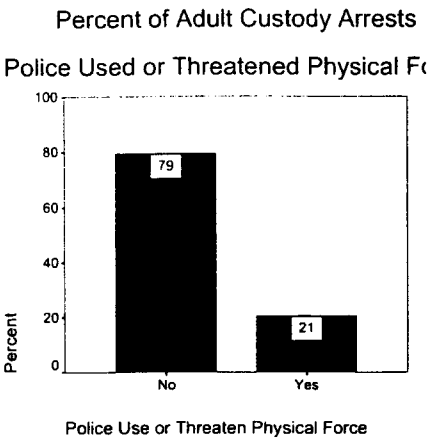
in San Diego County



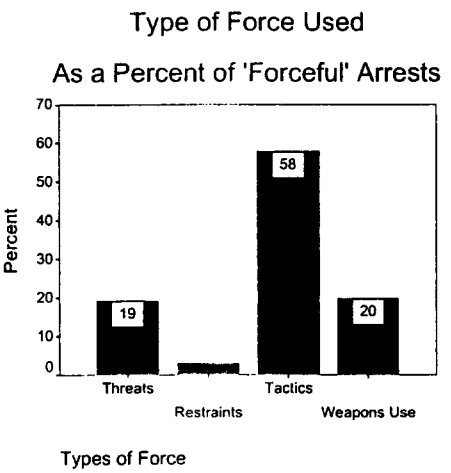
SDSO Resistance by Suspect

958 Arrests

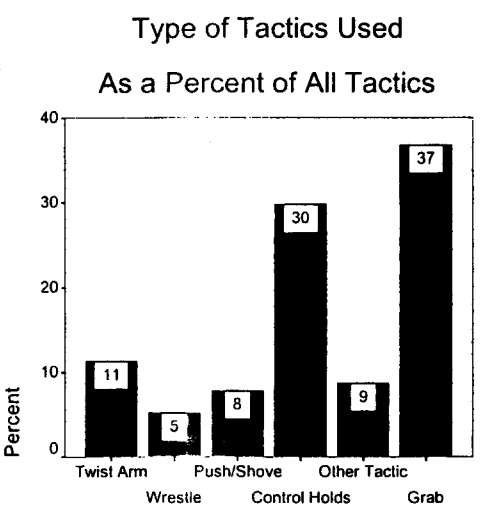
In San Diego County, Most Arrests Do Not Involve Force



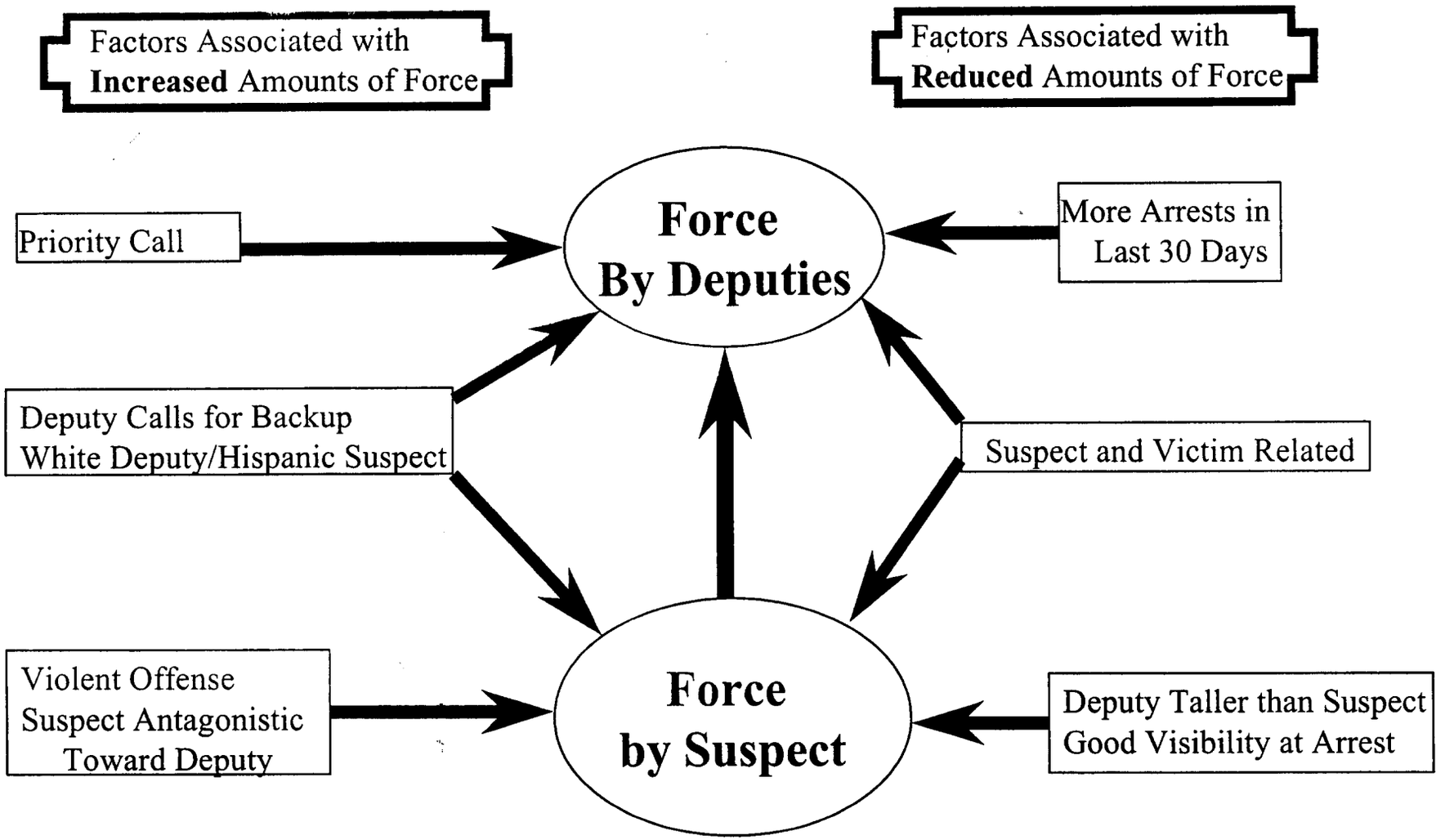
In San Diego County, Most Arrests with Force Involve Weaponless Tactics Only



In San Diego County, The Most Common Tactic Involves Grabbing



San Diego County Sheriff's Office
Use of Force



3/5/98

Understanding the Use of Force By and Against the Police

Final Report
Grant No. 95-IJ-CX-0066

Appendix C:

Site Specific Reports

St. Petersburg Police Department

Understanding the Use of Force By and Against the Police in St. Petersburg

Summary of Results

A systematic survey of 1547 adult custody arrests made by the St. Petersburg Police Department during seven weeks in July, August and September 1996 evaluated the extent to which 50 characteristics of offense situations, police officers, and arrested suspects are associated with increases and decreases in four measures of force. This study, conducted by Dr. Joel Garner and his colleagues at the Joint Centers for Justice Studies, found that:

1. St. Petersburg officers use some physical force in 22.9% of all adult custody arrests.

2. Suspects use some physical force in 13.4% of all adult custody arrests.

3. Using four different measures of force, the amount of force used by police or by suspects is at the low end of severity on each measure of force.

4. Weapons are used by officers in 1.5% of all arrests. The weapon most frequently used by the officers is pepper spray (27 out of 1547 arrests).

5. Of 50 factors that might potentially influence the amount of force used by officers and by suspects, this study found that:

> The single, most consistent predictor of the use of force by officers is the use of force by suspects.

19 factors predicted **three or four** measures of force, 14 factors predicted only **one or two** measures of force, and 25 factors **did not predict any** of our measures of force.

19 Consistent Predictors of Force in the St. Petersburg Police Department

Characteristics Associated with Increased Use of Force	
Suspect Use of Force	Officer Calls for Back-Up
Felony Charge	Priority Call
Violent Offense	Number of Police at Initial Contact
Location Known for Criminal Behavior	Increase in Number of Police
Number of Bystanders at Initial Contact	Prior Injury to Officer
Suspect Antagonistic Toward Bystanders	Suspect Antagonistic Toward Police
Officer is Male	Suspect is Male
Officer is Older	Suspect is Younger
Characteristics Associated with **Decreased** Use of Force	
Suspect Known to be Compliant	Suspect and Victim Friends
Officer is Dispatched to the Scene	

14 Inconsistent Predictors of Force in the St. Petersburg Police Department

Factors Associated with Increased Use of Force	
Suspect Member of Gang	Hazard Code Used
Suspect Known to Carry Weapons	Officer in Patrol Division
Night Time	Police Antagonistic Toward Suspect
Presence of Bystanders	Height of Officer
Officer Uses Lights and Sirens	
Factors Associated with Decreased Use of Force	
Suspect Already in Custody	Number of Suspects
Good Visibility at Place of Arrest	Suspect Intoxicated with Drugs
Height of Suspect	

25 Consistent Non-Predictors of Force in the St. Petersburg Police Department

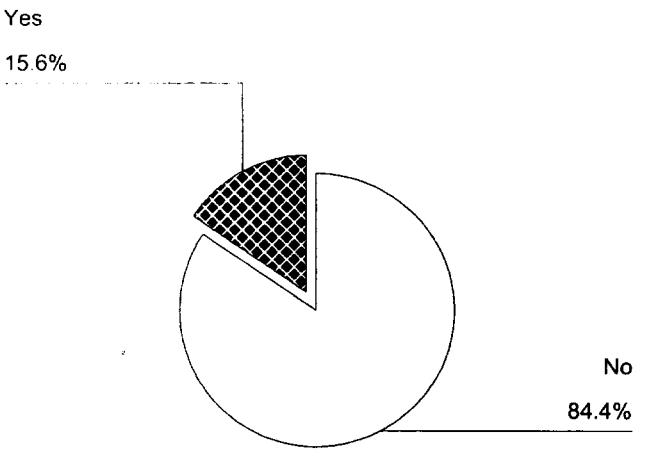
Property Offense	Suspect and Bystanders Friends
Traffic Offense	Suspect and Bystanders Family
Vice Offense	Suspect and Victim Family
Officer Knows Location	Officer On Duty/Off Duty Status
Location Known to be Hazardous	Length of Police Service
Officer Knows Suspect	Arrests in Past 30 Days
Suspect Known to be Assaultive	Number of Repeat Arrests by Officer in Study
Suspect Known to have Criminal Record	Increase in Number of Suspects
Offense Occurred Inside (Not a Residence)	Alcohol Intoxication
Offense Occurred in a Residence	Weight of Officer
Arrest Occurred on a Weekend	Weight of Suspect
Increase in the Number of Bystanders	White Police / Black Suspect
	White Police / Hispanic Suspect

6. Interviews with a subsample of 222 suspects indicate officers used some physical force with 29.7% of interviewed arrestees.

7. Comparable studies in six other jurisdictions report that other law enforcement agencies used levels of force similar to those reported in St. Petersburg.

Police Use of Physical Force

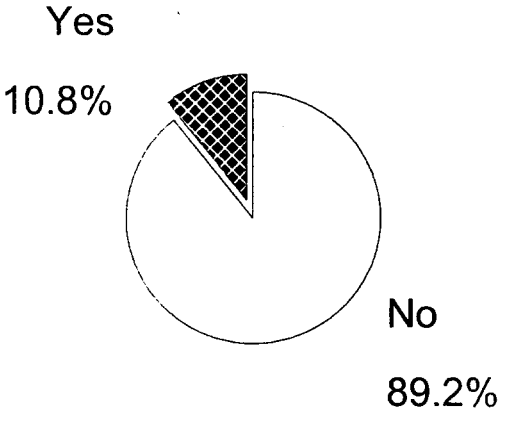
in San Diego Police Department



947 Arrests

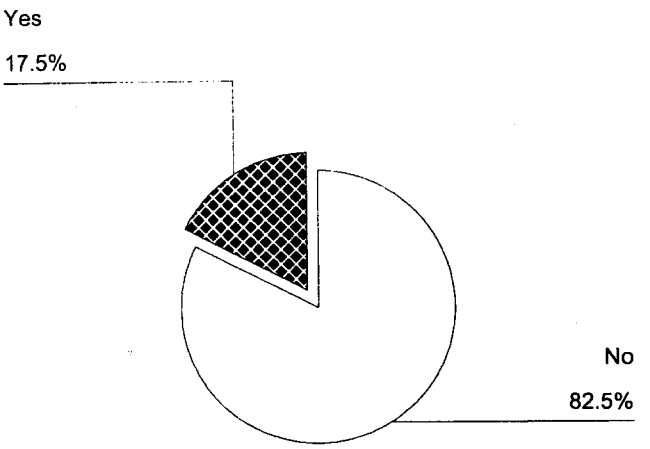
Suspect Use of Physical Force

in San Diego



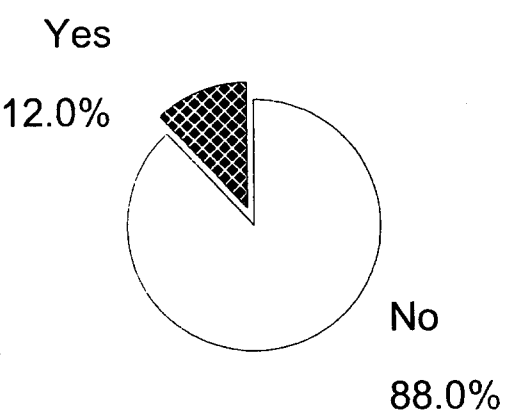
947 Arrests

Police Use or Threat of Physical Force in San Diego Police Department



947 Arrests

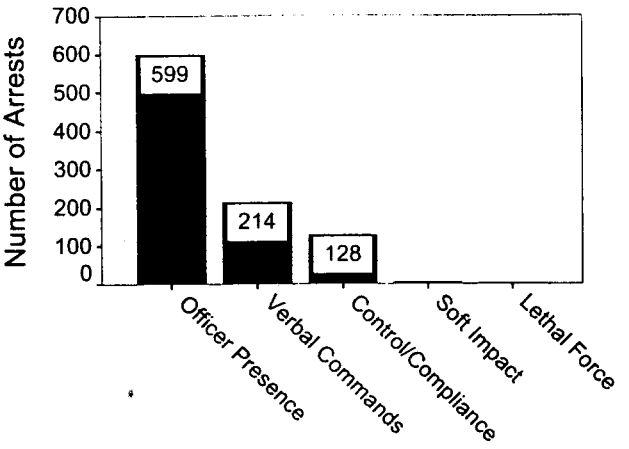
Suspect Use or Threat of Physical Force in San Diego



947 Arrests

Police Continuum of Force

in San Diego Police Department

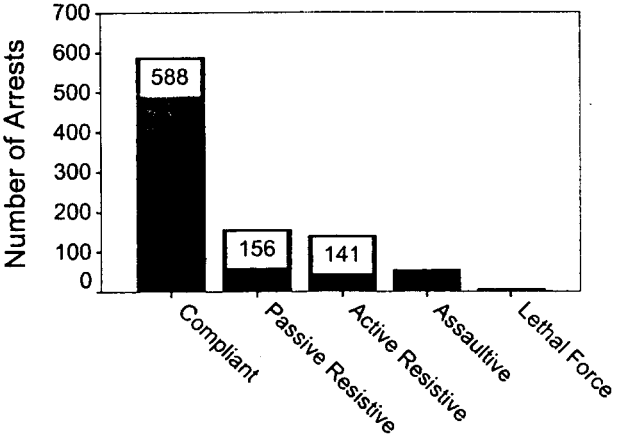


SD Police Continuum of Force

947 Arrests

Suspect Resistance During Arrests

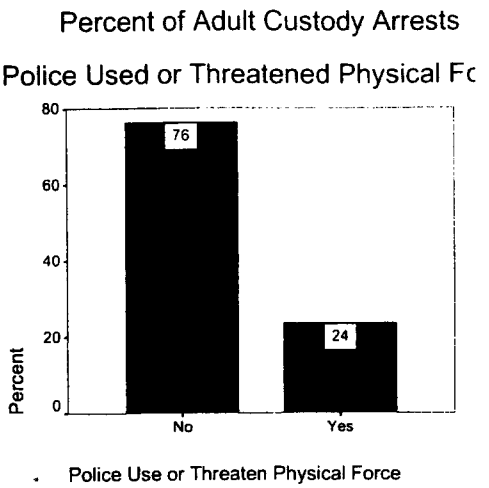
by the San Diego Police Department



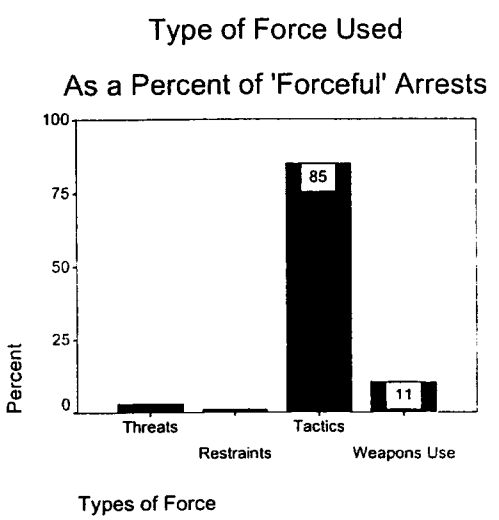
SDPD Resistance by Suspect

947 Arrests

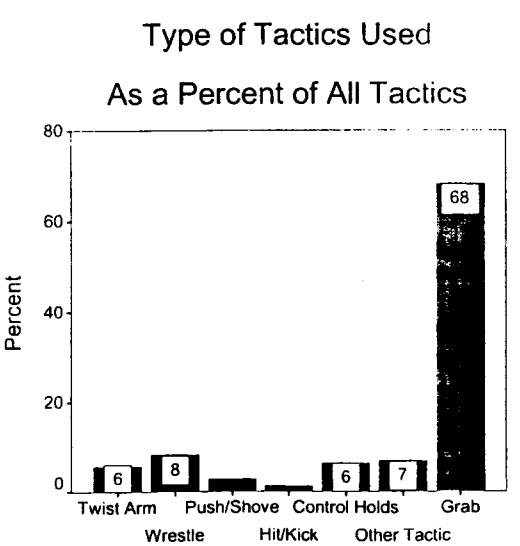
In St. Petersburg, Most Arrests Do Not Involve Force



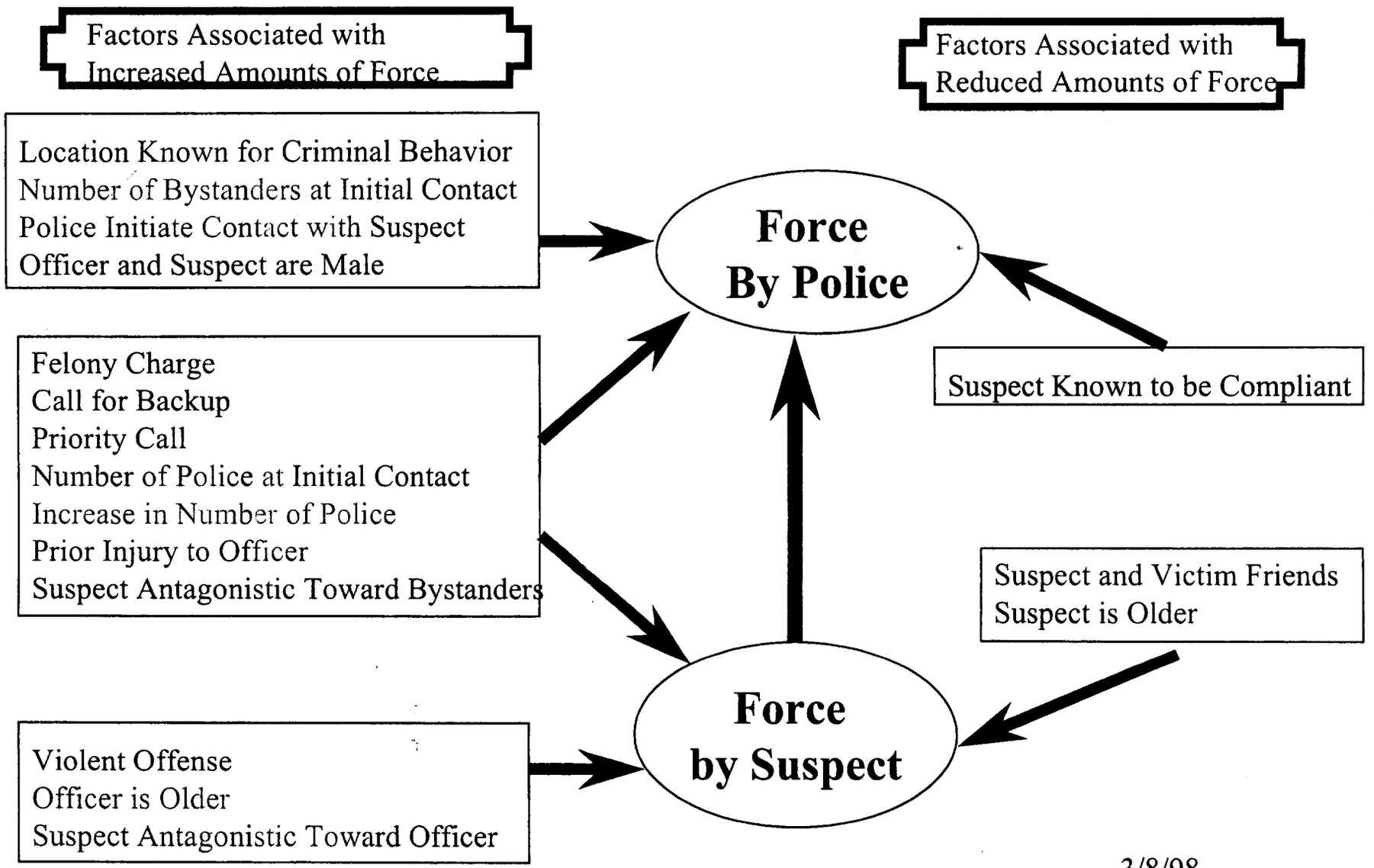
In St. Petersburg, Most Arrests with Force Involve Weaponless Tactics Only



In St. Petersburg, Most Tactics Involve Grabbing Only



St. Petersburg Police Department
Use of Force



Understanding the Use of Force By and Against the Police

Final Report
Grant No. 95-IJ-CX-0066

Appendix D:

Domain Level

Multivariate Results

Table D1: Domain Level Multivariate Models of Force by Police

	Physical Force				Maximum Force			
Domain 1: Nature of the Arrest	**b**	**s.e.**	**Exp(b)**		**b**	**Eta**	**s.e.**	
Jurisdiction (Colorado Springs)								
San Diego Police	0.22	0.13	1.24	*	**4.97**	0.025	0.36	****
Dallas	0.16	0.11	1.17		**4.03**	0.021	0.32	****
San Diego Sheriff	0.22	0.12	1.24	*	**7.23**	0.052	0.36	****
Charlotte	**0.23**	0.11	1.26	***	**4.29**	0.022	0.33	****
St. Petersburg	**0.63**	0.11	1.88	****	**3.86**	0.020	0.31	****
Violent Offense	**0.47**	0.07	1.59	****	**2.01**	0.009	0.25	****
Bystanders' Demeanor Toward Police	**0.90**	0.11	2.45	****	**2.09**	0.003	0.44	****
Weekend	**0.13**	0.06	1.14	**	**0.53**	0.001	0.20	***
Number of Bystanders	**0.35**	0.04	1.42	****	**1.03**	0.009	0.13	****
Number of Suspects	**0.13**	0.07	1.14	**	**2.09**	0.013	0.21	****
Constant/Intercept	**-1.37**	0.08	0.25	****	**29.25**	0.265	0.56	****
Model Fit (Residual)								
-2 Log Likelihood		6868.10				516890		
Sum of squares		6559.05***				55813***		
R Square		0.04				0.10		

Domain 2: Nature of the Location	Physical Force b	s.e.	Exp(b)		Maximum Force b	Eta	s.e.	
Jurisdiction (Colorado Springs)								
San Diego Police	**0.18**	0.13	1.20		**7.52**	0.055	0.36	****
Dallas	0.13	0.11	1.14		**5.03**	0.025	0.36	****
San Diego Sheriff	**0.27**	0.12	1.32	**	**4.38**	0.023	0.33	****
Charlotte	0.24	0.11	1.27	**	**4.01**	0.020	0.32	****
St. Petersburg	**0.69**	0.11	1.99	****	**4.09**	0.021	0.32	****
Location Known to be Nonthreatening	-0.06	0.09	0.94		-0.19	0.000	0.26	
Location Known for Criminal Activity	**0.23**	0.08	1.26	***	**0.55**	0.001	0.24	**
Location Known to be Hazardous	**0.36**	0.09	1.43	****	**1.51**	0.003	0.30	****
Arrest Occurred Inside	-0.11	0.07	0.89	*	-0.08	0.000	0.21	
Visibility at Place of Arrest	**-0.08**	0.01	0.92	****	**0.38**	0.012	0.04	****
Constant/Intercept	**-0.91**	0.11	0.40	****	**30.66**	0.297	0.55	****
Model Fit (Residual)								
-2 Log Likelihood		6868.10				526129.37		
Sum of squares		6693.94				46573.703		
R Square		0.02				0.08		

Domain 3: Police Mobilization	Physical Force b	s.e.	Exp(b)		Maximum Force b	Eta	s.e.	
Jurisdiction (Colorado Springs)								
San Diego Police	**0.42**	0.13	1.53	***	**8.38**	0.067	0.36	****
Dallas	**0.38**	0.12	1.46	***	**5.87**	0.035	0.36	****
San Diego Sheriff	**0.42**	0.13	1.53	***	**4.69**	0.027	0.33	****
Charlotte	**0.36**	0.12	1.43	**	**4.79**	0.030	0.32	****
St. Petersburg	**0.79**	0.11	2.21	****	**4.41**	0.026	0.31	****
Officer in Patrol Division	0.03	0.09	1.03		**0.62**	0.001	0.27	**
Custody Status	**-0.51**	0.11	0.60	****	**-1.00**	0.002	0.28	****
Police Mobilization (Dispatched)								
Citizen Initiated	-0.02	0.15	0.98		0.04	0.000	0.46	
Police Initated	-0.08	0.08	0.92		-0.16	0.000	0.23	
Unknown	**-0.30**	0.11	0.74	***	**-1.67**	0.004	0.30	****
Officer's Approach (Routine)								
Priority Call	**0.47**	0.10	1.60	****	**2.13**	0.007	0.30	****
Used Lights and Sirens	**0.44**	0.10	1.55	****	**3.03**	0.012	0.32	****
Unknown	**0.30**	0.10	1.35	***	-0.03	0.000	0.31	
Officer Duty Status	**0.42**	0.15	1.52	***	0.21	0.000	0.49	
Called for Backup	**0.42**	0.07	1.52	****	**1.55**	0.006	0.23	****
Number of Police Officers	**0.62**	0.06	1.86	****	**3.67**	0.049	0.19	****
Constant/Intercept	**-1.98**	0.12	0.14	****	**23.16**	0.150	0.64	****
Model Fit (Residual)								
-2 Log Likelihood		6868.10				481520.45		
Sum of squares		6493.61				91182.62		
R Square		0.05				0.16		

Domain 4: Officer Characteristics	Physical Force b	s.e.	Exp(b)		Maximum Force b	Eta	s.e.	
Jurisdiction (Colorado Springs)								
San Diego Police	**0.09**	0.13	1.10		**7.23**	0.050	0.36	****
Dallas	0.10	0.12	1.11		**4.73**	0.021	0.38	****
San Diego Sheriff	**0.22**	0.12	1.24	*	**4.08**	0.018	0.35	****
Charlotte	0.23	0.12	1.26	**	**4.11**	0.019	0.34	****
St. Petersburg	**0.70**	0.11	2.00	****	**3.76**	0.018	0.32	****
Sex of Officer	**0.37**	0.13	1.45	***	**0.92**	0.001	0.38	**
Height of Officer	-0.01	0.04	0.99	-	0.11	0.000	0.12	
Weight of Officer	0.01	0.03	1.01		**0.16**	0.000	0.10	*
Police Demeanor Toward Suspect	**1.22**	0.29	3.39	****	**5.95**	0.003	1.17	****
Prior Medical Attention to Officer	0.54	0.10	0.97	****	**1.98**	0.005	0.32	****
Race of Officer (White)				***				
Black	-0.03	0.10	0.97	-	**0.57**	0.000	0.32	•
Hispanic	**0.35**	0.11	1.41	***	-0.57	0.000	0.38	
Other	**-0.13**	0.20	0.88		0.21	0.000	0.59	
Age of Officer	**-0.77**	0.18	0.46	****	**-3.75**	0.007	0.54	****
Number of Surveys Completed	**-0.08**	0.04	0.92	**	0.00	0.000	0.13	
Constant/Intercept	0.95	0.63	2.58		**47.28**	0.052	2.40	****
Model Fit (Residual)								
-2 Log Likelihood		6868.10				529068.90		
Sum of squares		6722.21				43634.19		
R Square		0.02				0.08		

Domain 5: Suspect Characteristics	Physical Force b	s.e.	Exp(b)		Maximum Force b	Eta	s.e.	
Jurisdiction (Colorado Springs)								
San Diego Police	0.24	0.13	1.27	*	**6.40**	0.036	0.38	****
Dallas	0.11	0.12	1.11		**5.12**	0.025	0.37	****
San Diego Sheriff	-0.03	0.13	0.97		**4.17**	0.019	0.35	****
Charlotte	0.16	0.12	1.17		**4.21**	0.021	0.33	****
St. Petersburg	**0.67**	0.11	1.96	****	**4.00**	0.020	0.32	****
Sex of Suspect	**0.35**	0.09	1.42	****	**1.16**	0.003	0.24	****
Police Believe Suspect to be Assaultive	**0.41**	0.12	1.50	***	**0.82**	0.001	0.41	**
Police Believe Suspect has Weapon	**0.67**	0.14	1.95	****	**3.79**	0.007	0.51	****
Gang/Criminal Group Member	-0.27	0.15	0.77	*	0.11	0.000	0.45	
Suspect is Intoxicated	**0.66**	0.07	1.93	****	**1.59**	0.008	0.21	****
Victim Relationship to Arrestee (stranger)								
Friend	-0.25	0.14	0.78	*	**-0.94**	0.001	0.43	**
Family	-0.01	0.11	0.99		**-0.74**	0.001	0.34	**
Victim Not Identified	**-0.18**	0.08	0.84	**	**-1.10**	0.002	0.26	****
Nature of Bystanders (no bystanders)								
Unknown Relationship	**0.66**	0.09	1.93	****	**1.99**	0.007	0.28	****
Stranger to Suspect	**0.23**	0.10	1.26	**	**0.74**	0.001	0.29	**
Friend of Suspect	**0.50**	0.10	1.64	****	**1.45**	0.003	0.31	****
Suspect Family	**0.49**	0.13	1.64	****	**0.91**	0.001	0.39	**
Race of Suspect (White)								
Black	**0.41**	0.08	1.50	****	**0.68**	0.001	0.23	**
Hispanic	**0.27**	0.11	1.31	***	**0.75**	0.001	0.32	**
Other	0.24	0.21	1.28		-0.39	0.000	0.64	
Missing	**0.34**	0.15	1.40	**	0.05	0.000	0.45	
Age of Suspect	**-0.29**	0.11	0.75	***	**-0.95**	0.001	0.33	***
Constant/Intercept	**-1.01**	0.36	0.37	**	**34.95**	0.092	1.27	****
Model Fit (Residual)								
-2 Log Likelihood		6868.10			518158.25			
Sum of squares		6537.45			54544.82			
R Square		0.04			0.10			

Understanding the Use of Force By and Against the Police

Final Report
Grant No. 95-IJ-CX-0066

Appendix E:

Multi-Domain

Multisite

Multivariate Results

Table E1: Multi-Domain, Multivariate, Multisite Findings, Maximum Force without Suspect Resistance

Maximum Force (All Arrests)	Without Suspect Resistance				Suspect Resistance Added			
	b	s.e.	Eta		b	s.e.	Eta	
Jurisdiction (Colorado Springs)								
San Diego Police	**5.23**	0.37	0.027	****	**5.03**	0.35	0.027	****
Dallas	**4.01**	0.33	0.020	****	**3.95**	0.31	0.021	****
San Diego Sheriff	**7.06**	0.38	0.043	****	**6.99**	0.37	0.046	****
Charlotte	**3.62**	0.35	0.014	****	**3.43**	0.34	0.014	****
St. Petersburg	**3.98**	0.32	0.020	****	**3.65**	0.31	0.018	****
Violent Offense	**1.90**	0.27	0.006	****	**1.25**	0.26	0.003	****
Weekend	0.37	0.19	0.000	*	**0.42**	0.18	0.001	**
Bystanders' Demeanor Toward Police	**1.08**	0.42	0.001	***	0.04	0.41	0.000	
Number of Suspects	0.25	0.22	0.000		**0.55**	0.21	0.001	**
Location Known for Criminal Activity	0.36	0.22	0.000	*	0.21	0.21	0.000	
Location Known to be Hazardous	0.47	0.28	0.000	*	0.27	0.27	0.000	
Arrest Occurred Inside								
Better Visibility at Place of Arrest	**-0.23**	0.04	0.005	****	**-0.18**	0.04	0.003	****
Officer in Patrol Division	0.49	0.27	0.000	*	0.37	0.26	0.000	
Suspect Already in Custody	**-0.75**	0.28	0.001	***	**-0.54**	0.27	0.001	**
Police Mobilization (Dispatched)								
Citizen Initiated	-0.04	0.45	0.000		0.07	0.43	0.000	
Police Initated	0.00	0.23	0.000		0.22	0.22	0.000	
Unknown	**-1.53**	0.30	0.003	****	**-0.14**	0.29	0.003	****
Officer's Approach (Routine)								
Priority Call	**1.73**	0.29	0.005	****	**1.56**	0.28	0.004	****
Used Lights and Sirens	**2.85**	0.32	0.010	****	**2.57**	0.31	0.009	****
Unknown	-0.18	0.31	0.000		-0.23	0.29	0.000	
Officer Off Duty								
Called for Backup	**1.38**	0.23	0.005	****	**1.21**	0.22	0.004	****
Number of Police Officers	**3.02**	0.20	0.031	****	**2.61**	0.19	0.025	****
Male Officer	**0.98**	0.30	0.001	***	**1.10**	0.29	0.002	****

Police Demeanor Toward Suspect	**3.80**	1.11	0.002	***	**2.75**	1.07	0.001	***
Prior Medical Attention to Officer	**1.35**	0.30	0.003	****	**0.87**	0.29	0.001	***
Race of Officer (White)								
Black	-0.33	0.30	0.000		-0.18	0.29	0.000	
Hispanic	-0.45	0.35	0.000		-0.55	0.33	0.000	*
Other	0.23	0.55	0.000		0.46	0.53	0.000	
Age of Officer	**-1.98**	0.50	0.002	****	**-2.00**	0.48	0.002	****
Number of Surveys Completed	[redacted]				[redacted]			
Male Suspect	**0.85**	0.23	0.002	****	0.85	0.22	0.002	****
Suspect Known to be Assaultive	0.50	0.39	0.000		0.14	0.38	0.000	
Suspect Known to Carry Weapon	**1.81**	0.48	0.002	****	1.98	0.46	0.003	****
Gang/Criminal Group Member	[redacted]				[redacted]			
Suspect is Intoxicated	**1.02**	0.20	0.003	****	0.28	0.20	0.000	
Victim Relationship to Suspect								
Friend	**-1.49**	0.42	0.002	****	**-1.17**	0.40	0.001	***
Family	**-1.81**	0.36	0.003	****	**-1.47**	0.34	0.002	****
Victim Not Identified	**-0.89**	0.25	0.002	****	**-0.82**	0.24	0.002	***
Nature of Bystanders (No Bystanders)								
Unknown Relationship	**1.32**	0.27	0.003	****	**0.91**	0.26	0.002	****
Stranger to Suspect	**0.78**	0.28	0.001	***	**0.52**	0.27	0.001	**
Friend of Suspect	**0.63**	0.30	0.001	**	0.44	0.29	0.000	
Suspect Family	0.38	0.38	0.000		0.10	0.36	0.000	
Race of Suspect (White)								
Black	0.24	0.23	0.000		0.02	0.22	0.000	
Hispanic	0.44	0.30	0.000		0.34	0.29	0.000	
Other	-0.24	0.61	0.000		-0.93	0.58	0.000	
Missing	0.51	0.43	0.000		0.06	0.42	0.000	
Age of Suspect	-0.28	0.31	0.000		-0.05	0.30	0.000	
Suspect Resistance								
Antagonistic					**1.11**	0.28	0.002	****
Physical Resistance					**7.30**	0.29	0.080	****
Intercept	**45.34**	2.48	0.043	****	**39.93**	2.39	0.036	****
Model Fit (Residual)	45766.6 9				422792.4			
-2 log likelihood	112936.5				149910.7			
R Square	0.20				0.26			

* = p < .10; ** = p < .05; *** = p <.01; **** p = <.001