

THE EFFECT OF POLICE OFFICER CONFIDENCE ON
OFFICER INJURIES AND EXCESSIVE FORCE COMPLAINTS

STEVEN D. ASHLEY, M.S., M.L.S., ARM

AND

LAURA GOLLES, M.L.S.

JUNE 15, 2000

ABSTRACT

This study examined the relationship between use of force related training and an officer's confidence level when managing a resistant subject. Correlations were sought between that confidence level, and use of force related injuries, as well as between that confidence level and citizen complaints of excessive force.

A survey was administered to 417 police officers from 22 police agencies in Michigan. Focus interviews were conducted with a senior administrator at each agency. Survey results indicated that most officers felt confident in their abilities regardless of the amount of training they had or the type of non-lethal weapons the department allowed them to carry. Of interest is the variance in response to the questions between patrol officers and administrators within each department.

TABLE OF CONTENTS

Abstract	ii
Table of Contents	iii
List of Tables	v
Chapter 1 – Introduction	1
Chapter 2 – Law Enforcement’s Less than Lethal Practices	4
The Movement to Aerosol Weapons	4
<i>Justifying the Use of Aerosol Weapons</i>	5
Other Use of Force Developments.....	6
Citizen Perception of Police Use of Force	7
The Current Legal Environment	8
The Importance of Reporting.....	8
Chapter 3 – Writings and Issues Regarding Use of Force	11
Non-Lethal Weapons	11
Firearms and Deadly Force Methodologies	14
Officer Confidence in Use of Force.....	15
Chapter 4 -- Methodology	17
Agency Head Use of Force Questionnaire.....	17
Officer Use of Force Survey.....	18
Chapter 5 – Reporting of Data	19
Agency Head Use of Force Questionnaire.....	19
<i>Demographics</i>	19
<i>Policy Issues</i>	19
<i>Officer Injuries</i>	20
<i>Citizen Complaints of Excessive Force</i>	21
<i>Use of Force Reporting and Review Practices</i>	21
Officer Use of Force Survey	22
<i>Demographics</i>	22
<i>Operational Information</i>	23
<i>Authorized Tools and Weapons</i>	25
<i>Use of Force Training</i>	26

<i>Snapshot: The Typical Officer Respondent</i>	28
<i>Confidence Factors</i>	29
Cross Tabulation of Officer Survey Data	31
<i>Education Correlation with Use of force Injuries and Excessive Force Complaints</i>	31
<i>Training Correlation with Use of force Injuries</i>	32
<i>Training Correlation with Excessive Force Complaints</i>	33
<i>Correlation of Confidence Statements</i>	35
<i>Correlation of Use of Force Training to A Key Confidence Statement</i>	37
Chapter 6 – Analysis of Collected Data	39
Chapter 7 – Recommendations for Further Study	40
References	41
Appendices	45
<i>Appendix A – Agency Head Questionnaire</i>	46
<i>Appendix B – Officer Use of Force Survey</i>	48
<i>Appendix C – Participating Law Enforcement Agencies</i>	50

LIST OF TABLES

Table 1 -- Frequency of Departmental Training on Use of Force Policies	20
Table 2 – Percentage of Officers Injured in Use of Force Incidents Annually	20
Table 3 – Percentage of Those Injured that Require Medical Attention.....	20
Table 4 – Number of Excessive Force Complaints Received Annually	21
Table 5 – Minimum Threshold for Use of Force Report Form	21
Table 6 – Minimum Threshold for Formal Use of Force Review Process	22
Table 7 – Age of Responding Officers.....	22
Table 8 – Respondents’ Experience As Sworn Officers.....	22
Table 9 – Formal Education of Responding Officers.....	23
Table 10 – Frequency Working with a Partner.....	23
Table 11 – Frequency of Injuries During Use of Force Incidents	24
Table 12 – Times Working with a Partner When Injured.....	24
Table 13 – Times an Officer was the Subject of an Excessive Force Complaint	25
Table 14 – Authorized Weapons (as Reported by Officers).....	25
Table 15 – Departments Authorizing Combinations of Weapons (as Reported by Officers).....	26
Table 16 – Contrasting Officers’ Reports with Agency Heads’ Reports.....	26
Table 17 – Frequency of Use of Force Policy Training.....	27
Table 18 – Frequency of Non-Lethal Use of Force Training (All Types).....	27
Table 19 – Frequency of Firearms Training and/or Qualification (All Types).....	28
Table 20 – “I understand my department’s use of force policies.”.....	29
Table 21 – “I have the force/control tools and weapons I need to safely manage resistance.”.....	29
Table 22 – “I have the force/control training I need to safely manage resistance.”.....	30
Table 23 – “I receive force/control training often enough to safely manage resistance.”	30
Table 24 – “I am confident in my ability to handle resistant subjects without getting hurt.”	31
Table 25 – Formal Education vs. Times Injured during a Use of Force Incident.....	31
Table 26 – Formal Education vs. Times the Subject of an Excessive Force Complaint	32
Table 27 – Use of Force Policy Training vs. Times Injured during a Use of Force Incident	32
Table 28 – Non-Lethal Use of Force Training vs. Times Injured during a Use of Force Incident	33
Table 29 – Firearms Training vs. Times Injured during a Use of Force Incident.....	33
Table 30 – Use of Force Policy Training vs. Times the Subject of an Excessive Force Complaint.....	34
Table 31 – Non-Lethal Use of Force Training vs. Times the Subject of an Excessive Force Complaint.....	34
Table 32 – Firearms Training vs. Times the Subject of an Excessive Force Complaint	35
Table 33 – Use of Force Policy Understanding vs. Confidence in Ability to Safely Handle Resistance	35
Table 34 – Tool and Weapons vs. Confidence in Ability to Safely Handle Resistance	36
Table 35 – Force/control Training vs. Confidence in Ability to Safely Handle Resistance	36

Table 36 – Frequency of Force/control Training vs. Confidence in Ability to Safely Handle Resistance37
Table 37 –Use of Force Policy Training vs. Confidence in ability to Safely Handle Resistance37
Table 38 – Non-Lethal Force Training vs. Confidence in ability to Safely Handle Resistance38
Table 39 – Firearms Training vs. Confidence in ability to Safely Handle Resistance38

CHAPTER 1 – INTRODUCTION

The fundamental mission of government is the protection of its citizens. As the most visible arm of government, law enforcement officers are on the front line in the fight to protect citizens from harm, and to preserve public order. To attain this goal, society grants police officers authority unique in civil government, that of controlling the behavior of their fellow citizens. In the most direct way, and on a daily basis, police officers are engaged in the control and management of the behavior of other members of society.

Law enforcement has historically had limited options for the use of deadly and non-lethal force. As recently as twenty-five years ago, an officer's primary tools were small caliber handguns, shotguns and some limited chemical sprays. Nightsticks and blackjacks had been in existence for many years and were the only impact weapons available for routine use. Many officers utilized improvised weapons, such as flashlights and homemade striking devices. The training offered to officers in the use of weapons was very limited, frequently involving only basic firearms instruction.

More recently, advancements in technology, more frequent litigation, and heightened public expectations generated by media coverage, have underscored the need for a change in how the law enforcement profession fulfilled its mission of managing behavior to assure safety for society's members. As criminals on the street gained greater access to a wider range of weapons, law officers experienced a compounded need for more diverse options in both the deadly and non-lethal force arenas. Weapons such as stun guns, aerosol chemical sprays, and martial arts equipment have become available without any type of licensing process in many states. Additionally, larger caliber and higher capacity firearms, coupled with advances in weapon concealment options, have presented an increased threat to officer safety. In a relatively short period of time, these weapon developments led to law enforcement falling behind in the level of technological sophistication required to meet the increasing threat levels faced by officers on the street.

Wider, more detailed, media coverage increased the public's expectation that law enforcement would take advantage of advances in technology, while at the same time more closely managing individual officers' use of force. This increased expectation gave rise to expanded opportunities for litigation at both the state and federal levels, which in turn further fed the media engine. Thus, a cycle of increased expectations and heightened criticism of law enforcement gave rise to increased risk management efforts by agencies at every level of the justice system.

The result of these societal forces has been an increase in police use of non-lethal weapons and techniques, such as aerosol sprays, impact weapons, and simplified defensive tactics systems. Additionally, a wider selection of restraint methods and devices has become available.

During the last 10 to 15 years, law enforcement has also diversified its selection of firearms, replacing outmoded revolvers with higher capacity semi-automatic pistols, and in many cases, traditional pump-action shotguns with semi-automatic shotguns and rifles.

Advances in ammunition and firearms design have given rise to the wide spread adoption of more powerful calibers for police armament, such as the .40 caliber pistol round.

In order to assure the most effective and efficient use of this enhanced technology, significant advances have been made in law enforcement training methodology. Systems for use of various tools and techniques have been developed. While manufacturers and vendors of the new technology initially developed these systems, the law enforcement profession has begun to develop non-brand specific training in many regards. This is an important development, as it allows for the integration of various force and control tools and techniques into more contextually accurate training methodologies.

So that new technologies are properly utilized, and to assist in the proper implementation of training programs, law enforcement has developed enhanced procedural guidelines over the past two decades. Where once a Police Chief or Sheriff might simply admonish his people to “be careful” when using force against a citizen, more recent risk management efforts have resulted in detailed policies and procedures aimed at removing as much ambiguity from an officer’s decision to use force as possible.

The atmosphere created by these recent technological advances, increases in litigation, enhanced training programs and more prolific procedural guidelines is one of increasing difficulty for the law enforcement profession. While technology and training have increased the potential for officer safety and provided better methods for management of use of force against citizens, in order to fully avail themselves of these advancements, law enforcement executives must devote more and more of their limited resources to equipment purchases and costly training programs. To monitor the results of these initiatives, Chiefs and Sheriffs must also provide for more detailed direction and control of officers, through assignment of more officers to supervisory roles, and through the development of more extensive procedural guidelines. This, of course, means that supervisors must also be trained, and that all personnel must be trained in the application of new policies and procedures.

Many departments have found it difficult to keep up. In some cases, departments that purchased new firearms or impact weapons less than ten years ago are under increasing pressure from officers and citizens alike to reevaluate their current equipment, and to consider purchasing even newer technology. In other cases, departments have a great deal of difficulty in offering adequate training to officers within the constraints of current budgets. Often this is exacerbated by political considerations regarding government expenditures and fiscal policy. It is not uncommon for departments to take a “calculated risk” regarding types and levels of training, and then to pay off when events occur that give rise to large court judgments. Occasionally this practice results in recriminations from politicians or the community that law enforcement executives should have been better prepared to forestall such negative outcomes.

Perhaps the greatest challenge for today’s officer is the question of when to use force, and how much force to use. By the vary nature of their jobs, officers are called upon throughout their careers to play mediator in many volatile situations, to take action when laws are violated, and to apprehend traffic violators. At any given time, one of these scenarios can require the use of some type of force or control by an officer. Departmental policy, authorized equipment, formal training, and an officer’s faith in his or her abilities

dictate the amount and type of force officers might use. Additionally, available technology may also impact the decision to use force. If an officer is unprepared to meet the various threats he or she faces, injury to the officer or citizens may result. Lower confidence on the part of officers might lead to increased probability of injuries and complaints of excessive force.

CHAPTER 2 – LAW ENFORCEMENT’S LESS THAN LETHAL PRACTICES

Because police officers are charged with enforcing the law and maintaining public order, they are frequently placed in situations where they must attempt to manage or control an otherwise free citizen. Whether an encounter leads to an actual arrest or merely a temporary detention for questioning, these intrusions are often unwelcome. It is not uncommon for such police intervention to be resisted by the citizen or citizens involved. When this happens, officers frequently need to use forcible means to control and perhaps arrest the persons in question. Traditionally, officers have had limited technology at their disposal. Beyond empty-hand defensive tactics or boxing, officers could utilize striking instruments (such as nightsticks, billy clubs or blackjacks) or they could use a firearm.

Clearly, striking someone with a club or stick represents a high level of force, with significant potential for injury. Of course, shooting them represents an even higher level of force. While such high levels of force are sometimes justified by a citizen’s aggressive, resistive behavior, the opposite is far more common (Hall, 1997).

In those situations where high levels of force cannot be justified, officers were, and are, often at a disadvantage, facing a significant possibility of being injured themselves. The need to control certain violent individuals, while at the same time being discouraged from using potentially injurious deadly weapons (often the only weapons they possess), has resulted in many officer injuries while making arrests for relatively minor violations of the law.

THE MOVEMENT TO AEROSOL WEAPONS

As society’s expectations matured regarding reasonable levels of force, police needed a control method that possessed less potential for injury than a “club” or a gun. For roughly the last two decades, that method has increasingly been hand held chemical spray weapons (Hunter, 1994).

Hand held chemical spray weapons (typically referred to as aerosol weapons, aerosol subject restraints, or ASRs) have been used by police in the United States since the late 1960’s (Bunker, 1996). Initially, more traditional chemical mixtures, usually generically referred to as tear gas¹, were marketed in small aerosol cans for use by individual officers.

Early hand-held units were often ineffective, as the active ingredients—or agents—were really intended to be dispersed over a large area in an airborne cloud rather than sprayed onto an individual in a direct pattern. Sold under the brand name Mace™, these products rapidly gained a reputation amongst police officers for failing to control aggressive, resistive individuals. Instead, officers that used Mace™ were often so adversely affected by the spray that they would refuse to use it thereafter. Use of handheld sprays generally fell out of favor.

During the late 1970s, a hand-held spray weapon containing oleoresin capsicum (OC), sometimes referred to as “pepper spray”, was developed for civilian policing, making significant inroads into the police arsenal during the 1980s. This product contains the active

¹ “Tear gas” is technically incorrect. All of the chemical agents discussed in this paper are actually microparticulate solids. The term “tear gas” is of unknown origin.

ingredient capsaicin, extracted from pepper plants. Because OC is chemically classified as an inflammatory agent, thereby differing from the earlier tear gas products that are chemical irritants (Onnen, 1993), it produces a more severe effect in the targeted individual.

The primary effects of exposure to OC include sharp burning sensations in the eyes and on the skin, as well as coughing and profuse mucous production. Generally, reflexive closing of the eyes, choking and shallow breathing lead to reduced mobility following exposure (National Institute of Justice, 1994).

During the late 1980's, the Federal Bureau of Investigation (FBI) conducted tests on OC based products, in order to determine their effectiveness, and the degree to which they could be deemed safe to use. The 1989 FBI test report was one of the first pieces of research that could truly be judged to be independent of manufacturers' potential influence. Until that time, and other than research done on earlier tear gas products in the late 1960's and early 1970's, the only data available as to efficacy and suitability for use on humans came directly or indirectly from the manufacturers themselves. Coupled with this lack of independent research, most training available in the use of aerosol weapons also originated with the manufacturers.

Following the FBI tests, which found OC based products safe to use, and generally effective,² many law enforcement agencies began to adopt the technology for routine patrol use. There was commensurate development of non-brand specific training programs, although much of the available training still emanated from the manufacturers and vendors of aerosol weapons.

Today, American law enforcement generally employs two types of aerosol weapons. Simple OC products, in varying strengths and concentrations of up to ten percent, make up the bulk of the aerosol market. Additionally, combination products, or blends, are also used. Typically, OC and more traditional CS tear gas³ are "blended" to produce a pepper-fortified tear gas. These blend products have seen particularly widespread use and acceptance by law enforcement agencies in the State of Michigan.

Justifying the Use of Aerosol Weapons

While most officers have a basic understanding of how to use their aerosols, the question of when to use them is less well understood. In fact, there are differing opinions among police administrators and theoreticians as to when aerosol use is operationally appropriate. Concerns regarding this question are embodied in several basic philosophies for the timing of aerosol use.

The first of these philosophies is to use aerosols when faced with minimal levels of resistance, such as verbal non-compliance or aggressive posturing. Justification for use at such a low level hinges upon the potential for officer injury—and the commensurate increased likelihood of injury to the involved citizen—if an officer moves in to control the resistance

² The FBI report was eventually discredited in April of 1996, when Special Agent Thomas Ward, the Agent responsible for supervising the FBI's OC research, pled guilty to accepting money from the OC manufacturer whose product he eventually recommended for purchase. Despite this fact, the report has never been withdrawn, and very little publicity was noted regarding the conviction. Few police agencies have acknowledged this fact (many are perhaps not aware of it), and many continue to cite the report as evidence of the safety and efficacy of OC sprays.

³ Orthochloro-benzalmalononitrile

physically, and begins fighting with the individual. Essentially, it's thought to be better to spray early rather than face this increased risk of injury to both parties.

Another operational philosophy is to not spray unless faced with a fairly high level of resistance, such as would otherwise justify the use of a striking weapon. The reasoning for delaying the use of sprays until greater justification is present stems from concern that use of the aerosol could result in a severe physical reaction that might, in fact, be life threatening. This philosophy tends to place heightened emphasis on avoidance of legal liability in such circumstances.

A third, and perhaps the most defensible philosophy, is to use aerosols – and for that matter any weapon – when such use can meet the test of “objective reasonableness”. This standard is required by the Fourth Amendment to the United States Constitution, and is cited by the Supreme Court of the United States in *Tennessee v. Garner* (1985). One way of stating this is that use of any weapon is justified when an officer reasonably believes that such force is necessary to stop an individual's aggressive or resistant behavior, and that lesser levels of control would be unsafe or ineffective.

OTHER USE OF FORCE DEVELOPMENTS

Concurrent with the movement toward aerosol weapons, law enforcement began to adopt other less-than-lethal technologies. Expandable police batons, which could be worn on the officer's belt (as an alternative to the traditional nightstick, which was often left behind in his or her car when needed), became the “impact weapon” of choice. Different versions of the standard police flashlight, engineered so as to substitute as an impact weapon when necessary, were also available, although concerns were—and continue to be—raised as to the increased legal liability encountered in such use. Alternative restraint methods were developed, supplementing and sometimes supplanting standard issue, chain-link handcuffs (Ashley, 1996).

Each of these new developments required specialized training, as well as additional procedural guidelines in order to reduce the risks inherent in technological change. Such procedures and training were not always implemented, with the results that new control methods and tools often led to increased liability costs, and a parallel increase in the number of officer injuries, and citizen complaints of excessive force.

As municipal managers and insurers increasingly took notice of this undesirable and contradictory trend, law enforcement executives sought to reduce risk through adoption of procedures and training programs. Today, many of the negative results arising from these initial problems have been overcome, although some departments still lag behind the rest of the law enforcement profession in their risk reduction efforts.

Officers using weapons or control techniques of any type must be prepared to articulate their need for the use of such force. The use of force to maintain order, to protect citizens and to enforce the law must be balanced against the cost to society in reduced freedom of movement and in increased intrusion into the lives of society's members. The outcome of this balancing test will determine the legal acceptability of each individual use of force.

CITIZEN PERCEPTION OF POLICE USE OF FORCE

There was a time when mainstream America gave little thought to the routine use of force by police officers. Unless a citizen had been arrested, or lived in a high crime area, such things were generally out of sight, and out of mind. When it did come to the attention of the public, use of force was often deemed to be necessary for the greater good. Only in the case of inappropriate use of deadly force did one see very noticeable public reaction, and generally even those cases did not result in an overall damning of the law enforcement profession. This is no longer the case.

The proliferation of information, coupled with society's ability to capture and rapidly distribute images and ideas, has dramatically changed the law enforcement landscape in America. There is an increased belief in the pervasiveness of brutality and excessive force on the part of law enforcement officers by the American public. Widespread and repeated broadcast of sensational footage of excessive force incidents, coupled with endless analysis and discussion of events by commentators, has resulted in a virtual expectation that the police will use more force than is necessary.

Despite this trend, in many jurisdictions where non-lethal weapons, such as aerosols, are properly used and managed, complaints against officers for excessive force have declined by as much as 50 to 60 percent. It is generally believed that this is due to the short-term nature of the effects of aerosol exposure, and to a reduction in the use of more traditional striking instruments.

Physically fighting with a suspect, and perhaps using a striking implement such as a nightstick or baton, carries with it a significant potential for harm. Injuries ranging from scrapes and sprains to deep bruises and broken bones are often the result. These injuries leave marks on the human body that often remain for days, if not weeks or months. Occasionally medical treatment may be required, sometimes resulting in time off from work for the involved citizen. These situations frequently give rise to complaints that the force used was excessive, and such complaints are often accompanied by threats of legal action.

When viewed in this context, the relatively short-lived effects of an aerosol exposure, albeit extremely painful and debilitating, seem preferable. Usually, the most extreme effects wear off in approximately 20 to 30 minutes, and the exposed person can then be said to have "functionally recovered" (Archambault & Rookwood, 1994). Residual effects, such as reddening of the skin, bloodshot eyes, heightened respiratory sensitivity, and a mild burning sensation, can last anywhere from several hours to several days. In a very few cases, there may be some peeling of the outer layer of the skin (as if recovering from a mild case of sunburn).

Unfortunately, high profile cases such as the well publicized demonstration in Humboldt County, California, wherein officers applied OC directly to the eyes of apparently peaceful anti-logging demonstrators, are widely broadcast by the national media. In such cases, debate ensues as to the appropriateness and necessity of aerosol use, giving rise to statements equating use of aerosol weapons to "torture" (Amnesty International, 1997). Following such incidents, some jurisdictions rethink their use of aerosols, and sometimes ban further use by local police (Chow, 1997). Since many of the same agencies have ceased their use of striking implements, due a fear of litigation, this often leaves officers with few non-

lethal force alternatives. These departments, then, have moved full circle in respect to their use of force philosophies.

On balance, it appears that routine use of aerosol weapons by police leads to reductions in complaints of excessive force, while high profile, individual cases often give rise to general discontent with use of force practices in the affected jurisdictions.

THE CURRENT LEGAL ENVIRONMENT

Because the Supreme Court has declared that the standard for any use of force during an arrest is objective reasonableness, it is necessary that officers and departments take steps to assure a thorough understanding of that standard, and its application to daily law enforcement activities. Initially, the Court applied the standard in deadly force cases (*Tennessee v. Garner*), but then followed *Garner* with other cases expanding the application of the objective reasonableness test to all types of force. In the most influential of these cases, *Graham v. Connor* (1989), the Court further indicated that reasonableness should be determined based upon a reasonable officer's assessment of four factors; the nature of the crime at issue, whether the suspect is an immediate threat to the safety of the officer or others, whether the suspect is attempting to evade arrest through resistance or flight, and the degree to which the situation is tense, uncertain and rapidly evolving. This last point acknowledges that officers must act with little time to analyze and consider circumstances, rather than with the luxury of 20-20 hindsight (*Graham v. Connor*).

In light of these cases, and others, there has been much discussion in the legal arena regarding the need for law enforcement to properly direct and supervise the involvement of officers in high-risk activities. In fact, the Supreme Court has made it clear that policymakers have an obligation to review the daily activities of governmental employees in order to assure that those activities likely to result in potential constitutional violations are addressed with training programs (*City of Canton v. Geraldine Harris*, 1989). To not do so, according to the Court, is to be deliberately indifferent (and therefore unreasonable) to the potential constitutional violation. This is particularly true as regards the use of force to make an arrest.

Most cases filed against law enforcement officers and agencies for inappropriate or excessive use of force, and for illegal arrests, are filed in federal court. This is due to the constitutional limitations on such activity, as well as the potential for plaintiff's attorneys to collect their fees from the defendant. Many of the resultant lawsuits contain language regarding the obligation for departments to manage officers' selection of force implements or techniques. Additionally, it is common for court opinions to focus on the need for job related training; i.e. training that is commensurate with the duties of officers.

THE IMPORTANCE OF REPORTING

In order for departments to demonstrate the job relatedness of their use of force training programs, they must collect data regarding use of weapons and techniques, the success rates of various control methods, and the types and numbers of injuries to officers and suspects. For this information to be as useful as possible, and as an analysis tool for departmental planning and management, it must be both valid and reliable. As such, the information must be as accurate as departmental managers can make it, through development of simple, effective data collection mechanisms.

One of the most important aspects of a data collection strategy is that the officers must see the collection process, and the planned usage of the data, as non-threatening. If officers believe that the information they record will be used against them personally in some way, they may be inclined to inaccurately or incorrectly report data. This undermines the entire reporting process, and indicates a fundamental breakdown in the labor-management relationship.

PUBLIC ACCESS TO INFORMATION

Many in the public believe that police critical data management practices are highly suspect (Enochs, 1995). This tendency creates distrust between the public and the police. Another area of legal concern, and one that has gained much attention within the past few years is that of public access to police information and statistics. The federal Freedom of Information Act (1966), as well as various state “sunshine” laws, or open information laws, guarantee citizens access to most public information (Doherty, 1996). While some sensitive information can be protected (e.g. on-going investigations, etc.), other information must be available and released upon demand within a specified time frame (ACLU, 1997). In fact, some state courts have reaffirmed this requirement by ordering departments to release information (ACLU, 1998).

The need to respond to legal requests for information and records, to demonstrate the job relatedness of policies and training programs, and to comply with the requirements of various “open information” statutes, points to the need to collect, analyze, and maintain accurate databases of critical information.

There are two other dimensions to consider as regards the current legal environment. The first of these is the completeness of critical data, and the second is the ability to ascertain what information should not be released and to act to secure it.

Departments are frequently accused of acting inappropriately in a high-risk incident, leading to the serious injury or death of a citizen. When this occurs, it is not uncommon for the public and the news media to examine the elements of the particular incident, without considering the broader context within which it occurred. In order to properly manage its risks, law enforcement must manage its needs and the expenditure of its limited resources based upon a cost-benefit analysis of its most frequent activities. However, law enforcement incidents are examined as individual occurrences, often without heed to the larger context. An excellent example of this is a high-speed pursuit.

The facts of a particular pursuit related incident, despite a tragic outcome, might not support an ultimate finding of liability on the part of the police. However, the media, and the “Court of Public Opinion”, may damn the actions of the police, based on the outcome and distorted perceptions of the frequency with which similar outcomes occur. In short, the primary focus may be on the number of catastrophic incidents over the past few years, without regard to the broader context of similar incidents where no catastrophic outcome occurred.

For example, it sounds bad to say that a dozen people have been injured in police pursuits in the last three years. But if a department has accurately collected all the pertinent

data, it sounds less troubling to say that over the past three years, out of 45,000 traffic stops,⁴ 12 people have been injured. One can readily see the importance of collecting information on all incidents, regardless of outcome.

Just as important as collecting and presenting available data for release is the identification of information that cannot or should not be released. Court cases have generally held that sensitive information regarding internal practices, on-going investigations, and some personnel information are generally exempt from freedom-of-information requests, and may be protected (*Gifford v. Freedom of Information Commission*, 1993).

⁴ Based on 12 officers averaging 5 traffic stops per workday, each working 250 days per year.

CHAPTER 3 – WRITINGS AND ISSUES REGARDING USE OF FORCE

The media draws attention to a small number of widely publicized incidents involving excessive use of force, thereby sensitizing the public to the issue of police use of force. Lawsuits have become commonplace, and complaints against officers by individual citizens, as well as, special interest groups, have also become more prolific. Some groups are even more forthright. “Allegations of police abuse are rife in cities throughout the country and take many forms” (Human Rights Watch, 1998).

Numerous studies have been conducted into the alleged excessive use of force by police. One study indicates that a small percentage of police-public interactions involve the use of force (Bailey and Garofalo, 1989). Another study that is currently ongoing indicates that when an injury results from a police use of force, it is likely to be minor (NIJ, 1999). The same NIJ study indicates that a small percentage of officers account for a disproportionate number of use of force incidents, but that police use of force seems to be unrelated to an officer’s personal characteristics, such as age, gender, and ethnicity. The NIJ study calls for more research in this area.

While much can be learned from these studies, fundamental questions remain regarding consistency of methodology and commonality of terms. Additionally, training of officers is non-standard throughout the law enforcement profession. Some officers have received little or no training in use of weapons. It is difficult to determine the validity of data reported in these studies by officers that are not trained in the proper defensive tactics or use of non-lethal weapons. A parallel issue is the general lack of information on policy, and training to the policy, within the various departments. Issues such as the hiring and discipline policies within each department, and the use of technologies by each agency are unknown.

In most case studies, it has been shown that the vast majority of police use of force incidents occurred in arrest related situations, and that a high percentage of those arrested were under the influence of drugs or alcohol (NIJ, 1999).

Many studies into police use of force are actually studies into police use of excessive force. These studies frequently miss the larger issues regarding use of force. In order to fully understand the issues inherent in use of force, a broader view need be taken. Data should be collected on all uses of force, and examination of the trends apparent in excessive use of force cases should be contrasted with trends indicated in those cases where no complaint of excessive force is received. This process would allow those excessive cases to be placed into proper context, regarding overall police use of force practices.

NON-LETHAL WEAPONS

While some research has been done of late regarding use of striking weapons (Holtz, 1996), the age of the technology and the law enforcement profession’s concerns with the degree of injury caused through use of such weapons as batons, blackjacks and the like, has caused most recent research efforts to be aimed at finding methods for less invasive control of a subject’s actions. While such futuristic technologies as “sticky foam” and electronic stunning devices are still under development, options available today include “capture-nets”,

and non-traditional projectile ammunition (typically fired from a shotgun). This ammunition can be lethal if certain areas of the body are struck at close range. These alternatives, however, each have their drawbacks, and their practicality for the average officer is difficult to determine.

As research goes forward, law enforcement has an immediate need for a simple, easy to carry and deploy, non-lethal alternative. Although controversy surrounds the decision, many departments have selected an aerosol spray weapon as that alternative. Because of their widespread adoption within such a relatively short time frame, a detailed examination of the literature is warranted.

Much of the actual research in the area of aerosol weapons use is actually not aerosol weapon research at all. It arises from two related fields; military use of traditional chemical munitions such as CS and CN,⁵ and use of capsaicin based products in the food and pharmacological industries. Much of this information is dated, having originated several decades ago. While it should be given general consideration in any body of information regarding use of chemical agents as weapons, many questions remain regarding its applicability to the issues currently under consideration.

Military research examined the effects on individuals of exposure via an airborne cloud of chemical agent. Typically, this research (as released to the public) focused on issues such as the concentration of agent in a given volume of air (e.g., in an enclosed room) required to incapacitate or to kill. While these studies and early civilian research were focused on short-term exposures, the real issue was a desire to determine the range within which enough chemical agent existed to incapacitate, without resulting in lethality. Issues regarding the speed of incapacitation were generally not analyzed (Jones, 1976).

Research into the use of capsaicin in foodstuffs has typically considered the effects of chronic exposure in diet. Such issues as desensitization of the tongue and esophagus, and the effects of continued capsaicin exposure on the stomach lining, are of limited relevance when considering the acute effects of a one-time exposure to a spray weapon.

There is some anecdotal information available regarding the effectiveness of aerosol weapons by police. Much of this information is drawn from actual usage reports, completed by officers in the field. Some law enforcement agencies have compiled this information in an attempt to ascertain the operational impact of aerosol use.

Two additional facts tend to prevent definitive use of data from these studies. First, many different brands of aerosols are involved, with differing concentrations of active chemical agents. It is extremely difficult to compare a study based on one product to a study based on a different product. This problem is exacerbated by a lack of commonality in the aerosol industry, in respect to terminology and product information.

Secondly, training of officers is non-standard throughout the law enforcement profession. Some officers have received viable training, while others have received minimal training or no training at all. It is difficult to determine the veracity of data reported by officers that are not trained in proper use of their aerosol weapons. Similarly, there is a

⁵ Chloroacetophenone, one of the earliest riot control agents available to civilian police. A refined version of CN (phenylchloromethylketone) was used as the active ingredient in Mace™.

general lack of information on training levels in departmental studies, which makes it difficult to evaluate the ability of officers to accurately report usage incidents.

Despite these problems, some information can be gleaned from these reports. In most case studies, injuries to both citizens and officers are reduced significantly, while complaints against police for excessive force are also reduced. Portland, Oregon, police noted an 83% reduction in subject injuries and a 61% decrease in officer injuries when OC is used. This was coupled with a 43% reduction in complaints of excessive force (Gauvin, 1995). A study of OC use in the Baltimore County, Maryland, Police Department noted that officers were injured in only 11 % of incidents where aerosol was used, and that most injuries were very minor. A suspect injury rate of 8% was also noted. Pre-OC data were insufficient to make a comparison, but the study concluded that these numbers represent a significant reduction based on trending analyses. A reduction in complaints against officers of 53% paralleled other data (International Association of Chiefs of Police, 1995).

Morabito and Doerner (1995) reviewed use of force reports in the Tallahassee, Florida, Police Department, for a 20-month period prior to December 31, 1995. They found significant reductions in subject and officer injuries when OC was employed, compared to use of an impact weapon. Officers were injured 24.6% of the time when impact weapons were used, but only 3.6% of the time when OC was used. Similar figures existed for suspect injuries; 25% of the time when impact weapons were used, and 5.1% of the time with OC use.

A 1995 study by the International Association of Chiefs of Police (IACP) reported a 90% OC effectiveness rate. Other research by the same body indicates that while aerosols may have been employed in arrest situations which eventually resulted in the death of the suspect, very limited evidence (if any) links the use of OC with the cause of death (Granfield, Onnen & Petty, 1994).

Some researchers have identified potential problems with the use of OC spray by law enforcement. Doubet (1996) identified possible medical implications in the use of OC by police, and cautioned against use in response to low levels of suspect resistance. However, a study of aerosol use in North Carolina found that, out of 2,912 officers sprayed in training and 1,451 citizens sprayed during arrest or detention situations, only eight injuries were reported, and all were minor irritations of the skin or eyes (Craig, 1994).

Messina (1993, 1996) cautioned against replacing competent defensive tactics training with OC spray, as spray may be ineffective against highly motivated, goal oriented individuals. More traditional control methods may be necessary, and officers should still be trained in their use. At least one police officer has been killed, with his death attributed to inappropriate training (Merrick, 1995). Training with aerosols should be as realistic as possible, ideally involving simulated combat scenarios and full facial spray “hits” (Ashley, 1996).

Various special interest groups have collected data which, based upon each group’s assessment of meaning, indicates that use of aerosols leads to an unacceptably high risk of death or serious injury. The most notable collection of information is presented by the American Civil Liberties Union (ACLU), with the Southern California Chapter being the most active and vociferous, issuing reports in 1993 and again in 1995. It is difficult to consider these data collections “research” (for many of the same reasons stated above, with

respect to studies based on usage reports); however, publication of these and similar compilations have brought significant pressure to bear for changes in law enforcement aerosol usage.

FIREARMS AND DEADLY FORCE METHODOLOGIES

During the 1970's and 1980's much research was done into the use of deadly force by police. Perhaps the seminal work in this area is Deadly Force: What We Know, published by the Police Executive Research Forum (Geller and Scott, 1992). It is essentially a compilation of most early research into the issue of deadly force, coupled with analysis of police involved shootings in 13 large American cities. One of the most telling points made in "What We Know" regarding the management of police-citizen conflict is that police must learn to study both successes and failures (Geller and Scott). Much of the law enforcement profession's time is spent studying success and rationalizing or justifying failure. Only through thorough study of those incidents resulting in negative outcomes can law enforcement hope to begin the corrective processes necessary to enhance management of such violent encounters.

Virtually every police shooting that leads to injury of a citizen will result in a lawsuit (Scharf and Binder, 1983). This is only one of the negative outcomes possible in a police involved shooting; others are injury to officers and citizens, negative public relations, civil unrest, damaged equipment, lowered morale among officers, reduced work product in the days and weeks following a shooting, increases in complaints against officers due to officers "attitude problems" following the shooting of an officer, and many others.

Unfortunately, fear of litigation drives many law enforcement management programs. This is true despite the fact that many other issues are far more costly, both in dollars and in reduced work output. The ripple effect from a shooting is often felt for years within a police organization. One of the primary mechanisms by which this occurs is Post Traumatic Stress Disorder (PTSD), a physiological-psychological aftereffect of any traumatic event. Departments often try to deny the existence of PTSD, or to downplay its importance to the officer and cost to the department. This is far from the truth, and is actually harmful to both entities, as it compounds the injury caused by PTSD. Departments have nothing to gain, and much to lose by taking this position (Artwohl and Christensen, 1997).

Many departments that have relegated officer involved shootings to the "litigation drawer" in their hierarchy of concern often focus a disproportionate part of their training budget and time on proper use of firearms. Some departments conduct firearms training as often as monthly, with many more training quarterly and semi-annually. While firearms training is important because of the potential for negative outcomes, it often bears no relation to what is actually happening on the street. Much more training should be done in the more common yet less dramatic skills that officers use every day, such as driving and defensive tactics. The more realistic and job related training is, the more benefit will be gained from it (Ashley, 1995).

One of the key areas where police receive little training is in the area of verbal management skills. One researcher has pointed out that the explosion of violence that sometimes occurs between an officer and a citizen is frequently the result of the demand for respect that each puts upon the other (Toch, 1969). When police managers emphasize deadly force training at the expense of training in the less invasive aspects of control, officers can

become acculturated to choose the more harmful alternative in an actual confrontation (Brill, 1977).

Another operational area of law enforcement that sometimes receives too little attention is emergency vehicle operations. Increasingly officers are participating in law enforcement driver training, often prompted by litigation arising from motor vehicle pursuits. While this increase in training is helpful in reducing the risks of pursuit, it usually does not address forcible termination techniques such as roadblocks and intentional vehicle contact. Both of these techniques have been classified as seizures under the fourth amendment to the United States Constitution. The former of these can easily result in a fatal outcome if improperly managed (*Brower v. Inyo County*, 1989), while the latter most certainly will, when undertaken at high speeds, or when vehicle size is disproportionate (*Donovan v. Milwaukee*, 1994). Many police procedural documents classify both of these forcible seizures as “deadly force”, although the courts are split on whether they actually do constitute such a high level of control. Nonetheless, it is clear that they do constitute a relatively high level of control, and might constitute deadly force in some contexts. It is therefore imperative that departments begin training officers in how to utilize these techniques, especially where they are expressly authorized by policy (*Canton v. Harris*, 1989).

Although this study did not consider driving related use of force methodologies, these issues remain, and should be addressed in the future.

OFFICER CONFIDENCE IN USE OF FORCE

There appears to be little, if any research into the effects of officer confidence on use of force incident outcomes. Officer injury rates and numbers of excessive force complaints, and the degree to which an officer’s confidence in their ability to manage resistant subjects impacts both outcomes, seems a field where much can be learned.

There has been some research into confidence and training, and their combined effects on the ability of test subjects to perform certain tasks, but even that is limited in direct application to the instant question. Costanzo (1992) found that providing information alone to test subjects did not increase their ability to perform, although it did increase their confidence in the accuracy of their performance. Beyer (1990) attempted to discover if gender differences were related to differences in self-confidence regarding performance, but was unable to determine if biases played a role in any deviance due to ambiguities in interpretations of test results. However, another study indicated that gender differences are more detectable in general confidence, but that confidence in actual ability is dependent on the context of the activity (Lundberg, Fox and Puncochar, 1994)

Other research has indicated that subjects who receive preparatory information prior to a stressful event (such as a shooting or other use of force incident) experience greater confidence in their ability to perform properly, and do in fact perform at a higher level (Inzano, Driskell, Salas and Johnston, 1996).

An analysis of the effectiveness of stress-based training found that such training reduced performance anxiety and enhanced performance. Such factors as the experience level of the trainer, the training setting, and the type of trainees involved showed no

reduction in the benefit of stress based training (Saunders, Driskell, Johnston and Salas, 1996).

Finally, Martocchio (1994) found that subjects learned skills better when told that their topic was a “learnable skill”, rather than those told that the skill was unlikely to be learned. Anxiety levels of the former group were reduced through training, while anxiety in the “unlearnable” group remained high or increased.

Ramifications of this research for officer training in use of force incidents seem clear. Differences in gender or type of trainee should have minimal effect on their ability to learn, and more stressful training will produce less anxious practitioners. If a student believes that they can be successful, they are more likely to succeed than those who don’t believe they can. Lastly, the more relevant information a trainee receives, the more confident they are likely to be in their ability to perform, but they need more than information – they need skill development training to reinforce the information they have received.

CHAPTER 4 – METHODOLOGY

This study sought a correlation between levels of formal use of force training and officer confidence, and the frequency of injuries sustained by officers in use of force incidents. Additionally, this study sought to discover any relationship between an officer's confidence level in managing resistive behavior and the frequency of citizen complaints of excessive force.

In order to facilitate this study, three hypotheses were presented for testing:

- Lower levels of formal training have no impact on officer confidence levels in dealing with use of force incidents.
- Lower levels of formal training have no impact on the frequency of officer injuries in use of force incidents.
- Low officer confidence levels have no impact on the frequency of excessive force complaints or on officer injury rates

Two types of survey instruments were developed to facilitate data collection (see appendices). The first of these was an Officer Use of Force Survey, to be administered anonymously to front line law enforcement personnel (patrol officers, detectives and first line supervisors, as well as any other personnel primarily engaged in routine police duties). The second was an Agency Head Use of Force Questionnaire, to be administered through a focus interview with the chief executive of each agency, or a senior command officer if the chief executive was unavailable.

Survey packages were distributed to 25 law enforcement agencies in Michigan during the months of March and April 2000. The study sample was comprised of agencies varying in geographical location and agency size. The smallest agency sampled had six officers, while the largest had 100. The mean department size was 33, while the Median was 23, and the Mode was 6 (only 2 departments of this size). There were 12 city police departments of varying sizes, 1 city public safety department, 6 township police departments, and 3 county sheriff's departments. Three departments declined to participate.

Of the 22 departments participating, 20 agency executives completed focus interviews. One city police chief and one township police chief were unreachable during the period of the study.

AGENCY HEAD USE OF FORCE QUESTIONNAIRE

Focus interviews were conducted with senior command staff at 20 agencies. Demographic information was collected regarding number of officers, annual number of calls for service, and annual number of arrests. Further information was collected regarding the nature of the department's primary service area, and its population.

Procedural information was collected regarding four primary areas; written policies and procedures, officer injuries during use of force incidents, numbers of excessive force complaints, and each department's use of force reporting and review process. Regarding this

last item, specific questions were asked regarding the precipitating events necessary to trigger a use of force report and the formalized agency review of a use of force incident.

When possible, anecdotal information was collected regarding types of weapons authorized, and frequencies of training with each. This data collection was difficult due to the nature of the information, and was not consistent across the sample of interviews.

OFFICER USE OF FORCE SURVEY

Of 723 officers surveyed, 417 returned completed instruments, for a response rate of 57.7 percent. Departments were requested to have their officers complete their surveys voluntarily during work hours. In order that each chief executive's focus interview responses could be matched to the survey response from his or her agency, each department was assigned an agency reporting code number. Those numbers were recorded on each survey distributed within that agency. No names or departmental ranks were recorded, so as to provide an added safeguard of anonymity.

At the outset of this project, the authors began with an assumption that each officer had used some type of force or control in the course of his or her police duties. That force or control could range from a slight intentional physical contact with a subject to the use of deadly force. The author's did not distinguish levels of control, but left respondents to their own definitions and assumptions.

Officer respondents were asked basic demographic questions such as age, time on the job, and education level. Respondents were also asked for data regarding the frequency of work assignments with another officer, frequency of injuries sustained during use of force incidents, the frequency of those injuries sustained while assigned with a partner, and the number of excessive force complaints filed against the officer. Data was also collected regarding non-lethal weapons authorized by the department. Selection options were Spray Weapon (OC Only), Spray Weapon (Other), Flashlight Authorized as an Impact Weapon, Collapsible Baton, and an area to list any others. Questions in regard to the frequency of formal training on use of force policies, frequency of non-lethal force training and frequency of firearms training were also asked.

The authors then asked individual officers to respond in regard to their understanding of their department's use of force policies, and whether they felt that they had adequate tools/weapons and training, as well as frequent enough training to accomplish their job. The final question was whether the officer felt confident in his or her abilities to handle resistant subjects without getting hurt.

CHAPTER 5 – REPORTING OF DATA

AGENCY HEAD USE OF FORCE QUESTIONNAIRE

The following information was gathered from the Agency Head Use of Force Questionnaire. A total of 20 questionnaires were compiled, with most being completed by the Chief or Sheriff of each agency.

Demographics

Departments sampled ranged from 6 officers to over 100. Data was aggregated into ranges for ease in collection. Officers were fairly evenly distributed over the size range, with 15% being from departments in the 6-10 officer range, 30% from departments in the 11-25 officer range, 25% in the 26-50 range, 20% in the 51-100 range, and 10% in the Over 100 range. There were no departments in the Less than 6 range (they declined to participate).

Fifteen percent of the sampled departments were classified as Rural, 30% as Suburban, 20% as Urban, and 35% as Evenly Mixed. There were no departments classified as Industrial.

Service Area Jurisdiction Types were reported as 25% Township, 60% City, and 15% County. There were no Combined Jurisdictions reported.

Population of Service Area was reported as 5% for communities of 2,000 or Less, 20% for communities of 2,001-10,000, 30% for communities of 10,001-25,000, 15% for communities of 25,001-50,000, 15% for communities of 50,001-100,000, and 15% for communities of 100,001 or More.

Annual Number of Calls for Service were reported as 20% of communities handling between 1,001 and 5,000 calls annually, 20% handling between 5,001 and 10,000 annually, 25% handling between 10,001 and 25,000 annually, 30% handling between 25,001 and 50,000 annually, and 5% handling More than 50,000 calls annually.

Twenty percent of communities reported 500 or fewer arrests annually, 30% reported between 501 and 1,000 arrests annually, 30% reported between 1,001 and 3,000 arrests annually, 15% reported between 3,001 and 6,000 arrests annually, and 5 % reported between 6,001 and 10,000 arrests annually.

Policy Issues

All respondent agencies had both written deadly force policies and written non-lethal force policies. Slightly more than one half (60%) of agencies review and update their use of force policies at least annually, while 20% review and update theirs every 2 years, and 20% review and update theirs less frequently or not on any scheduled basis.

In 90% of respondent agencies, each officer receives their own copy of use of force policies, while in 10% of agencies officers share copies located in communal policy manuals.

In 85% of respondent agencies, officers receive training in use of force policy issues at least annually, while 15% of agencies report training officers in use of force policy issues less frequently than once a year (see Table 1).

Frequency	Departments	
	Number	Percentage
Less Often	1	5
Every Two Years	2	10
Annually	11	55
Twice a Year	3	15
Quarterly	2	10
More Often	1	5
Total	20	100

Table 1 -- Frequency of Departmental Training on Use of Force Policies

Officer Injuries

Responding departments reported relatively few officers injured in Use of force incidents, and fewer still that required medical treatment. Several departments that reported high numbers of officers requiring treatment stipulated that, as a matter of policy, they require all officers that are injured to seek medical treatment (see Tables 2 and 3).

Number of Officers	Departments	
	Number	Percentage
Less than 10%	19	95
11% – 25%	1	5
Total	20	100

Table 2 – Percentage of Officers Injured in Use of Force Incidents Annually

Number of Officers	Departments	
	Number	Percentage
Less than 10%	15	75
11% - 25%	1	5
26% - 50%	1	5
76% - 100%	3	15
Total	20	100

Table 3 – Percentage of Those Injured that Require Medical Attention

Citizen Complaints of Excessive Force

Responding departments reported relatively few complaints of excessive force, and even fewer complaints that were sustained (see Table 4). Several departments reported that all excessive force complaints have been found to be unfounded or have been withdrawn, while other departments reported that most complaints are found to be unfounded or are withdrawn. Of interest, several departments reported anecdotally that most of the withdrawn complaints were retracted by the complainant after the viewing of a videotape shot with a cruiser mounted video camera.

Number of Complaints	Departments	
	Number	Percentage
5 or Less	17	85
6 – 10	2	10
11 – 25	1	5
Total	20	100

Table 4 – Number of Excessive Force Complaints Received Annually

Use of Force Reporting and Review Practices

Slightly more than half (60%) of agencies reported the use of a separate use of force report form. Approximately 58% of those agencies using a separate form require that a form be completed for every use of force or control (see Table 5).

Threshold	Departments	
	Number	Percentage
Any use of force or control	7	58.33
Resisted handcuffing	4	33.33
Any injury to an officer or citizen	1	8.33
Total Reporting Departments	12	99.99

Table 5 – Minimum Threshold for Use of Force Report Form

Eighty percent (80%) of responding departments reported having a formalized use of force review process. Most of these reported activating a formal review whenever any force or control is used (see Table 6).

Threshold	Departments	
	Number	Percentage
Any use of force or control	12	75
Resisted handcuffing	2	12.5
Any injury to an officer or citizen	2	12.5
Total Reporting Departments	16	100

Table 6 – Minimum Threshold for Formal Use of Force Review Process

OFFICER USE OF FORCE SURVEY

The information in Tables 7, 8 and 9 was gathered from the Officer Use of Force Survey. A total of 417 surveys were compiled, with most being fully completed by the responding officer. Some officers failed to answer some questions, and the following data reflect those omissions as zero entries (00).

Demographics

Age of Officer	Officers	
	Number	Percentage
25 and Under	35	8.4
26 – 30	103	24.7
31 – 40	171	41.0
Over 40	108	25.9
Total	417	100

Table 7 – Age of Responding Officers

Years of Experience	Officers	
	Number	Percentage
00 (No Answer)	2	.5
Less than 1 Year	13	3.1
1 – 4 Years	90	21.6
5 – 10 Years	123	29.5
Over 10 Years	189	45.3
Total	417	100

Table 8 – Respondents' Experience As Sworn Officers

Level of Education	Officers	
	Number	Percentage
Less than High School Graduate	1	.2
High School Graduate	77	18.5
Associate's Degree	174	41.7
Bachelor's Degree	149	35.7
Master's Degree	15	3.6
Higher than Master's Degree	1	.2
Total	417	100

Table 9 – Formal Education of Responding Officers

Officers ranged across all age groups, with almost half reporting their age at 31-40 years. Approximately $\frac{1}{4}$ of officers had less than 5 years of experience, slightly more than $\frac{1}{4}$ reported having between 5 and 10 years of experience, while not quite $\frac{1}{2}$ reported having 10 years or more.

Approximately 19% of officers reported no college degree, while the greatest number (over 40%) reported an Associate's Degree, and 35% reported a Bachelor's Degree. A relative few (3.6%) reported graduate degrees.

Operational Information

The following data reflect information regarding working arrangements, injury frequencies and excessive force complaint frequencies. Data was collected in ranges, using a Likert style survey instrument.

Most officers reported that they seldom work with a partner, with more than 80% reporting that they work alone more than half the time they are on duty (see Table 10).

Frequency	Officers	
	Number	Percentage
Never	131	31.4
Rarely	205	49.2
Half of the Time	28	6.7
Frequently	36	8.6
Always	17	4.1
Total	417	100

Table 10 – Frequency Working with a Partner

Fully 1/3 of responding officers reported never being injured during a use of force incident, while 60% reported being injured between 1 and 5 times (see Table 11). Thus, a total in excess of 93% of officers reported career use of force related injuries of 5 or less, despite the fact that almost ½ of responding officers reported having more than 10 years of police experience, and approximately 75% reported 5 or more years of experience.

Frequency	Officers	
	Number	Percentage
Never	139	33.3
1 – 5 Times	251	60.2
6 – 10 Times	18	4.3
11 – 15 Times	5	1.2
16 or More Times	4	1.0
Total	417	100

Table 11 – Frequency of Injuries During Use of Force Incidents

A total of 278 officers reported being injured during a use of force incident some time during their career. Of these, slightly less than 60% reported that they were usually alone (working without a partner) when injured. Slightly more than 22% of officers that reported being injured during a use of force incident indicated that they were usually with a partner when injured (see Table 12).

Frequency	Officers	
	Number	Percentage
00 (No Answer)	1	.4
Never	51	18.3
Rarely	114	41.0
Half of the Time	50	18.0
Frequently	36	12.9
Always	26	9.4
Total	278	100

Table 12 – Times Working with a Partner When Injured

More than half of responding officers reported never being the subject of an excessive force complaint during their career. Slightly less than 40% of officers reported being the subject of a complaint at least once, but no more than 5 times (see Table 13).

Frequency	Officers	
	Number	Percentage
00 (No Answer)	1	.2
Never	236	56.6
1 – 5 Times	162	38.8
6 – 10 Times	13	3.1
11 – 15 Times	3	.7
16 or More Times	2	.5
Total	417	100

Table 13 – Times an Officer was the Subject of an Excessive Force Complaint

Authorized Tools and Weapons

The following data reflect information regarding weapons authorized by departments in the study sample, as reported by the individual officer respondents. Some departments authorize multiple weapons (see Table 14). Due to evident confusion regarding the specific definition of the alternative “Spray Weapon (OC Only)” versus “Spray Weapon (Other),”⁶ data for both spray questions has been combined.

Weapon	Officers Reporting	
	Number	Percentage
Aerosol Spray Weapon	382	91.6
Flashlight as Impact Weapon	122	29.3
Collapsible Baton	306	73.4
Other Impact Weapon	47	11.3

Table 14 – Authorized Weapons (as Reported by Officers)

The following chart indicates departments that authorize impact weapons in combination with an aerosol spray weapon (see Table 15).

⁶ It was the authors’ intent to include only those sprays that contained no other active agent other than oleoresin capsicum in the classification “Spray Weapon (OC Only)”. “Spray Weapon (Other)” was intended to include non-OC products, as well as any product that is comprised of a blend of OC and another active agent. It is the authors’ belief that respondents did not understand this, and selected Spray Weapon (OC Only) when they intended to indicate that their spray weapon includes OC as one of its components. This is based on the authors’ independent knowledge of several of the departments included in the study sample.

Aerosol Spray Weapon AND	Officers Reporting	
	Number	Percentage
Flashlight as Impact Weapon	115	35.7
Collapsible Baton	281	87.3
Other Impact Weapon	46	14.3
Total Officers Reporting	322	100

Table 15 – Departments Authorizing Combinations of Weapons (as Reported by Officers)

It should be noted that there is some discrepancy between responses to these questions by agency heads and those by individual officers (see Table 16).

The authors draw no specific conclusion from this. One possibility is that officers do not understand (or if they do, they do not follow) their agencies' directives on weapons authorization. This is particularly noteworthy as a possibility when considering the use of flashlights as impact weapons, due to the fact that few training programs address this use. Further study is appropriate to discover the underlying cause of this discrepancy.

Authorized Weapons	Officers		Agency Heads	
	Raw	%	Raw	%
Aerosol Spray Weapon	382	91.6	18	90
Flashlight as Impact Weapon	122	29.3	3	15
Collapsible Baton	306	73.4	13	65
Other Impact Weapon	47	11.3	1	5

Table 16 – Contrasting Officers' Reports with Agency Heads' Reports

Use of Force Training

Slightly less than 2/3 of responding officers reported receiving at least annual training in their agencies' use of force policies. Approximately 26% of officers reported receiving training in use of force policy less frequently than every 2 years, or not receiving any at all (see Table 17).

Frequency	Officers Reporting	
	Number	Percentage
00 (No Answer)	4	1.0
Less Often than Bi-Annually	110	26.4
Bi-Annually (Every 2 Years)	31	7.4
Annually	198	47.5
Semi-Annually (Twice a Year)	34	8.2
Quarterly	32	7.7
More Often than Quarterly	8	1.9
Total Officers Reporting	417	100

Table 17 – Frequency of Use of Force Policy Training

Approximately ¼ of responding officers reported receiving non-lethal force training less frequently than every 2 years, or not receiving any non-lethal training at all. Slightly less than 2/3 of officers reported receiving training in non-lethal use of force at least annually (see Table 18).

Frequency	Officers Reporting	
	Number	Percentage
00 (No Answer)	5	1.2
Less Often than Bi-Annually	113	27.1
Bi-Annually (Every 2 Years)	32	7.7
Annually	207	49.6
Semi-Annually (Twice a Year)	30	7.2
Quarterly	25	6.0
More Often than Quarterly	5	1.2
Total Officers Reporting	417	100

Table 18 – Frequency of Non-Lethal Use of Force Training (All Types)

Over 96% of officers reported participating in firearms training or qualification at least annually. Slightly less than 80% reported participation at least twice a year, while 40% reported receiving training at least quarterly (see Table 19).

Frequency	Officers Reporting	
	Number	Percentage
00 (No Answer)	5	1.2
Less Often than Bi-Annually	8	1.9
Bi-Annually (Every 2 Years)	3	.7
Annually	70	16.8
Semi-Annually (Twice a Year)	166	39.8
Quarterly	117	28.1
More Often than Quarterly	48	11.5
Total Officers Reporting	417	100

Table 19 – Frequency of Firearms Training and/or Qualification (All Types)

Snapshot: The Typical Officer Respondent

It appears that the average responding officer is:

- Between 31-40 years old, with 10 years or more on the job, and possesses an undergraduate college degree.
- Works alone, and has not been injured during a use of force incident. For those that have been injured, most were working alone at the time.
- Has been the subject of an excessive force complaint less than five times during his or her career, and probably has never received any excessive force complaints.
- Carries an aerosol spray weapon and an impact weapon, probably a collapsible baton.
- Receives training on use of force policies, non-lethal techniques and firearms at least annually.

Confidence Factors

The following tables represent the respondents' reactions to 5 statements designed to ascertain the officers' level of confidence in their knowledge, skills and abilities as regards their ability to handle resistant subjects (see Tables 20-24).

Frequency	Officers Reporting	
	Number	Percentage
00 (No Answer)	3	.7
Strongly Disagree	9	2.2
Somewhat Disagree	11	2.6
Don't know	9	2.2
Somewhat Agree	145	34.8
Strongly Agree	240	57.6
Total Officers Reporting	417	100

Table 20 – “I understand my department’s use of force policies.”

Frequency	Officers Reporting	
	Number	Percentage
00 (No Answer)	2	.5
Strongly Disagree	29	7.0
Somewhat Disagree	34	8.2
Don't know	12	2.9
Somewhat Agree	176	42.2
Strongly Agree	164	39.3
Total Officers Reporting	417	100

Table 21 – “I have the force/control tools and weapons I need to safely manage resistance.”

Frequency	Officers Reporting	
	Number	Percentage
00 (No Answer)	3	.7
Strongly Disagree	22	5.3
Somewhat Disagree	58	13.9
Don't know	16	3.8
Somewhat Agree	207	49.6
Strongly Agree	111	26.6
Total Officers Reporting	417	100

Table 22 – “I have the force/control training I need to safely manage resistance.”

Frequency	Officers Reporting	
	Number	Percentage
00 (No Answer)	5	1.2
Strongly Disagree	54	12.9
Somewhat Disagree	88	21.1
Don't know	19	4.6
Somewhat Agree	172	41.2
Strongly Agree	79	18.9
Total Officers Reporting	417	100

Table 23 – “I receive force/control training often enough to safely manage resistance.”

Frequency	Officers Reporting	
	Number	Percentage
00 (No Answer)	3	.7
Strongly Disagree	7	1.7
Somewhat Disagree	26	6.2
Don't know	24	5.8
Somewhat Agree	207	49.6
Strongly Agree	150	36.0
Total Officers Reporting	417	100

Table 24 – “I am confident in my ability to handle resistant subjects without getting hurt.”

CROSS TABULATION OF OFFICER SURVEY DATA

The following tables represent selected cross tabulations of variables drawn from individual officer responses. Cross tabulations were done primarily with data regarding training levels, confidence factors, use of force related injuries and excessive force complaints.

Education Correlation with Use of force Injuries and Excessive Force Complaints

The following tables represent correlations between the highest level of formal education attained by officer respondents, and use of force related injuries and excessive force complaints (see Tables 25 – 26).

Level of Education Completed	Times Injured During a Use of Force Incident					
	Never	1 - 5	6 - 10	11 - 15	16 or More	Total
Less than High School		1				1
High School Graduate	18	54	1	3	1	77
Associate's Degree	51	109	12	1	1	174
Bachelor's Degree	68	76	2	1	2	149
Master's Degree	2	10	3			15
Higher than Master's Degree		1				1
Total	139	251	18	5	4	417

Table 25 – Formal Education vs. Times Injured during a Use of Force Incident

Level of Education Completed	Times the subject of an Excessive Force Complaint					
	Never	1 - 5	6 - 10	11 - 15	16 or More	Total
Less than High School				1		1
High School Graduate	44	26	4	1	2	77
Associate's Degree	101	68	4	1		174
Bachelor's Degree	83	60	5			149
Master's Degree	8	7				15
Higher than Master's Degree		1				1
Total (1 officer not reporting)	236	162	13	3	2	416

Table 26 – Formal Education vs. Times the Subject of an Excessive Force Complaint

Training Correlation with Use of force Injuries

The following 3 tables represent correlations between frequency of officer training (in use of force policies, non-lethal force, and firearms) and use of force related injuries (see Tables 27 – 29).

Frequency	Times Injured During a Use of Force Incident					
	Never	1 - 5	6 - 10	11 - 15	16 or More	Total
00 (No Answer)	1	3				4
Less Often than Bi-Annually	42	57	7	2	2	110
Bi-Annually	7	23	1			31
Annually	65	120	8	3	2	198
Semi-Annually	11	22	1			34
Quarterly	9	23				32
More Often than Quarterly	4	3	1			8
Total	139	251	18	5	4	417

Table 27 – Use of Force Policy Training vs. Times Injured during a Use of Force Incident

Frequency	Times Injured During a Use of Force Incident					
	Never	1 - 5	6 - 10	11 - 15	16 or More	Total
00 (No Answer)	2	3				5
Less Often than Bi-Annually	42	61	7	1	2	113
Bi-Annually	7	22	1	2		32
Annually	70	123	10	2	2	207
Semi-Annually	10	20				30
Quarterly	6	19				25
More Often than Quarterly	2	3				5
Total	139	251	18	5	4	417

Table 28 – Non-Lethal Use of Force Training vs. Times Injured during a Use of Force Incident

Frequency	Times Injured During a Use of Force Incident					
	Never	1 - 5	6 - 10	11 - 15	16 or More	Total
00 (No Answer)	1	4				5
Less Often than Bi-Annually	2	6				8
Bi-Annually	1	1		1		3
Annually	27	39	3	1		70
Semi-Annually	44	106	13	1	2	166
Quarterly	43	71	2	1		117
More Often than Quarterly	21	24		1	2	48
Total	139	251	18	5	4	417

Table 29 – Firearms Training vs. Times Injured during a Use of Force Incident

Training Correlation with Excessive Force Complaints

The following 3 tables represent correlations between frequency of officer training (in use of force policies, non-lethal force, and firearms) and complaints of excessive force (see Tables 30 – 32).

Frequency	Times the Subject of an Excessive Force Complaint						Total
	00	Never	1 - 5	6 - 10	11 - 15	16 or More	
00 (No Answer)		2	2				4
Less Often than Bi-Annually	1	65	37	5	1	1	110
Bi-Annually		15	14	1		1	31
Annually		114	77	5	2		198
Semi-Annually		19	14	1			34
Quarterly		17	14	1			32
More Often than Quarterly		4	4				8
Total	1	236	162	13	3	2	417

Table 30 – Use of Force Policy Training vs. Times the Subject of an Excessive Force Complaint

Frequency	Times the Subject of an Excessive Force Complaint						Total
	00	Never	1 - 5	6 - 10	11 - 15	16 or More	
00 (No Answer)		4	1				5
Less Often than Bi-Annually	1	65	40	5	1	1	113
Bi-Annually		17	13	1		1	32
Annually		118	81	6	2		207
Semi-Annually		17	13				30
Quarterly		12	12	1			25
More Often than Quarterly		3	2				5
Total	1	236	162	13	3	2	417

Table 31 – Non-Lethal Use of Force Training vs. Times the Subject of an Excessive Force Complaint

Frequency	Times the Subject of an Excessive Force Complaint						
	00	Never	1 - 5	6 - 10	11 - 15	16 or More	Total
00 (No Answer)		2	2	1			5
Less Often than Bi-Annually		5	3				8
Bi-Annually		2	1				3
Annually		35	29	2	3	1	70
Semi-Annually		97	65	3		1	166
Quarterly		72	43	2			117
More Often than Quarterly	1	23	19	5			48
Total	1	236	162	13	3	2	417

Table 32 – Firearms Training vs. Times the Subject of an Excessive Force Complaint

Correlation of Confidence Statements

The following 4 tables represent correlations between the confidence statement “I am confident in my ability to handle resistant subjects without getting hurt” and 4 other confidence statements (see Tables 33 – 36).

“I understand my department’s use of force policies”	“I am confident in my ability to handle resistant subjects without getting hurt”						
	00	Strongly Disagree	Somewhat Disagree	Don’t Know	Somewhat Agree	Strongly Agree	Total
00 (No Answer)	2					1	3
Strongly Disagree			1	1	6	1	9
Somewhat Disagree			1		9	1	11
Don’t Know		1	1	5	2		9
Somewhat Agree	1	2	15	10	96	21	145
Strongly Agree		4	8	8	94	126	240
Total	3	7	26	24	207	150	417

Table 33 – Use of Force Policy Understanding vs. Confidence in Ability to Safely Handle Resistance

“I have the force/control tools and weapons I need to safely manage resistance”	“I am confident in my ability to handle resistant subjects without getting hurt”						
	00	Strongly Disagree	Somewhat Disagree	Don’t Know	Somewhat Agree	Strongly Agree	Total
00 (No Answer)	2						2
Strongly Disagree			4	2	15	8	29
Somewhat Disagree		1	7	2	17	7	34
Don’t Know		1	1	3	6	1	12
Somewhat Agree	1	1	12	12	112	38	176
Strongly Agree		4	2	5	57	96	164
Total	3	7	26	24	207	150	417

Table 34 – Tool and Weapons vs. Confidence in Ability to Safely Handle Resistance

“I have the force/control training I need to safely manage resistance”	“I am confident in my ability to handle resistant subjects without getting hurt”						
	00	Strongly Disagree	Somewhat Disagree	Don’t Know	Somewhat Agree	Strongly Agree	Total
00 (No Answer)	2					1	3
Strongly Disagree		4	5	1	9	3	22
Somewhat Disagree		1	15	8	24	10	58
Don’t Know			1	5	10		16
Somewhat Agree			5	10	137	55	207
Strongly Agree	1	2			27	81	111
Total	3	7	26	24	207	150	417

Table 35 – Force/control Training vs. Confidence in Ability to Safely Handle Resistance

“I receive force/control training often enough to safely manage resistance”	“I am confident in my ability to handle resistant subjects without getting hurt”						
	00	Strongly Disagree	Somewhat Disagree	Don't Know	Somewhat Agree	Strongly Agree	Total
00 (No Answer)	2				2	1	5
Strongly Disagree		5	9	4	26	10	54
Somewhat Disagree		1	13	8	50	16	88
Don't Know				7	10	2	19
Somewhat Agree	1		4	5	105	57	172
Strongly Agree		1			14	64	79
Total	3	7	26	24	207	150	417

Table 36 – Frequency of Force/control Training vs. Confidence in Ability to Safely Handle Resistance

Correlation of Use of Force Training to A Key Confidence Statement

The following 3 tables represent correlations between frequency of officer training (in use of force policies, non-lethal force, and firearms) and the confidence statement “I am confident in my ability to handle resistant subjects without getting hurt” (see Tables 37 – 39).

Frequency of Training	“I am confident in my ability to handle resistant subjects without getting hurt”						
	00	Strongly Disagree	Somewhat Disagree	Don't Know	Somewhat Agree	Strongly Agree	Total
00 (No Answer)	2				2		4
Less than Bi-Annually		4	14	9	55	28	110
Bi-Annually			2	2	15	12	31
Annually	1	2	7	10	104	74	198
Semi-Annually			1	1	16	16	34
Quarterly			1	2	14	15	32
More than Quarterly		1	1		1	5	8
Total	3	7	26	24	207	150	417

Table 37 –Use of Force Policy Training vs. Confidence in ability to Safely Handle Resistance

Frequency of Training	“I am confident in my ability to handle resistant subjects without getting hurt”						
	00	Strongly Disagree	Somewhat Disagree	Don't Know	Somewhat Agree	Strongly Agree	Total
00 (No Answer)	2				2	1	5
Less than Bi-Annually		4	15	9	56	27	113
Bi-Annually			2	2	15	13	32
Annually	1	2	6	10	106	82	207
Semi-Annually			1	1	15	13	30
Quarterly			1	2	11	11	25
More than Quarterly		1	1			3	5
Total	3	7	26	24	207	150	417

Table 38 – Non-Lethal Force Training vs. Confidence in ability to Safely Handle Resistance

Frequency of Training	“I am confident in my ability to handle resistant subjects without getting hurt”						
	00	Strongly Disagree	Somewhat Disagree	Don't Know	Somewhat Agree	Strongly Agree	Total
00 (No Answer)	2				2	1	5
Less than Bi-Annually			1		6	1	8
Bi-Annually					2	1	3
Annually		3	6	5	32	24	70
Semi-Annually		3	14	10	90	49	166
Quarterly	1		3	7	59	47	117
More than Quarterly		1	2	2	16	27	48
Total	3	7	26	24	207	150	417

Table 39 – Firearms Training vs. Confidence in ability to Safely Handle Resistance

CHAPTER 6 – ANALYSIS OF COLLECTED DATA

This study was undertaken based upon the following three hypotheses. Each is stated as a negative postulate.

- Lower levels of formal training have no impact on officer confidence levels in dealing with use of force incidents.
- Lower levels of formal training have no impact on the frequency of officer injuries in use of force incidents.
- Low officer confidence levels have no impact on the frequency of excessive force complaints or on officer injury rates

While a certain amount of other data was collected, the authors' have chosen to limit this analysis to those variables that impact directly on these three hypotheses. Study of other data will be undertaken in the future.

Based upon analysis of data from both survey instruments, it appears that lower levels of formal training have little or no effect on officer's confidence levels in dealing with use of force incidents. While some officers reported that they do not receive training in use of force often enough, they still indicated a generally high level of confidence in dealing with incidents.

It appears that current levels of training are generally successful in maintaining a low level of officer injuries in use of force incidents. Most departments train at least annually in use of force, and also report few injuries. Those injuries reported are of a minor nature.

Findings from the Officer Survey indicate a generally high level of officer confidence in handling use of force incidents, as well as a low number of citizens' complaints regarding excessive force. Findings from the Agency Head Questionnaire indicate that few such complaints are received, and that those that are received are almost always found to be unfounded, or are withdrawn by the complainant.

It is difficult to determine from this data set whether or not lower levels of confidence would impact on complaint levels and officer injuries, as officer respondents to this survey indicated an almost uniformly high level of confidence.

CHAPTER 7 – RECOMMENDATIONS FOR FURTHER STUDY

The authors' believe that there are several areas that demand further study, as well as several areas that the design of this study left only partially discovered:

- Frequency of police driver training, particularly in the higher risk areas of emergency response and pursuit, focusing on the forcible termination of pursuits (as use of force incidents);
- Officer perceptions of the need for more and more frequent training in verbal management skills;
- The impact on use of force incident outcomes when officers receive little or no training in verbal management skills;
- More detailed analysis of contributing factors to officer confidence;
- Research into the relationship between incidents wherein officers are injured and incidents resulting in litigation.

REFERENCES

- Adams v. St. Lucie County, 998 F. 2d 973 (11 CA, 1993)
- Albrecht, G.L., Halleck, J.W., Lardner, J., & Milton, C.H. (1977). Police Use of Deadly Force. Washington, DC: The Police Foundation.
- Alpert, G.P., & Fridell, L.A., (1992). Police Vehicles and Firearms: Instruments of Deadly Force. Prospect Heights, IL: Waveland Press.
- Archambault, T & Rookwood, G. (1994) OC (Oleoresin Capsicum) Instructor Training Manual. Bennington, Vermont: Mace Security International Training Division.
- Artwohl, A., & Christensen, L.W. (1997). Deadly Force Encounters. Boulder, CO: Paladin Press.
- Ashley, S. (1996, January 12). [Lecture presented to the American Society of Law Enforcement Trainers International Conference].
- Ashley, S. (1995, September). Issues with Aerosols. Law Enforcement Risk Control Newsletter, pp. 1-4.
- Ashley, S. (1996, March). Managing Aerosol Issues. Law and Order, pp. 35-37.
- Avery, M., Blum, K., & Rudovsky, D. (1996). Police Misconduct: Law and Litigation, 3rd edition. New York: Clark Boardman.
- Bayley, David H. and James Garofalo. (1989, February). The Management of Violence by Police Patrol Officers. Criminology, Volume 27.
- Beach, Jr., R.W., Morris, E.R., & Smith, W.C. (1993). Emergency Vehicle Operations: A Line Officer's Guide. Tulsa, OK: Pecos Press.
- Beyer, Sylvia. (1990, November). Gender Differences in the Accuracy of Self-Evaluation of Performance. Journal of Personality & Social Psychology, Volume 59 (5). Pp. 960-970.
- Brill, Steven. (1977). Firearm Abuse: A Research and Policy Report. Washington, DC: The Police Foundation.
- Brower v. Inyo County, 489 U.S. 593 (1989)
- Bunker, R., Ed. (1996). Nonlethal Weapons: Terms and References, INSS Occasional Paper 15. Colorado: USAF Institute for National Security Studies, USAF Academy.
- City of Canton, Ohio v. Geraldine Harris, 489 U.S. 378 (1989)
- Chow, M. (1997, July 24). City and Police Clash Over Pepper Spray. Daily Californian.
- Costanzo, Mark. (1992, September). Training Students to Decode Verbal and Nonverbal Cues: Effects on Confidence and Performance. Journal of Educational Psychology, Volume 84 (3), pp 308-313.
- Craig, H.W. (1995, August). Is OC Spray a Safe, Effective, Less-than-deadly Use of Force? Police Law Journal, Offprint.

- Doherty, J. (1996). Public Records Disclosure for Washington Cities and Towns. Washington: Municipal Research & Services Center of Washington.
- Donovan v. City of Milwaukee, 17 F.3d 949 (7 CA. 1994)
- Doubet, M. (1996). Medical Implications of OC Spray. St. Louis: PPCT Management Systems.
- Enochs, L. (1995, October). See No Evil, Heart No Evil: Why We Can't Track police Abuse. Jinn, pp. 1-2.
- Federal Bureau of Investigation, (1989). Chemical Agent Research: Oleoresin Capsicum. Washington, DC: U.S. Government Printing Office.
- Fighting Police Abuse: A Community Action Manual [pamphlet]. Washington, DC: ACLU (American Civil Liberties Union).
- Freedom of Information Act, The. 5 USC 552. (1966)
- Fridell, L.A., & Pate, A.M. (1995). Toward the Uniform Reporting of Police Use of Force: Results of a National Survey. The Criminal Justice Review, 20(2), 123-145.
- Fridell, L.A., & Pate, A.M. (1993). Police Use of Force: Official Reports, Citizen Complaints, and Legal Consequences. Washington, DC: The Police Foundation.
- Gauvin, Russell J., (1995, May-June). Oleoresin Capsicum Spray: A Progress Report. The ASLET Journal, pp. 29-32.
- Geller, W.A., & Scott, M. (1992). Deadly Force: What We Know. Washington, DC: Police Executive Research Forum.
- Geller, W.A., Toch, H. (Eds.). 1995. And Justice for All: Understanding and Controlling Police Abuse of Force. Washington, DC: Police Executive Research Forum.
- Gifford v. Freedom of Information Commission, 227 Conn. 641, 631 A. 2d 252 (Conn. 1993).
- Graham v. Connor, 109 S.Ct. 1865 (1989)
- Granfield, J., Onnen, J., & Petty, C.S., MD. (1994, March). Pepper Spray and In-Custody Deaths [Bulletin]. International Association of Chiefs of Police.
- Hall, J. (1997, October). Police Use of Nondeadly Force to Arrest. FBI Law Enforcement Bulletin, pp. 27-32.
- Hunter, J. (1994, May). Focus on Use of Force: Pepper Spray. FBI Law Enforcement Bulletin, pp. 24-26.
- Inzana, C.M., Driskell, J. E., Salas, E. and Johnston, J.H. (1996, August). Effects of Preparatory Information on Enhancing Performance Under Stress. Journal of Applied Psychology, Volume 81 (4). Pp. 429-435.
- Jones, E. (1976), Law Enforcement Chemical Agents and Related Equipment. Santa Cruz: Davis Publishing Co.

- Lundeberg, M.A., Fox, P.W. and Puncchohar, J. (1994, March). Highly Confident but Wrong: Gender Differences and Similarities in Confidence Judgments. Journal of Educational Psychology, Volume 86 (1). Pp. 114-121.
- Merrick, J. (1995, Spring). Pepper Sprays are not “Magic Bullets”. The Tactical Edge, pp. 61-62.
- Messina, P. (1996, May-June). The Evolution of OC Training. The ASLET Journal, pp. 20-22.
- Messina, P. (1993, January-February). Trainers, Salespersons, Deterrent Sprays, and Pinocchio’s Nose. The ASLET Journal, pp. 15-17.
- Milton, C.H., Halleck, J.W., Lardner, J. & Abrecht, G.L. (1977). Police Use of Deadly Force. Washington, DC: The Police Foundation.
- Morabito, E.V., & Doerner, W.G. (1995). Police Use of Nonlethal Force: Oleoresin Capsicum (OC) Spray. Tallahassee, Florida: School of Criminology and Criminal Justice.
- National Institute of Justice Technology Assessment Program, (1994). Oleoresin Capsicum: Pepper Spray as a Force Alternative [Bulletin]. Washington, DC: U.S. Government Printing Office.
- National Institute of Justice. (1996). National Data Collection on Police Use of Force. Washington, DC: U.S. Government Printing Office.
- National Institute of Justice Research Report. (1999, October). Use of Force by Police, Overview of National and Local Data. Washington, DC: U.S. Government Printing Office.
- Nowicki, E. (Ed.). (1993). Supervisory Survival. Powers Lake, WI: Performance Dimensions Publishing.
- Onnen, J. (1993, June). Oleoresin Capsicum [Bulletin]. International Association of Chiefs of Police.
- Patterson, F.M. & Smith, P.D. (1968). A Manual of Police Report Writing. Springfield, IL: Charles C. Thomas.
- Pepper Spray: A Magic Bullet Under Scrutiny [Bulletin]. American Civil Liberties Union of Southern California. (1993, Fall).
- Pepper Spray Evaluation Project: Results of the Introduction of Oleoresin Capsicum (OC) into the Baltimore County, MD, Police Department [Bulletin]. International Association of Chiefs of Police, (1995).
- Pepper Spray Update: More Fatalities More Questions [Bulletin]. American Civil Liberties Union of Southern California. (1995, June).
- Police Use of Pepper Spray – Tantamount to Torture [News Release]. Amnesty International News Release AMR 51/67/97. (1997, November 4).
- Rhode Island Supreme Court Opens Access to Police Brutality Records [news release]. Washington, DC: ACLU (American Civil Liberties Union).

- Saunders, T., Driskell, J. E., Salas, E. and Johnston, J.H. (1996, April). The Effect of Stress Inoculation Training on Anxiety and Performance. Journal of Occupational Health Psychology, Volume 1 (2). Pp. 170-186.
- Scharf, P. & Binder, A. (1983). The Badge and the Bullet. New York, NY. Praeger Publishers.
- Shielded from Justice: Police Brutality and Accountability in the United States. Human Rights Watch, (1998).
- Siddle, B. (1995). Sharpening the Warrior's Edge. Millstadt, IL. PPCT Research Publications.
- Tennessee v. Garner, 105 S.Ct. 1694 (1985)
- Trautman, N. (1987). Law Enforcement In-Service Training Programs: Practical and Realistic Solutions to Law Enforcement's In-Service Training Dilemma. Springfield, IL. Charles C. Thomas Publisher.
- Use of Pepper Aerosol Restraint Spray (Oleoresin Capsicum or "OC"), Training Key #462. International Association of Chiefs of Police, (1995).

APPENDICES

Appendix A – Agency Head Questionnaire

Agency demographics

Number of sworn officers (full-time equivalents)

5 or less 6 - 10 11 - 25 26 - 50 51 - 100 101 or more

Service area primary characterization

Rural Suburban Industrial Urban Evenly Mixed Types

Service area jurisdiction type

Village Township City County Combined Jurisdiction

Approximate population of service area

2,000 or less 2,001 – 10,000 10,001 – 25,000 25,001 – 50,000 50,001 – 100,000 100,001 or more

Number of calls for service annually

1,000 or less 1,001 – 5,000 5,001 – 10,000 10,001 – 25,000 25,001 – 50,000 50,001 or more

Number of arrests annually (all types)

500 or less 501 – 1,000 1,001 – 3,000 3,001 – 6,000 6,001 – 10,000 10,001 or more

Policy

Do you have a written deadly force policy? Yes No

Reviewed and updated?

Less often Every two years Annually Semi-annually More often

Do you have a written non-lethal force policy? Yes No

Reviewed and updated?

Less often Every two years Annually Semi-annually More often

How do officers access your use of force policies? (circle all that apply)

Chief's office Communal usage Supervisor manuals Posted publicly Issued to officer

How often do officers receive formal training on your use of force policies?

Less often Every two years Annually Twice a year Quarterly More often

Officer injuries

What percentage of your officers are injured in use of force incidents annually?

Less than 10% 11% - 25% 26% - 50% 51% - 75% 76% - 100%

Of those injured, what percentage required medical attention?

Less than 10% 11% - 25% 26% - 50% 51% - 75% 76% - 100%

Appendix B – Officer Use of Force Survey

Dear Fellow Law Enforcement Professional:

PLEASE TAKE A MOMENT TO COMPLETE THE FOLLOWING SURVEY. WHILE IT'S IMMEDIATE PURPOSE IS AS A GRADUATE PROJECT, WE ALSO INTEND TO PUBLISH THE RESULTS IN THE HOPE THAT THE INFORMATION GATHERED WILL HELP TO REDUCE OFFICER INJURIES AND LESSEN THE LIKELIHOOD OF OFFICERS BEING SUED. AS POLICE OFFICERS AND TRAINERS, OUR GOAL IS THE SAFETY AND WELL BEING OF OUR COMRADES IN LAW ENFORCEMENT.

THANK YOU FOR YOUR HELP.

Your answers on this survey will remain anonymous.

Your department will not receive copies of your survey form.

Your department will not be identified by name in the final study report.

Please circle the appropriate answer

What is your age?

25 & UNDER

26 – 30

31 – 40

OVER 40

How long have you been a sworn officer?

LESS THAN 1 YEAR

1 – 4 YEARS

5 – 10 YEARS

OVER 10 YEARS

[AT THIS DEPARTMENT ONLY. PLEASE FILL OUT A SEPARATE FORM FOR TIME SPENT AT ANOTHER DEPARTMENT]

What is your education level?

LESS

HIGH SCHOOL

ASSOCIATE

BACHELORS

MASTERS

MORE

[INDICATE THE LEVEL COMPLETED]

How often do you work with a partner?

NEVER

RARELY

HALF THE TIME

FREQUENTLY

ALWAYS

[ASSIGNED IN THE SAME UNIT FOR AT LEAST HALF A SHIFT]

How often have you been injured during a use of force incident?

NEVER

1 – 5 TIMES

6 – 10 TIMES

11 – 15 TIMES

16 OR MORE TIMES

[REGARDLESS OF WHETHER YOU REPORTED THE INJURY OR SOUGHT MEDICAL CARE]

How often were you working with a partner or other officers when you were injured?

NEVER

RARELY

HALF THE TIME

FREQUENTLY

ALWAYS

[PARTNER OR OTHER OFFICERS GENERALLY IN CLOSE PROXIMITY]

How often have you been the subject of an excessive force complaint?

NEVER

1 – 5 TIMES

6 – 10 TIMES

11 – 15 TIMES

16 OR MORE TIMES

[REGARDLESS OF WHETHER THE COMPLAINT WAS SUSTAINED, UNFOUNDED OR WITHDRAWN]

Which non-lethal weapons does your department authorize for you? (circle all that apply)

SPRAY WEAPON (OC ONLY)	SPRAY WEAPON (OTHER)	FLASHLIGHT AUTHORIZED AS NON- LETHAL WEAPON	COLLAPSIBLE BATON	OTHER AUTHORIZED IMPACT WEAPON (LIST BELOW)
---------------------------	-------------------------	---	----------------------	---

OTHER AUTHORIZED IMPACT WEAPONS: _____

[OFFICIALLY APPROVED AND LISTED IN YOUR DEPARTMENT'S POLICIES]

How often do you participate in formal departmental training on use of force policies?

LESS OFTEN EVERY TWO YEARS ANNUALLY TWICE A YEAR QUARTERLY MORE OFTEN

[FORMAL TRAINING THAT IS RECOGNIZED BY YOUR DEPARTMENT. INCLUDE DEADLY AND NON-LETHAL FORCE POLICIES]

How often do you participate in formal departmental non-lethal use of force training?

LESS OFTEN EVERY TWO YEARS ANNUALLY TWICE A YEAR QUARTERLY MORE OFTEN

[INCLUDE ALL NON-LETHAL TRAINING, INCLUDING DEFENSIVE TACTICS AND VERBAL SKILLS COURSES]

How often do you participate in formal departmental firearms training or qualification?

LESS OFTEN EVERY TWO YEARS ANNUALLY TWICE A YEAR QUARTERLY MORE OFTEN

[REGARDLESS OF WHETHER ACTUAL LIVE FIRE TAKES PLACE. INCLUDE SIMULATION TRAINING SUCH AS FATS]

Indicate your level of agreement with the following statements

I understand my department's **use of force policies**.

STRONGLY DISAGREE SOMEWHAT DISAGREE DON'T KNOW SOMEWHAT AGREE STRONGLY AGREE

I have the force/control **tools and weapons** I need to safely manage resistance.

STRONGLY DISAGREE SOMEWHAT DISAGREE DON'T KNOW SOMEWHAT AGREE STRONGLY AGREE

I have the force/control **training** I need to safely manage resistance.

STRONGLY DISAGREE SOMEWHAT DISAGREE DON'T KNOW SOMEWHAT AGREE STRONGLY AGREE

I receive force/control training **often enough** to safely manage resistance.

Strongly Disagree Somewhat Disagree Don't Know Somewhat Agree Strongly Agree

I am **confident in my ability** to handle resistant subjects without getting hurt.

STRONGLY DISAGREE SOMEWHAT DISAGREE DON'T KNOW SOMEWHAT AGREE STRONGLY AGREE

ADDITIONAL COMMENTS: _____

Thank you for completing this survey!

Appendix C – Participating Law Enforcement Agencies

The authors wish to express their appreciation to the law enforcement agencies that agreed to participate in this study, and to their officers who participated in individual surveys.

Albion Department of Public Safety
Alpena Police Department
Brighton Police Department
Brownstown Township Police Department
Cambridge Township Police Department
Canton Department of Public Safety
Charlevoix County Sheriffs Department
East Jordan Police Department
Fenton Police Department
Flushing Township Police Department
Grand Blanc Police Department
Harbor Springs Police Department
Jackson County Sheriffs Department
Kentwood Police Department
Leoni Township Police Department
Livonia Police Department
Ludington Police Department
Riverview Police Department
Southfield Police Department
Van Buren Township Police Department
Washtenaw County Sheriffs Department
Westland Police Department