CHAPTER VI

THE NATIONAL SURVEY ON PURSUIT

The national survey on pursuits and use of police force was conducted between October 1994 and May 1995. The purpose of the survey was to collect pursuit and use-of-force information from police agencies throughout the country. Contact was made with 737 agencies. Four hundred and thirty-six agencies completed useable data, 284 agencies reported that they did not collect or maintain the information and 17 agencies refused to participate. It is important to recognize that 38% of the agencies reported that they could not provide the necessary information because it was not collected. This is a discouraging and alarming figure that reflects the dismal state of record keeping as it relates to pursuit driving information. It is encouraging that only 17 agencies (4%) which collected the information refused to provide it.

Our responent sample included one hundred and forty-nine agencies which had 1-25 sworn officers (34%), ninety-seven agencies with 26-150 sworn officers (22%), one hundred agencies with 151-500 sworn officers (23%), forty-nine agencies with more than 500 sworn officers (11%) and 41 agencies which did not report their size (10%).

Results

Nearly all the agencies (91%) reported having written policies governing pursuit situations, though the dates that their current policies were implemented varied considerably from as early as 1970 to as recently as 1995. Most, however, had implemented their current pursuit policy since 1990 (57%) while a sizable group (42%) had done so since 1992. Further, nearly half (48%), reported having modified their pursuit policy within the past two years. Most

of those (87%) noted that the modification had made the policy more restrictive than the earlier version. Similarly, most of the responding agencies (72%) had their pursuit policies reviewed by a legal authority prior to its adoption. Data in Table 1 compare the availability of pursuit policies, policy modifications during the previous two years, and policies on the use of force by police by the type and size of agency responding.

Table 1
PURSUIT AND USE OF FORCE POLICIES BY AGENCY TYPE

	Pursuit Policy		**Policy Modified in Past 2 Years**		**Use of Force Policy**	
Agency Type	*Yes*	*No*	*Yes*	*No*	*Yes*	*No*
City	271 (95%)	14 (5%)	143 (51%)	138 (49%)	267 (93%)	19 (7%)
County	103 (87%)	15 (13%)	54 (46%)	63 (54%)	110 (92%)	9 (8%)
Unknown	21 (81%)	5 (19%)	12 (52%)	11 (48%)	20 (77%)	6 (23%)
Agency Size	*Yes*	*No*	*Yes*	*No*	*Yes*	*No*
Below 100 Officers	203 (89%)	24 (11%)	95 (43%)	128 (57%)	208 (91%)	20 (9%)
101-500 Officers	114 (100%)	---	72 (63%)	42 (37%)	113 (99%)	1 (1%)
501-2,500 Officers	44 (98%)	1 (2%)	25 (56%)	20 (44%)	44 (96%)	2 (4%)
Over 2,501 Officers	3 (100%)	---	1 (33%)	2 (67%)	3 (100%)	---

Similarly, the data in Table 2 compare the availability of statistics and other data on pursuits and use of force incidents. From these data, municipal agencies and larger agencies are more likely routinely to collect such information, a difference that may be related to the frequency of occurrence for these

events.

Table 2
AVAILABILITY OF PURSUIT AND USE OF FORCE STATISTICS

Agency Type	Pursuit Data Yes	Pursuit Data No	Use of Force Data Yes	Use of Force Data No
City	105 (37%)	180 (63%)	121 (44%)	152 (56%)
County	26 (22%)	91 (78%)	43 (38%)	71 (62%)
Unknown	4 (15%)	22 (85%)	11 (42%)	15 (58%)

Agency Size	Pursuit Data Yes	Pursuit Data No	Use of Force Data Yes	Use of Force Data No
Below 100 Officers	46 (20%)	181 (80%)	69 (32%)	148 (68%)
101-500 Officers	56 (50%)	57 (50%)	62 (56%)	49 (44%)
501-2,500 Officers	25 (56%)	20 (44%)	28 (65%)	15 (35%)
Over 2,500 Officers	3 (100%)	---	3 (100%)	---

In addition, those agencies which collect such data apparently do so voluntarily since only 11% of our respondents reported that their data collection programs for pursuits are state mandated. Interestingly, while respondents from 10 states advised that they operated under a state requirement, in only three of those states (CA, NJ, and MN) were the responding agencies in agreement. For example, in Minnesota while eight departments told us of a state mandated pursuit data collection program, three others apparently were not aware of such a requirement. In six other states only one

responding agency believed data collection was required. From this, it would appear that the value of pursuit and use of force data, and the issues and requirements of collection, has not yet been clearly defined at local departmental levels.

A Review of the Incidents

Although only 135 (31%) of the agencies maintain police pursuit statistics or data systematically, 308 (71%) could offer estimates of the numbers of pursuits their officers had engaged in during 1993, the last full year before the survey. The estimates offered ranged from 0 (N=34) to 870 pursuits with large agencies obviously experiencing greater numbers of incidents than smaller ones. When pursuit incidents per officer were examined, however, it was the smaller and municipal agencies that experienced the highest rates of pursuing. Despite this, the rate of pursuit related accidents increased substantially with agency size. The data in Table 3 present pursuits and related accidents by agency type and size.

Contrasting Pursuit Policies

Recall that nearly half our responding agencies reported modifying their pursuit policies within the past two years and that in nearly each instance the results were more restrictive than the policies in place before the modification. Even so, when the individual elements of each agency's policies are examined, interesting differences emerge. For example, while departments were evenly split over permitting pursuits for any offense (48%), some restricted officer chases to incidents involving violent felonies (16%). Most permitted only marked vehicles to conduct a pursuit (58%) though a few restricted pursuing speeds to a specific maximum over the speed limit (11%). Overwhelmingly, supervisors were assigned the responsibility of terminating a pursuit (79%) while most agencies also placed responsibility on the officers involved (69%). Many (40%) required that

pursuits be terminated once a suspect's identity becomes known.

Beyond these cumulative results, however, some agencies clearly had differing expectations. Municipal agencies, for example, were significantly more likely to restrict pursuits to felony incidents (19%) than were their county counterparts (11%). Similarly, municipal agencies restricted pursuits to marked vehicles (64% vs. 53%) and imposed supervisory responsibility (85% vs. 77%) far more often than did county departments. Among those who had modified their policies within the past two years, the differences were even more remarkable.

Table 3
PURSUITS AND PURSUIT RELATED ACCIDENTS BY AGENCY TYPE AND SIZE
(PER 1,000 OFFICERS)

			Per 1,000 Pursuits			
Agency Type	**Pursuits Per 1,000 Officers**	**Accidents**	**Ofc Injuries**	**Susp Inj**	**Other Inj**	**Deaths**
City	112	324	25	70	19	2.4
County	105	198	27	82	24	8.6
Agency Size by Officer						
Below 100	181	164	22	72	20	4.1
101-500	109	297	26	71	18	5.7
501-2,500	124	394	46	129	30	3.2
Over 2,501	99	577	24	61	26	2.0

For example, of those departments recently modifying their pursuit policies, 68% restricted pursuits to marked vehicles. Of those with unchanged policies, however, only 54% imposed a similar limit. At least 89% of those with revised policies gave the supervisor responsibility for deciding whether to terminate a chase, though fewer than 77% of those agencies' policies that had not changed, had a similar requirement. While significant for all types of responding agencies, the

patterns of policy change were most pronounced between county and Sheriff's departments. As such, among those who had recently modified their policies, few significant differences between city and county policy were found. From those where recent modifications had not occurred, however, county officers were consistently less restricted on either their pursuit actions or supervision. The data in Table 4 show these differences.

In addition to when they can pursue, recent policy modifications appear to have imposed changes on how officers pursue as well. When asked about alternatives allowed, nearly half reported that roadblocks (42%) were permitted though more (47%) advised that pursuits should be terminated once the offender's license plate number was determined. Far fewer permitted vehicle immobilization techniques (5%), channelization efforts (20%), ramming (12%), or had portable barrier strips available (15%).

Table 4

POLICY DIFFERENCES BY AGENCY TYPE

	Policy Modified			*No Policy Change*		
Agency Type	**Marked Veh Only**	**Supv. Resp**	**End If Susp Id**	**Marked Veh Only**	**Supv. Resp**	**End If Susp Id**
City	70%	91%	44%	57%	80%	42%
County	64%	89%	49%	44%	79%	36%

While few differences based on agency size or type could be found, county officers were significantly more likely to be permitted to employ roadblocks (55% vs. 43%), spinouts (10% vs. 3%), or barrier strips (30% vs. 10%) than officers from municipal departments. Similarly, mid-sized departments (501 to 2,500 officers) were significantly more likely to employ roadblocks (67%) but

less likely to have barrier strips available than were agencies of any other size.

Pursuit Training and Review

Despite the knowledge of pursuit driving and the understanding it can result in accidents or injuries, many departments acknowledged taking only limited steps as to officer preparation or incident review. As a result, a general absence of corrective measures should not be surprising. For example, although 60% of the agencies provide entry level pursuit driving training at the academy, the average time devoted to these skills was estimated at less than 14 hours. Once in service, the amount of additional training offered averaged only slightly more than three additional hours per year. In contrast, nearly 83% of these same agencies required in-service training in the use of force with the training in these skills averaging over eight hours per year. These differences exist although 12% reported five or more incidents each during the previous year where vehicle pursuits ended with one or more suspects fleeing from officers on foot, nearly 16% had one or more pursuits result in assaults on officers, and almost 13% had at least one pursuit result in an intentional ramming of a police vehicle. Further, with a pursuit related accident rate nearly 40% below the municipal departments, the county agencies provide an average of nearly two additional hours of academy-based pursuit driving training to entry level officers. The mid-sized departments (501 to 2,500 officers) have a pursuit related accident rate more than twice that of the small departments (less than 100 officers) yet offer less than half the in-service training in pursuit driving. Still, those agencies that have modified their pursuit policies within the past two years required from their officers both more hours of training in pursuit decision-making (both entry and in-service) and practical exercises at a driving track or similar setting.

Beyond training for such situations, our responding agencies reported important differences

in their follow-up evaluations once an actual pursuit incident had occurred. While most (89%) routinely conducted some follow-up, for many that amounted to nothing more than an informal supervisory review (33%) or a report addressing the incident by the pursuing officer (47%). Others, however, require a formal supervisory review (46%) while a few (8%) initiate an internal investigation into all incidents. Internal investigations were more commonly used in response to pursuits resulting from inappropriate actions or that ended in an accident or injuries.

Disciplining Officers

Given their regularity, it is probably inevitable that officer error and misconduct will sometimes result from vehicle pursuits. In fact, slightly more than 12% of the agencies responding reported having to discipline officers at least once during 1993 for pursuit related actions. The actual discipline offered ranged from simple counseling with an oral reprimand to the termination of two officers.

Another area of information requested concerned litigation. As the data in Table 5 demonstrate, pursuit-related litigation affects many agencies. Nearly 16% of our sample of police agencies reported that during 1993, they had been involved in litigation resulting from pursuits. Eighteen (4% of the sample; 26% of those involved in litigation) of those agencies either lost or settled the actions against them. Municipal agencies that had modified their pursuit policies within the past two years, and larger agencies were more likely to be involved in such actions, although only agency size was associated with significant differences in the legal outcomes. Unfortunately, we were unable to determine whether the previously reported pursuit policy modifications were a result of, or were caused by the litigation during 1993.

Table 5

INVOLVEMENT IN PURSUIT RELATED LITIGATION DURING 1993

Agency Type	Involved		Lost or Settled	
	Yes	No	Yes	No
City	53 (20%)	216 (80%)	13 (5%)	247 (95%)
County	11 (9%)	106 (91%)	3 (3%)	109 (97%)
Agency Size	**Involved**		**Lost or Settled**	
	Yes	No	Yes	No
Below 100 Officers	10 (4%)	217 (96%)	2 (1%)	223 (99%)
101-500 Officers	31 (30%)	73 (70%)	6 (6%)	91 (94%)
501-2,500 Officers	20 (49%)	21 (51%)	5 (14%)	31 (86%)
Over 2,500 Officers	1 (100%)	---	1 (100%)	---
Policy Status	**Involved**		**Lost or Settled**	
	Yes	No	Yes	No
Modified in Past 2 Years	44 (22%)	154 (78%)	12 (6%)	180 (94%)
No Recent Modifications	25 (12%)	177 (88%)	6 (3%)	187 (97%)

Additionally, we noted that training requirements and intensity were generally greater for use of force issues than for pursuits. While the risks to others posed by police chases may be greater, our results suggest that the responses (both internal and external) to force incidents are more serious. For example, while 12% of our respondent agencies administered discipline for pursuit related actions, more than 18% employed discipline in response to a police use of force.

Further, nearly 5% of our agencies reported disciplining officers five or more times during 1993 whereas fewer than 2% did so with such frequency in response to pursuit violations. In addition, the range of disciplinary action was more limited for pursuit than use-of force. Discipline for pursuit driving was normally a form of a reprimand (82% of all actions taken), while discipline for use-of-force violations included reprimands alone (7% of actions taken), reprimands with suspensions, demotions, or terminations (44%), suspensions alone (25%), additional training (10%), and termination or retirement (7%). Finally, when combined, pursuits and the uses of force that result, can be especially problematic. During 1993, 25% (109) of our sample of departments experienced police pursuits which resulted in officers using force in addition to the pursuit itself to apprehend a suspect. In only a few of those incidents (24), however, were allegations filed that the force used was excessive or unreasonable. In half (12) those allegations were sustained. Fortunately, the trends for the future appear positive as most (68%) of the participating agencies see either no change or a decrease in complaints of excessive pursuit related force over the past two years.

Chapter VII

An Empirical Analysis of the Pursuit Data

The analysis of the pursuit data collected from Metro-Dade and Omaha will be presented in two stages. As there were only 17 pursuits, the data for Aiken County will be presented in a limited manner. In each jurisdiction, we will examine selected descriptive statistics detailing the characteristics of the sample of pursuits, including the number and duration of pursuits, the reason for beginning the pursuits, and the outcomes of the pursuits (i.e. arrests, deaths, escapes, accidents, injuries and property damage). After the descriptive data is presented, we will examine relationships between the pursuit outcomes and various officer and situational characteristics for Metro-Dade and Omaha. This is accomplished by conducting a multi-variate analysis separately for each type of outcome. We will analyze the data by jurisdiction, beginning with those from the Metro-Dade Police. The second section of chapter VII, includes an analysis of force used after a pursuit to take the suspect into custody.

A Descriptive Analysis of The Metro-Dade Pursuit Data

The following analyses document the pursuits conducted by Metro-Dade officers between the years 1990 and 1994. Although there were changes in the pursuit policy, we chose to combine the data from more than one thousand pursuits. Comparisons between and among the different years will be an important step for future research. One must use caution when interpreting these data. We have not attempted to isolate the various combination of effects that might explain variance in the outcomes. For example, while speed may not be important overall, it may be a critical variable if we considered pursuits in residential areas.

TABLE 1.
OVERVIEW OF METRO-DADE POLICE PURSUITS

Number of Pursuits:	1990	323		
	1991	352		
	1992	279		
	1993	51		
	1994	44		
		1049		
Duration of Pursuits:	1 minute or less		10	3%
	2 minutes		10	3%
	3 minutes		12	3%
	4 minutes		15	4%
	5-10 minutes		206	59%
	11-15 minutes		54	15%
	16-20 minutes		22	7%
	21-30 minutes		9	2%
	>30 minutes		14	4%
Reason for Pursuits:	Traffic		448	45%
	BOLO			45 4%
	Felony/Suspected			344 35%
	Suspect Vehicle			157 16%
Pursuits Ending in Arrest:		784	75%	
Pursuits Ending in Escape:		206	20%	
Pursuits Terminated by Police:		53	5%	
Pursuit-Related Deaths:		5	<1%	
Pursuit Related Accidents:		428	41%	
Pursuit Related Injuries:		213	20%	
Pursuit-Related Property Damage:		257	25%	

As indicated by the data in Table 1, 1049 pursuits were analyzed in the present study. Forty-seven of the pursuits (13% of which data were available) lasted less than five minutes. Two hundred and six (59%) lasted between five and ten minutes, and the remaining pursuits (28%) for which information was available, lasted more than ten minutes.

Four hundred and forty-eight pursuits were initiated for traffic violations (45%), while 344 were initiated for felonies or suspected felonies (35%). Sixteen percent were initiated because of suspect vehicles, and 4% were initiated for BOLO (Be On Look Out) situations. A more specific analysis of felony situations for the most recent years revealed that 35% of the felony situations were armed robbery, 20% were vehicular assault, 11%, were aggravated assault, 11% were stolen vehicles, 9% were burglary, and the remainder involved robbery, BOLO, rape, shooting, hit and grab, and kidnaping. Seven hundred and eighty-four offenders (75%) were arrested, while 206 (20%) escaped. Fifty-three (5%) of the pursuits were terminated by the police, and 5 (<1%) resulted in a pursuit-related death. Four hundred and twenty-eight of the pursuits (41%) ended in an accident. Two hundred and thirteen of the pursuits resulted in personal injuries (20% of all pursuits). Seventeen percent of the pursuits resulted in injuries to the suspect or a rider, 5% resulted in injuries to an officer, and bystanders were injured in 2% of the pursuits. Pursuit-related property damage occurred in 257 of the pursuits (25%).

A More Detailed Analysis

There are several alternative ways to review the data on police pursuits. Focusing on the outcome of the pursuit may not be the best method of determining a good pursuit, but it is an important criterion that can be measured, and the outcome of pursuit driving is the major concern of interested parties. Additionally, what has been written about pursuits directs attention to their

dangerousness. Specifically, there has been concern over the hazards of the traffic-related pursuit in relation to the relatively minor traffic infractions often provoking the chase. These issues concerning the danger of pursuits are addressed in the data presented in Table 2: an inspection of the bi-variate relationship between reasons for pursuing and the outcome of the pursuit.

TABLE 2.
OUTCOME OF PURSUIT BY REASON FOR PURSUIT
METRO-DADE COUNTY, FLORIDA

Reason for Pursuit

Outcome	**Traffic**	**BOLO**	**Felony**	**Suspect Veh.**	**Total (Av.%)**
Suspect Arrested	333 (74%)	38 (84%)	271 (79%)	103 (66%)	745 (75%)
Suspect Escaped	93 (21%)	5 (11%)	60 (17%)	42 (27%)	200 (20%)
Suspect Killed	1 (<1%)	1 (<1%)	1 (<1%)	0 (0%)	3 (<1%)
Accident	167 (37%)	21 (47%)	159 (46%)	65 (41%)	412 (41%)
Voluntary Termination	21 (5%)	1 (2%)	13 (4%)	11 (7%)	46 (5%)

Note: Column percentages may total to more than 100% because some cases fit into more than one category of outcome (i.e. accident and arrest).

The data presented in Table 2 reveal the relationship between two important pursuit variables: why they are initiated, and how they end. Four hundred and forty-eight pursuits were initiated for traffic violations (45%), while 344 were initiated for felonies or suspected felonies (35%). Sixteen percent were initiated because of suspect vehicles, and 4% were initiated for

BOLO situations.

There are five categories of pursuit outcome: the arrest, escape, or killing of the suspect, in addition to the pursuit ending in an accident or a voluntary termination on the part of the police. Obviously, more than one of these outcomes may happen in a single pursuit. For example, a suspect may be arrested and the pursuit may end in an accident. Therefore, these columns total to more than one hundred percent. Seventy-five percent of the pursuits resulted in the suspect being arrested. Twenty percent of the suspects escaped, and less than 1% were killed. Forty-one percent ended in an accident, and 5% were voluntarily terminated by the police.

Pursuits initiated by BOLO calls were the most likely to end in an arrest (84%), while pursuits initiated because of suspected vehicles resulted in the smallest proportion of arrests (66%). Suspects were most likely to escape in suspect vehicle pursuits (27%), and least likely to escape in BOLO initiated pursuits (11%). Pursuits ending with the suspect being killed were spread evenly across traffic, BOLO and felony initiated chases. Accidents were most likely in BOLO and felony stops (47% and 46% respectively). The pursuits least likely to end in an accident were pursuits initiated because of traffic stops (37%). Voluntary terminations by the police were most likely in pursuits initiated for suspect vehicles (7%), and least likely in BOLO initiated chases (2%). The next section will look, in a cautious way, at what these data mean.

Measuring Outcome of Pursuits

The next step in the analysis is to determine which characteristics of pursuits and of the officers predict specific types of outcome. For the purposes of this analysis, we have devised several measures of negative outcome. These include whether or not there was an accident, whether or not the suspect escaped, and whether or not there was an injury to the suspect, officer

or bystanders. Since we found that nearly all of the property damage was the result of accidents, we do not report the results of the analysis on property damage separately.

First we will determine which officer and pursuit characteristics predict each type of negative outcome using discriminant analysis, and then explain how the characteristics relate to the outcome with cross-tabulation tables. For each of the three measures of specific negative outcomes, we present a discriminant analysis table showing which variables best predict that type of outcome. Then we present a cross-tabulation table for each of the significant variables to examine the relationships more thoroughly.

TABLE 3.
DISCRIMINANT ANALYSIS OF ACCIDENT/NO ACCIDENT
Metro-Dade County, Florida

Discriminating Variable Summary

Measures	Standardized Coefficients	Means No Accident	Means Accident	F*
Pursuit on Expressway	.554	0.10	0.17	.990
Number of Police Cars	.498	1.31	1.42	.984
Rural Area	-.454	0.05	0.03	.979
Reason for Pursuit	.331	0.31	0.38	.976

Results From Function Test

U = .98 X2 = 23.22 d.f. = 4 p < .0001 R(can) = .154

Classification Results

	N	Centroids	Predicted Group Memberships: No Accident	Predicted Group Memberships: Accident
No Accident	583	-.1320	386 (66%)	197 (34%)
Accident	412	.1837	224 (54%)	188 (46%)

Percentage of Cases Correctly Classified: 58%

*All values represent transformations of Wilke's lambdas

Accidents

The findings from the first discriminant analysis, on the accident/no accident measure, are summarized in Table 3. In this analysis, four variables contributed significantly to the prediction of accidents: whether or not the pursuit was on an expressway, the number of police cars involved in the pursuit, whether or not the pursuit was conducted in a rural area, the reason for initiating the pursuit. This discriminant analysis is significant at the .0001 level and has a canonical correlation of .154. While the predictive strength of the factors in this first analysis is not strong, they did result in classifying fifty-eight percent of the cases correctly into the two categories of accident and no accident.

Now that the discriminant analysis has helped identify the significant variables, we need to look more closely at the effect of each of these variables on the outcome. To accomplish this, a cross-tabulation was computed on each of the four variables as it relates to the outcome measure.

TABLE 3a.
Cross-Tabulation of Accident/No Accident with Chase on Expressway

	No Accident	Accident	Total
Not on Freeway	554 (61%)	354 (39%)	908 (100%)
Freeway Chase	67 (48%)	74 (52%)	141 (100%)
Total	621	428	1049

Phi = .094 Sig. = .002

The data in Table 3a indicate that it is the pursuits conducted on an expressway that are the most likely to end in accidents (52%) when compared to pursuits not conducted on an expressway. Thirty-nine percent of the pursuits not conducted on expressways resulted in accidents. Apparently the environment, and probably more significant, the potentially higher speeds make these expressway chases more dangerous.

The second important factor predicting accidents is the number of police cars involved in the chase. These data are summarized in Table 3b. There was a slightly greater likelihood of accidents if the pursuit involved more than one police car (46%), when compared to pursuits involving only one police car (38%). It seems obvious that while the more police cars involved the less likely the suspect is to escape, it is also true that the more police cars involved the greater the likelihood of an accident.

TABLE 3b.
Cross-Tabulation of Accident/No Accident with Number of Police Cars Involved

	No Accident	Accident	Total
One Police Car	419 (62%)	252 (38%)	671 (100%)
Two+ Police Cars	200 (54%)	172 (46%)	372 (100%)
Total	619	424	1043

Phi = .085 Sig. = .006

The relationship of conducting the chase in a rural or not-rural area to having an accident is summarized in Table 3c. Pursuits conducted in rural areas have a lower probability of getting in an accident (27%) than pursuits conducted in non-rural areas (41%). Apparently, the lower

level of traffic in rural areas, and having fewer other physical obstacles to run into results in rural chases being less dangerous than chases in residential or business areas.

TABLE 3c.
Cross-Tabulation of Accident/No Accident with Pursuit in Rural Area

	No Accident	Accident	Total
Non- Rural Area	591 (59%)	417 (41%)	1008 (100%)
Rural Area	30 (73%)	11 (27%)	41 (100%)
Total	621	428	1049

Phi = -.057 Sig. = .063

In Table 3d, the relationship between the reason for initiating the pursuit (felony and non-felony) and the probability of an accident is summarized. Non-felony pursuits are less likely to get into an accident (39%) than felony initiated pursuits (46%). This may be due to the greater lengths the pursuing officer is willing to go to catch a felon, and /or the greater lengths the fleeing suspect is willing to go to escape being apprehended for a serious crime.

TABLE 3d.
Cross-Tabulation of Accident/No Accident with Reason for Pursuit

	No Accident	Accident	Total
Non-Felony	397 (61%)	254 (39%)	651 (100%)
Felony	186 (54%)	158 (46%)	344 (100%)
Total	583	412	995

Phi = .067 Sig. = .035

Apprehension vs. Escape

The data in Table 4 summarize the results of the discriminant analysis on suspects escaping from the pursuing officer. There are five variables that contribute significantly to the prediction of escape/no escape. These include the number of police units involved in the chase, if the chase was conducted in a business district, whether the chase was conducted during the day, whether or not other police were involved in the chase, and whether the officer was Hispanic. This discriminant is significant at the .0000 level and has a canonical correlation of .201. While the strength of the factors are not great, they do result in 60% of the cases being classified correctly into the two groups (escape and no escape). As the discriminant analysis has identified the significant factors contributing to the prediction of the escape/no escape outcome variable, we will examine each of the five factors more closely with cross-tabulation analysis.

TABLE 4.
DISCRIMINANT ANALYSIS OF ESCAPE/NO ESCAPE
Metro-Dade County, Florida

Discriminating Variable Summary

Measures	Standardized Coefficients	Means No Escape	Means Escape	F*
Number of Police Cars	.490	1.39	1.23	.969
Business District	.531	0.31	0.19	.970
Chase During the Day	.503	0.34	0.22	.969
Other Police Involved	.263	0.13	0.07	.962
Hispanic Officer	-.236	0.36	0.42	.962

Results From Function Test

U = .96 X2 = 39.99 d.f. = 5 p < .0000 R(can) = .201

Classification Results

	N	Centroids	Predicted Group Memberships: No Escape	Escape
No Escape	841	.1036	492 (59%)	349 (41%)
Escape	206	- .4070	68 (33%)	138 (67%)

Percentage of Cases Correctly Classified: 60%

*All values represent transformations of Wilke's lambdas

TABLE 4a.
Cross-Tabulation of Escape/No Escape with Number of Police Cars Involved

	No Escape	Escape	Total
One Police Car	515 (77%)	156 (23%)	671 (100%)
Two+ Police Cars	322 (87%)	50 (13%)	372 (100%)
Total	837	206	1043

Phi = -.118 Sig. = .0001

Table 4a outlines the data showing the relationship between the number of police units involved in a chase and the escape or apprehension of the suspect. Chases employing more than one police vehicle have significantly fewer escapes (13%) than chases that employ only one police vehicle (23%). As the policy under which the MDPD officers operate limits the number of police vehicles during a pursuit to two, it can be assumed that at least two police cars is preferable to just one for apprehending the suspect. This advantage is offset by the greater possibility of an accident when more than one police car is involved in a chase (see Table 3b). The data on the second factor predicting apprehension or escape, whether the chases occurred in a business district or not, are summarized in Table 4b. There are fewer escapes when the chase is in a business district (13%) than when they are in a residential or rural area (22%).

TABLE 4b.
Cross-Tabulation of Escape/No Escape with Pursuit in Business District

	No Escape	Escape	Total
No-Business District	573 (78%)	165 (22%)	738 (100%)
Business District	270 (87%)	41 (13%)	311 (100%)
Total	843	206	1049

Phi = -.105 Sig. = .0006

Table 4c indicates a significant difference in the percentage of escapes between chases conducted during the day and those conducted at other times. Fourteen percent of the chases result in escapes when conducted during the day, compared to 22% of the chases conducted at other times. This finding is significant in that many people think that it is much more difficult to catch a fleeing offender at night. Apparently this is true of the evening as well.

TABLE 4c.
Cross-Tabulation of Escape/No Escape with Pursuit During the Day

	No Escape	Escape	Total
Evening & Night	552 (78%)	159 (22%)	711 (100%)
Chase During Day	291 (86%)	47 (14%)	338 (100%)
Total	843	206	1049

Phi = -.099 Sig. = .001

In Table 4d, the findings outline the relationship between whether other police were involved in the chase and whether the offender escaped or not. It is interesting that suspects in chases involving other police have a lower likelihood of escape (11%), when compared to the chases not involving other police (21%). In spite of the greater deal of coordination required of

these chases, escapes happen only half as often as when other police are not called in.

TABLE 4d.
Cross-Tabulation of Escape/No Escape with Pursuits Involving Other Police

	No Escape	Escape	Total
No Other Police	723 (79%)	192 (21%)	915 (100%)
Other Police	118 (89%)	14 (11%)	132 (100%)
Total	841	206	1047

Phi = -.087 Sig. = .005

In Table 4e, the last factor predicting whether or not the offender will escape is described. This factor is whether or not the pursuing officer was Hispanic or not. It is the weakest of the five factors, but is statistically significant. Hispanic officers have slightly more escapes (22%) than other officers (18%). While this is only a slight difference, it is significant in that this is the only officer characteristic that predicted any of the outcome measures. In other words, officer characteristics including age, gender, ethnicity, and years of service, do not account for differences in the outcomes of pursuits. Apparently the policies implemented and the training given to officers has been successful to the extent that all officers seem to chase in a uniform fashion, rendering officer characteristics insignificant for predicting pursuit outcomes.

TABLE 4e.
Cross-Tabulation of Escape/No Escape with Pursuits Involving Hispanic Officers

	No Escape	Escape	Total
Not Hispanic	542 (82%)	120 (18%)	662 (100%)
Hispanic Officer	301 (78%)	86 (22%)	387 (100%)

TABLE 4e. Cross-Tabulation of Escape/No Escape with Pursuits Involving Hispanic Officers			
Total	843	206	1049

Phi = .050 Sig. = .107

Personal Injury

The next category of negative outcome is personal injury. The discriminant analysis (see Table 5) identified four variables that contribute significantly to the prediction of personal injury. These are the number of police cars, the involvement of other police departments in the chase, the top speed during the pursuit, and the location of the chase in a residential area. The discriminant analysis is significant at the .0000 level and the canonical correlation is .244. This discriminant analysis classified 64% of the cases correctly into the injury/no injury categories. A more in-depth analysis of each of the predictors identified by the analysis follows.

TABLE 5.
DISCRIMINANT ANALYSIS OF PERSONAL INJURY/NO INJURY
Metro-Dade County, Florida

Discriminating Variable Summary

Measures	Standardized Coefficients	Means No Injury	Injury	F*
Number of Police Cars	.569	1.31	1.55	.973
Other Police Involved	.531	0.09	0.23	.953
Top Speed During Pursuit	.331	56.86	61.58	.944
Residential Area	-.269	0.69	0.57	.940

Results From Function Test

U = .94 X2 = 59.51 d.f. = 4 p < .0000 R(can) = .244

Classification Results

	N	Centroids	Predicted Group Memberships: No Injury	Injury
No Injury	832	-.1282	565 (68%)	267 (32%)
Injury	212	.4941	109 (51%)	103 (49%)

Percentage of Cases Correctly Classified: 64%

*All values represent transformations of Wilke's lambdas

Table 5a outlines the findings about injuries from comparing chases with only one police car to chases with two or more police cars. The chases involving only one police car have a smaller chance of personal injuries (16%) than chases involving two or more police cars (28%). Again, this difference may be due to the increased emotion generated by a more involved chase,

or the greater likelihood of an accident with more police cars involved.

TABLE 5a.
Cross-Tabulation of Injury/No Injury with Number of Police Cars Involved

	No Injury	Injury	Total
One Police Car	561 (84%)	110 (16%)	671 (100%)
Two+ Police Cars	269 (72%)	103 (28%)	372 (100%)
Total	830	213	1043

Phi = .134 Sig. = .0001

TABLE 5b.
Cross-Tabulation of Injury/No injury with Pursuits Involving Other Police

	No Injury	Injury	Total
No Other Police	749 (82%)	166 (18%)	915 (100%)
Other Police	85 (64%)	47 (36%)	132 (100%)
Total	834	213	1047

Phi = .144 Sig. = .0000

The data in Table 5b indicate that chases in which other police agencies are involved result in a greater percentage of injuries than chases that do not have help from other police departments. Thirty-six percent of the chases involving other police led to injuries, while only 18% of the other cases involved injuries. It is difficult to determine the reason for this difference. It may be due to the greater level of emotion generated by the combined chase, or simply that these chases are more serious than others in which other departments are not called in. In either case, the finding calls for further research on multi-jurisdictional pursuits.

Table 5c.
Average Top Speed During Chase for Pursuits with and without Injuries
Metro-Dade County, Florida

	No. of cases	Mean	SD
No Injury	833	56.74	16.24
Injury	213	61.53	16.14

F Ratio = 2.03 F Prob. = .0013

Chases that resulted in personal injury averaged significantly higher speeds than did chases that did not have personal injuries (see Table 5c). Pursuits involving personal injury averaged 62 MPH, compared to an average of 57 MPH for chases without personal injury. An analysis of variance indicates that the two means are statistically significant at the .001 level. Obviously, the higher the speed reached during a chase, the greater the risk of accident and injury. In addition, in cases where the injuries occurred after the chase, officers may be more highly charged during a chase at higher speeds and be more prone to injure the suspect.

The findings in Table 5d indicate that chases taking place in residential areas are much less likely to result in personal injuries than pursuits in other areas. Eighteen percent of the chases in residential areas result in personal injuries, while 25% of chases in non-residential areas involve personal injuries.

TABLE 5d.
Cross-Tabulation of Injury/No Injury with Pursuit in Residential Area

	No Injury	Injury	Total
Non-Residential Area	267 (75%)	91 (25%)	358 (100%)
Residential Area	568 (82%)	123 (18%)	691 (100%)
Total	835	214	1049

Phi = -.090 Sig. = .004

A DESCRIPTIVE ANALYSIS OF OMAHA PURSUITS

The analysis of the pursuit data collected for Omaha will follow the same procedure as just reported for Metro-Dade, and will be presented in two stages. First we will examine some descriptive statistics detailing the characteristics of the sample of pursuits, including the number and duration of pursuits, the reason for beginning the pursuits, and the outcomes of the pursuits (i.e. arrests, deaths, escapes, accidents, injuries and property damage). After the descriptive data is presented, we will examine relationships between the pursuit outcomes and various officer and situational characteristics. This is accomplished by conducting a multi-variate analysis separately for each type of outcome.

TABLE 6.
OVERVIEW OF OMAHA POLICE PURSUITS

Number of Pursuits:	1992	85		
	1993	17		
	1994	122		
	Unk.	5		
		229		
Duration of Pursuits:	1 minute	119	54%	
	2 minutes	70	32%	
	3 minutes	14	6%	
	4 minutes	5	2%	
	5-10 minutes	10	5%	
	11-14 minutes	3	1%	
Reason for Pursuits:	Traffic	112	51%	
	Felony/Suspected		89	40%
	Reckless Driving/DUI	8	4%	
	Known Previous Pursuit		3	1%
	Suspect Vehicle		7	3%

Pursuits Ending in Arrest:	118	52%
Pursuits Ending in Escape:	59	26%
Pursuits Terminated by Police:	51	22%
Pursuit-Related Deaths:	1	<1%
Pursuit Related Accidents:	72	32%
Pursuit Related Injuries:	31	14%
Pursuit-Related Property Damage:	91	40%

As indicated by the data in Table 6, 229 pursuits were analyzed in the present study. One hundred and nineteen of the pursuits (54% for which data were available) lasted one minute or less. Seventy pursuits (32%) lasted two minutes, and the remaining pursuits (14%) for which information was available, lasted between three and fourteen minutes.

One hundred and twelve pursuits were initiated for traffic violations (51%), while 89 were initiated for felonies or suspected felonies (40%). Eight (4%) were initiated for reckless driving or DUI's, 7 (35%) were initiated because of suspect vehicles, and 3 (1%) were initiated because the driver was known from a previous pursuit situations. A more specific analysis of felony situations revealed that there were numerous different felonies that provoked the chases. The most frequent felonies were stolen vehicles (40%), shooting incidents (14%), and hit and run situations (11%). The rest are scattered among 17 other felonies.

One hundred and eighteen offenders (52%) were arrested, while 59 (26%) escaped. Fifty-one or 22% of the pursuits were terminated by the police, and 1 (<1%) resulted in a pursuit-related death. Seventy-two of the pursuits (32%) ended in an accident. Thirty-one of the pursuits resulted in personal injuries (14% of all pursuits). Twenty-five of the pursuits resulted in injuries to the suspect or a rider, four resulted in injuries to an officer, and bystanders were injured in two of the pursuits. Pursuit-related property damage occurred in 91 (40%) pursuits.

A More Detailed Analysis

There are several alternative ways to review the data on police pursuits. Focusing on the outcome of the pursuit may not be the best method of determining a good pursuit, but it is an important criterion that can be measured, and the outcome of pursuit driving is the major concern of interested parties. Additionally, what has been written about pursuits directs attention to their dangerousness. Specifically, there has been concern over the hazards of the pursuit in relation to the relatively minor traffic infractions often inciting the chase. These issues concerning the danger of pursuits are addressed in the data presented in Table 2: an inspection of the bi-variate relationship between reasons for pursuing and the outcome of the pursuit.

TABLE 7.
OUTCOME OF PURSUIT BY REASON FOR PURSUIT
OMAHA, NEBRASKA
Reason for Pursuit

Outcome	**Traffic**	**Reckless/DUI**	**Felony**	**Suspect Veh.**	**Total (Av.%)**
Suspect Arrested	58 (52%)	6 (75%)	47 (51%)	3 (43%)	114 (52%)
Suspect Escaped	93 (21%)	0 (0%)	30 (33%)	2 (29%)	55 (25%)
Suspect Killed	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Accident	38 (34%)	2 (25%)	30 (33%)	1 (14%)	71 (33%)
Voluntary Termination	30 (27%)	2 (29%)	15 (16%)	2 (29%)	49 (22%)

Note: Column percentages may total to more than 100% because some cases fit into more than one category of outcome (i.e. accident and arrest).

The data presented in Table 7 reveal the relationship between two important pursuit

variables: why they are initiated, and how they end. One hundred and eleven pursuits were initiated for traffic violations (51%), while 92 were initiated for felonies or suspected felonies (42%). Three percent were initiated because of suspect vehicles, and 4% were initiated for reckless driving and DUI situations.

There are five categories of pursuit outcome: the arrest, escape, or killing of the suspect, in addition to the pursuit ending in an accident or a voluntary termination on the part of the police. Obviously, more than one of these outcomes may happen in a single pursuit. For example, a suspect may be arrested and the pursuit may end in an accident. Therefore, these columns total to more than one hundred percent. Fifty-two percent of the pursuits resulted in the suspect being arrested. Twenty-five percent of the suspects escaped, and none was killed. Thirty-three percent ended in an accident, and 22%percent were voluntarily terminated by the police.

Pursuits initiated for reckless driving or DUIs were the most likely to end in an arrest (75%), while pursuits initiated because of suspected vehicles resulted in the smallest proportion of arrests (43%). Suspects were most likely to escape in felony pursuits (33%), and least likely to escape in pursuits initiated for reckless driving and DUI situations (0%). Accidents were most likely in traffic and felony stops (34% and 33%, respectively). The pursuits least likely to end in an accident were pursuits initiated because of suspect vehicles (14%). Voluntary terminations by the police were most likely in pursuits initiated for suspect vehicles (29%), and least likely in chases initiated for felonies (16%). The next section will look, in a cautious way, at what these data mean.

Measuring Outcome of Pursuits

The next step in the analysis is to determine which characteristics of pursuits, and of the officers, predict specific types of outcome. For the purposes of this analysis, we have devised several measures of negative outcome. These include whether or not there was an accident, whether or not the suspect escaped, and whether or not there was an injury to the suspect, officer or bystanders. Since we found that nearly all of the property damage was the result of accidents, we do not report the results of the analysis on property damage separately.

First we will determine which officer and pursuit characteristics predict each type of negative outcome using discriminant analysis, and then explain how the characteristics relate to the outcome with cross-tabulation tables. For each of the three measures of specific negative outcomes, we calculate a discriminant analysis to indicate which variables best predict that type of outcome. Then we present a cross tabulation table for each of the significant variables to examine the relationships more thoroughly. The discriminants for accident/no accident and injury/no injury were not significant statistically. This means that none of the variables used in our analysis would predict these two outcomes. The predictor variables were the number of police units involved in the chase, the age of the officer, the months the officer has been employed by the police department, the gender of the officer, the time elapsed during the chase, wet or dry road conditions, whether or not the chase took place on an expressway, the top speed of the pursuit, whether or not other police departments were involved in the chase, whether or not the supervisor helped, traffic flow, ethnicity of the officer, time of day of the chase, type of district (business, residential, or rural), and whether the chase was initiated for a traffic offense or a felony. Even though all of these variables failed to predict accidents or injury, they did predict

whether or not the suspects escaped.

TABLE 8.
DISCRIMINANT ANALYSIS OF PERSONAL ESCAPE/NO ESCAPE
Omaha, Nebraska

Discriminating Variable Summary

Measures	Standardized Coefficients	Means No Escape	Escape	F*
Supervisor Helped	.658	0.90	0.67	.924
Number of Police Cars	.328	1.28	1.12	.903
Top Speed During Pursuit	-.431	60.48	64.81	.889
Residential Area	-.421	0.40	0.54	.872
Traffic Flow	.324	1.11	1.06	.859

Results From Function Test

U = .86 X2 = 34.18 d.f. = 5 p < .0000 R(can) = .376

Classification Results

	N	Centroids	Predicted Group Memberships: No Injury	Injury
No Escape	119	.3882	81 (68%)	38 (32%)
Escape	110	- .4200	40 (36%)	70 (64%)

Percentage of Cases Correctly Classified: 66%

*All values represent transformations of Wilke's lambdas

Apprehension vs. Escape

The discriminant analysis (see Table 8) identified five variables that contribute significantly to the prediction of escape. These include supervisor helping, the number of police cars involved in the chase, the top speed of the chase, whether or not the chase was conducted in a residential area, and the traffic flow. This discriminant is significant at the .0000 level and has a canonical correlation of .376. While the strength of the factors are not great, they do result in 66% of the cases being classified correctly into the two groups (escape/no escape). As the discriminant analysis has identified the significant factors contributing to the prediction of the escape/no escape outcome variable, we will examine each of the five factors more closely with cross-tabulation analysis.

Table 8a outlines the findings about escapes by comparing chases in which the supervisor assisted, to chases in which the supervisor did not assist. The chases in which the supervisor did not assist, had a greater likelihood of the suspect escaping (75%) than chases in which the supervisor did assist (41%). Apparently, a supervisor being in a position to help with the decision-making during the chase results in fewer escapes.

TABLE 8a.
Cross-Tabulation of Escape/No Escape with Supervisor Help

	No Escape	Escape	Total
No Help	12 (25%)	36 (75%)	48 (100%)
Supervisor Help	105 (59%)	73 (41%)	178 (100%)
Total	117	109	226

Phi = -.278 Sig. = .0000

TABLE 8b.
Cross-Tabulation of Escape/No Escape with the Number of Police Cars

	No Escape	Escape	Total
One Police Car	83 (47%)	95 (53%)	178 (100%)
Two + Police Cars	34 (71%)	14 (29%)	48 (100%)
Total	117	109	226

Phi = -.198 Sig. = .0029

The data in Table 8b indicate that chases with only one police car involved result in a greater percentage of escapes than chases that have more than one police car involved. Fifty-three percent of the chases involving one police car resulted in escapes, while only 29% of the chases involving more than one police car allowed the suspect to escape.

Table 8c.
Average Top Speed During Chase for Pursuits Resulting in Escapes/No Escapes
Omaha, Nebraska

	No. of cases	Mean	SD
No Escape	118	60.57	15.57
Escape	110	64.81	13.64

t-value = -2.18 Sig. = .03

Chases that resulted in escapes averaged significantly higher speeds than did chases that did not have escapes (see Table 8c). Pursuits involving escapes averaged 65 MPH, compared to an average of 61 MPH for chases without escapes. T-tests analysis indicates that differences

between the two means are statistically significant at the .03 level. Obviously, the higher the speed reached during a chase, the greater the difficulty in apprehending the suspects.

The findings in Table 8d indicate that chases taking place in residential areas are much more likely to result in an escape than pursuits in other areas. Fifty-five percent of the chases in residential areas result in escapes, while only forty-two percent of chases in non-residential areas ended in the suspects escaping.

TABLE 8d.
Cross-Tabulation of Escape/No Escape with Pursuit in Residential Area

	No Escape	Escape	Total
Non-Residential Area	70 (58%)	51 (42%)	121 (100%)
Residential Area	48 (45%)	59 (55%)	107 (100%)
Total	118	110	228

Phi = -.090 Sig. = .004

TABLE 8e.
Cross-Tabulation of Escape/No Escape with Traffic Flow

	No Escape	Escape	Total
Light Traffic	88 (52%)	81 (48%)	169 (100%)
Heavy Traffic	10 (83%)	2 (17%)	12 (100%)
Total	98	83	181

Phi = -.156 Sig. = .035

While most of the pursuits were conducted in light traffic, the few in heavy traffic resulted in far fewer escapes. Forty-eight percent of the pursuits in light traffic resulted in

escapes, while only 17% of the chases in heavy traffic concluded with the suspects escaping.

A DESCRIPTIVE ANALYSIS OF PURSUITS IN AIKEN COUNTY

The analysis of the pursuit data collected from the Aiken County Sheriff's Office is limited to those conducted during 1993 and 1994. As there were only 17 pursuits reported, our analysis will be limited. After the descriptive data is presented, we will examine relationships between the pursuit outcomes and the reason the pursuit was initiated.

TABLE 9.
OVERVIEW OF AIKEN POLICE PURSUITS

Number of Pursuits:	1993	7		
	1994	10		
		17		
Duration of Pursuits:	<5 minutes	1	6%	
	5 minutes	4	24%	
	10-15 minutes	5	30%	
	20-29 minutes	4	24%	
	30+ minutes	3	17%	
Reason for Pursuits:	Traffic	5	36%	
	Felony/Suspected		6	43%
	Reckless Driving/DUI	1	7%	
	Suspect Vehicle		2	14%
Pursuits Ending in Arrest:		14	82%	
Pursuits Ending in Escape:		1	6%	
Pursuits Terminated by Police:		1	6%	
Pursuit-Related Deaths:		1	6%	
Pursuit Related Accidents:		8	47%	
Pursuit Related Injuries:		2	12%	
Pursuit-Related Property Damage:		4	24%	

As indicated by the data in Table 9, 17 pursuits were analyzed in the present study. One of the pursuits (6% for which data were available) lasted less than five minutes. Four pursuits (24%) lasted five minutes, five pursuits (30%) lasted between ten and fifteen minutes, four (24%) lasted between twenty and twenty-nine minutes, and the remainder three (17%) went thirty minutes or longer.

Five pursuits were initiated for traffic violations (36%), while six were initiated for felonies or suspected felonies (43%). One (7%) was initiated for reckless driving or DUI's, and two (14%) were initiated because of suspect vehicles. A more specific analysis of felony situations revealed that there were several different felonies that prompted these chases. The most frequent felonies were stolen vehicles (44%) and armed robbery (33%). The remainder were for discharge of weapons (11%) and drug purchases (11%).

Fourteen of the offenders (82%) were arrested, while one (6%) escaped. One (6%) of the pursuits were terminated by the police, and 1 (6%) resulted in a pursuit-related death. Eight of the pursuits (47%) ended in an accident. Two of the pursuits resulted in personal injuries (12% of all pursuits). Both of the injuries were to the suspect or a rider. Pursuit-related property damage occurred in 4 (24%) of the pursuits.

A More Detailed Analysis

There are several alternative ways to review the data on police pursuits. Focusing on the outcome of the pursuit may not be the best method of determining a good pursuit, but it is an important criterion that can be measured, and the outcome of pursuit driving is the major concern of interested parties. Additionally, what has been written about pursuits directs attention to their dangerousness. Specifically, there has been concern over the dangerousness of the pursuit in

relation to the relatively minor traffic infractions often initiating the chase. These issues concerning the danger of pursuits are addressed in the data presented in Table 10: an inspection of the bi-variate relationship between reasons for pursuing and the outcome of the pursuit.

TABLE 10.
OUTCOME OF PURSUIT BY REASON FOR PURSUIT
AIKEN, SOUTH CAROLINA
Reason for Pursuit

Outcome	**Traffic**	**Reckless/DUI**	**Felony**	**Suspect Veh.**	**Total (Av.%)**
Suspect Arrested	3 (60%)	1 (100%)	4 (68%)	0 (0%)	8 (47%)
Suspect Escaped	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (6%)
Suspect Killed	0 (0%)	0 (0%)	1 (17%)	0 (0%)	1 (6%)
Accident	2 (40%)	0 (0%)	3 (50%)	2 (100%)	7 (41%)
Voluntary Termination	0 (0%)	0 (0%)	1 (17%)	0 (0%)	1 (6%)

Note: Column percentages may total to more than 100% because some cases fit into more than 100%

There are five categories of pursuit outcome: the arrest, escape, or killing of the suspect, in addition to the pursuit ending in an accident or a voluntary termination on the part of the police. Obviously, more than one of these outcomes may happen in a single pursuit. For example, a suspect may be arrested and the pursuit may end in an accident. Therefore, these columns total to more than one-hundred percent. Eight (47%) of the pursuits resulted in the suspect being arrested. One of the suspects escaped, and one was killed. Seven (41%) ended in

an accident, and 1 (6%) was voluntarily terminated by the police.

Because of the small number of total pursuits, the cross-tabulation findings should be interpreted with caution, but they do give us some interesting information. Pursuits initiated for reckless driving or DUIs were the most likely to end in an arrest (100%), while pursuits initiated because of suspected vehicles resulted in the smallest proportion of arrests (0%). There was no outcome data on the one suspect who escaped. Accidents were most likely in pursuits initiated for suspect vehicles (100%). The pursuits least likely to end in an accident were pursuits initiated because of traffic stops (40%). Voluntary terminations by the police were all for felony stops.

Summary and Conclusions

The data presented in this section represent facts and figures of police pursuits from three jurisdictions: Metro-Dade Police Department (Miami), Omaha, Nebraska, and Aiken County, South Carolina. We have chosen to analyze systematically the process and outcome of pursuit driving in the two larger jurisdictions and present a limited analysis of the data from Aiken County.

The data presented are important for several reasons. First, the data represent a substantial number of police pursuits in two metropolitan areas and in one rural county. Earlier research on pursuit driving is limited either by the number of pursuits studied, the lack of information collected on the incidents, or by the specific nature of the pursuits studied (i.e. freeway pursuits). Second, the current data are highly informative for other jurisdictions struggling with the problems associated with pursuit driving. Many departments are in the process of deciding what is necessary to include in a comprehensive pursuit policy, and what

can be expected if implemented.

One of the more interesting results from the present study is the impact of policy changes. The two major sites, Metro-Dade and Omaha, went through substantial policy changes during the period of study. Metro-Dade changed its policy and limited its officers' discretion. The department adopted a "violent-felony only" policy in late 1992. As the data reveal, pursuits in Metro-Dade went from 279 in 1992 to 51 in 1993 as a direct result of the change in policy. The Omaha Police Department also changed its policy but in the opposite direction. In 1993, the Omaha policy changed from restrictive to judgmental, permitting pursuits for offenses that previously had been prohibited. The results of this policy change is reflected by the 17 pursuits reported in 1993 and the 122 pursuits reported in 1994. These two policy changes are important to guide administrators. These data report the dramatic impact of a change in policy.

One of the more important findings in the Metro-Dade data is the **lack** of significant predictor variables. Taken by itself, this may not appear important but it represents a major shift from findings reported in the late 1980s. Prior research indicated that officer characteristics were important in the prediction of costs and benefits of pursuit. This indicated a difference in how male officers and female officers were conducting pursuits and that there were differences among anglo, black and Hispanic officers. The data reported in the present study indicate that all officer characteristics fell out of the analysis (except Hispanic officers in the escape analysis - and it was the weakest predictor). This lack of predictor variables indicates that officers are conducting pursuits in a uniform or consistent pattern and making the same types of decisions. Our interpretation of these changes is that officers are better and more uniformly trained and that personal preferences and immediate 'gut-level' reactions have been replaced with administrative

requirements, supported and enforced by supervisors.

Another critical finding relates to the predictors of accidents. The data from Metro-Dade indicate that pursuits on expressways, the number of police cars, rural location and the reason for the pursuit help predict whether or not a pursuit will result in an accident. These predictors must be considered in policy, supervisory and officer training. Unfortunately, the way to consider or interpret some of these data is unclear. For example, the more police cars involved in a pursuit, the more likely it will result in a collision. However, the more police cars that are involved in a pursuit, the more likely an apprehension will be made. Therefore, in appropriate pursuits for violent felonies, it may be reasonable to increase slightly the risk of traffic accidents by raising the number of police vehicles permitted to be involved as the likelihood of apprehension is improved. This finding does not endorse the uniform increase of police units involved in a pursuit but it does suggest that policy makers should re-think the use of police vehicles to parallel the pursuit or converge at designated locations **at reasonable speeds**, perhaps within the speed limit. One way to address the issue is to provide the supervisor with the ability to assign cars to the chase, in addition to the primary and secondary units. Of course, this will require rules, regulations and training for the supervisor, as it is he or she who must recognize the need to raise risks to the public. A similar concern must be made for interjurisdictional pursuits. In any case, an officer must not just provide support for other officers without assessing the situation and making sure that the pursuit is within his agency's policy. The data are clear that the more vehicles involved in the chase, the greater the likelihood of an accident.

The data from the Omaha Police Department reveal the strong effect of a change in policy. The data also reveal that the pursuits are often between one and two minutes. Only 1%

of the pursuits lasted beyond 11 minutes. Apparently, there were many chases for stolen vehicles (40%). There were five factors that helped predict the apprehension of a fleeing suspect in Omaha: These included supervisory assistance, number of police vehicles, lower speeds, pursuits in areas other than residential and heavy traffic flow. As in all pursuit studies, the data do not reveal why these variables are important. Whether or not suspects were apprehended in heavy traffic because they gave up or crashed is a question which we must address in future analyses.

The limited data from Aiken County reveal relatively long pursuits but ones initiated for reasons slightly different than those conducted in Miami and Omaha. The pursuits in Aiken County were lengthy but the nature of the environment must be considered when interpreting the time variable. There was a higher percentage of pursuits conducted for suspected felons than traffic offenders in Aiken County, which reversed the trend found in Miami and Omaha. The number of pursuits resulting in an apprehension was higher than in other areas. In fact, only one suspect escaped and that was when the deputy terminated his pursuit. As in Omaha, there were a large percent of pursuits conducted for stolen vehicles.

We have presented only selected findings and interpretations. Many other aspects of the data are less clear, require further data analysis and raise questions of interpretation. We believe that interpretations should be left to the readers, whether they are police administrators or police critics. Hopefully, this research will continue to stimulate discussion and raise the consciousness about the costs and benefits of pursuit. Our goal has been to build a source document, which can be used by and adapted to other jurisdictions, including small and medium sized police departments. However, the findings of this research do have important policy implications and should play a meaningful role in helping to develop policies and training

throughout the various police jurisdictions.

Police Pursuits and the Use of Force

The previous section reviewed the nature and extent of pursuits in our study sites. It is clear from the available literature and our data that there are at least three aspects of pursuit on which there is agreement: 1) pursuits are dangerous; 2) pursuits must be controlled; and 3) involvement in a pursuit causes an increase in the participants' adrenalin and excitement. Certainly, there is disagreement among practitioners and researchers to the **degree** of danger, control and increase in excitement and adrenalin, but no one has disputed their presence. In fact, there is evidence that these aspects vary among pursuits. That is, some pursuits are more dangerous than others, some need more control than others and some affect the participants more than others. There is also variance among the participants on these aspects (Alpert and Fridell, 1992). In one study, Homant et al. (1993: 293-294) warned that "Any attempt ... to regulate or rationalize police pursuit requires that attention be paid to individual-level personality variables, that may affect the patrol officer's decision making."

The consequences of the presence of danger, need for control and increased excitement have been the foci of the debate on the reasonableness of pursuit and its management (Urbonya, 1991). The factors of danger or risk and need for control are central to the decision to continue or terminate a pursuit and the increase in excitement and adrenalin is important for the supervision of a pursuit. This change in behavior during a pursuit has been referred to by more than one driving instructor as a "pucker factor." The present chapter reviews our data on police officers' use of force following their driving in a high energy, adrenalin-driven pursuit.

First, driving decisions are likely to be affected by increased excitement and adrenalin. That is the heat of the chase is likely to impact negatively on rational and reasonable decisions

(Alpert and Fridell, 1992 and Nowicki, 1989). Second, excitement and adrenalin are likely to impair the ability to drive tactically or intelligently. The techniques of steering, braking, turning and proximity to the fleeing suspect are likely to be impaired by the emotional impact of a pursuit (Beach et al., 1993, Nowicki, 1989, International Association of Directors of Law Enforcement Standards and Training, 1989 and Scotti, 1988).

The third category of effects, increased excitement and adrenalin, involves the events that take place after the driving has terminated and the officer(s) is making the physical apprehension of the suspect. That is, the emotions of just having driven at high speeds, erratically, dangerously and creating risk to himself and others, are likely to effect the ways in which he physically controls the suspect. Under the conditions following a vehicular pursuit, whether there has been an accident or the suspect is fleeing on foot (or both), the officer may not use optimal restraint!

It would be quite difficult to identify the individual effects of excitement, adrenalin, perceived peer pressure, competition or machismo on the officers' actions during or following a pursuit. We will make no attempt to conduct such an analysis and will merely look at the actions or force used by police following pursuits.

Pursuits and Use of Force

The earliest study documenting force used after a pursuit indicated that approximately 30% of injuries suffered by suspects occurred after the vehicles had stopped and the suspect was being taken into custody (Alpert and Dunham, 1990). These data were collected from several agencies in the Miami, Florida area between 1985 and 1987. A majority of the injuries (87%) were minor and resulted in cuts, scrapes and bruises. However, some of the injuries were serious

and required hospital care. Unfortunately, use of force data from voluntary terminations were not distinguished from force used after an accident. As data collection efforts have improved, a more thorough analysis of force used after a pursuit is possible.

The more recent data from the Metro-Dade police department reveal a declining trend in the use of force to make an arrest after a pursuit. Although a downward trend is indicated, it must be remembered that these data are from one agency. During the years 1990-1994, injury data from driving accidents were similar to the earlier years (17% for the mid 80s and 20% for the 90s) but the injuries suffered by suspects as a result of the arrest declined to 13% overall. The recent data are presented below.

Pursuit and Use of Force

Agency	Years	Pursuits	Total Arrests	Arrest with Accident	Arrest without Accident	Use of Force - Accident	Use of Force-no Accident	Death
MDPD	90-94	1049	784	354	428	40	61	5
Aiken	93-94	17	14	8	6	3	2	1
Omaha	92-94	229	118	57	61	1	3	1

In 101 of the 784 arrests, force was used to make the arrest of the suspect. It is informative to review the use of force by the police based upon whether or not the suspect was involved in an accident. The recent data revealed that 428 arrests were made when no accident occurred (the suspect stopped voluntarily). Sixty-one use-of-force reports were completed from these arrests (14%). In pursuits where suspects were involved in an accident resulting from a pursuit (354 incidents), 40 control of persons reports were completed (28%). In other words, police used force to effect an arrest twice as often on a suspect who had become involved in an accident

compared to a suspect who stopped voluntarily.

In many of these cases, suspects voluntarily stopped the car and ran from the police on foot. If involved in an accident, many suspects were not injured seriously or able to recover from any injury sustained in the accident and ran from the police. The data presented here show when force was used to apprehend suspects who were involved in a foot chase after a vehicular pursuit.

Suspects Who Flee on Foot, Arrests and Use of Force

Agency	Years	Suspects Who Flee	Arrests	Escapes	Use of Force	Deaths
MDPD	90-94	479	357	115	45	1
Aiken	93-94	6	5	0	3	1
Omaha	92-94	71	45	26	3	0

The Metro-Dade data reveal that 479 suspects became involved in a foot chase. Three hundred and fifty-seven arrests were made (76%) and 115 (24%) suspects successfully escaped immediate apprehension. Force was used in 45 (13% of those arrested) confrontations which resulted in an apprehension. One death resulted from the use of force. In most other cases, the injuries resulting from the use of force was minor (85%).

In the Aiken County Sheriff's Office (South Carolina), the number of pursuits was low and must be interpreted cautiously. The agency had approximately 65 sworn officers. During the years 1993 and 1994, they engaged in 17 pursuits. Fourteen pursuits resulted in arrests, two pursuits involved accidents with injuries (16%) and one pursuit resulted in a death (<1%). These pursuits also generated 5 use-of-force reports. That is, 5 of the 14 pursuits (36%) resulted in force being used to make the arrest. Six suspects ran from the police on foot. Five were arrested and three of those arrests involved the use of force. One suspect was killed: none escaped.

In Omaha, Nebraska, there were 229 pursuits between 1992 and 1994. There were 655 sworn officers in the department. One hundred and eighteen pursuits resulted in arrests (52%), 26 pursuits involved accidents with injuries (11%) and 1 pursuit resulted in death. Fifty-seven arrests involved accidents, 26 of which included injuries. Sixty-one arrests were made when an accident did not occur. Use-of-force reports were filed in 4 arrests, 1 after an accident and three when there was no accident. Seventy-one suspects ran from the police. Forty-five arrests were made while 26 suspects escaped. As a result of the 45 arrests, 3 use-of-force reports were filed and no deaths occurred as a result of apprehending a suspect fleeing on foot.

Officer Interviews

The officers and supervisors were asked a variety of questions concerning pursuit driving and the use of force. Specifically, we asked, "What percent of arrests after a pursuit result in the use of force?" and "What percent of arrests after a pursuit result in excessive force?" The data from these questions are reported below.

PERCENT OF ARRESTS RESULTING IN THE USE-OF-FORCE

	0		1-25		26-50		51-75		76+		Mean
	N	%	N	%	N	%	N	%	N	%	%
MDPD Officers	6	2	91	34	89	33	42	16	37	14	43
Supervisors	0	0	12	25	23	46	8	16	6	12	48
Omaha Officers	5	1	89	24	118	31	63	17	103	27	53
Supervisors	0	0	28	28	32	32	24	24	15	15	48
Aiken Officers	0	0	9	21	14	33	8	19	11	26	54
Supervisors	0	0	2	22	6	67	1	11	0	0	39
Mesa Officers	0	0	12	16	28	37	7	9	29	38	61

Supervisors	0	0	3	23	4	31	2	15	4	31	54

These data reflect opinions which must be interpreted cautiously as each agency operated under different policies and procedures. For example, in Mesa, pursuits were permitted for only the most serious offenses under very restrictive conditions. In Aiken County, there was no written policy until 1993. In Omaha, the policy had changed from restrictive to judgmental and in Metro-Dade, the policy had become more restrictive. Although the type of policy is no excuse for the use of excessive force, it may explain some of the variance in the use-of-force if the offender is suspected of a violent offense and resists arrest with violence. The use of force may reflect only the level of resistance by the suspect.

Most officers report that the use-of-force occurs in approximately one-half of the arrests which follow a pursuit. The average percentage of arrests following pursuits in which force is used ranged from 43% for MDPD officers to 61% for Mesa officers. In MDPD, only 14% of the officers report that they believe force was used in 75% or more of the arrests. Thirty-eight percent of the Mesa officers reported that they believed that force was used in more than 75% of the arrests. Six (2%) of the MDPD officers and 5 (1%) of the Omaha officers report that 0% of the arrests result in the use of force. The Aiken deputies believed, as did the majority of officers, that force is used in most arrests.

The supervisors reported a slightly different picture in some of the agencies. The average percentage of arrests following pursuits reported by supervisors ranged from 39% in Aiken to 54% in Mesa. In MDPD, the supervisors reported figures which mirror their officers' reports. They differ only between the 1-25% and 26-50% categories, with the supervisors reporting

slightly higher percentages of arrests resulting in the use-of-force after a pursuit than their officers. In Mesa, the officers and supervisors appear to have similar views of the use-of-force following a pursuit. The Omaha supervisors differed from their officers at the upper percentage categories, 51-75% and 76+%, with the supervisors reporting figures lower than their officers. The Aiken County supervisors report that force is utilized in fewer arrests than the number reported by their deputies.

The reported use of excessive force differs from the use-of-force because there is no reason or excuse for the use of force beyond what is necessary to affect an arrest. While most officers reported that excessive force is used in some arrests after a pursuit, many report that no excessive force is ever used. These figures are reported below.

PERCENT OF ARRESTS RESULTING IN EXCESSIVE FORCE

	0		1-25		26-50		51-75		76+		Mean
	N	%	N	%	N	%	N	%	N	%	
MDPD Officers	46	17	168	64	36	14	7	3	7	3	16
Supervisors	4	8	35	71	10	20	0	0	0	0	15
Omaha Officers	110	30	202	54	40	11	10	3	10	3	13
Supervisors	13	13	71	74	10	10	3	3	5	0	14
Aiken Officers	3	7	31	74	6	14	2	5	0	0	15
Supervisors	1	11	7	77	1	11	0	0	0	0	12
Mesa Officers	36	49	34	46	3	4	1	1	0	0	7
Supervisors	2	15	9	70	2	15	0	0	0	0	11

The average percentage of arrests following pursuits which involved excessive force as reported by the officers ranged from 16%(MDPD) to 7% (Mesa). Forty-six MDPD officers (17%)

reported that excessive force is never used. One hundred and sixty-eight officers (64%) reported that excessive force is used in 1-25% of the arrests and 36 officers (14%) report that excessive force is used in 26-50% of the arrests following a pursuit. In Omaha, 110 officers (30%) reported that excessive force is never used but 202 (54%) reported it used in 1-25% of the arrests. In Aiken, 31 deputies (74%) reported that excessive force was used in 1-25% of the arrests. In Mesa, almost one-half of the officers reported that no excessive force was used in arrests following a pursuit and most of the remaining officers reported excessive force was used in 1-25% of the arrests following a pursuit.

In general, the supervisors reported that they are aware of the use of excessive force in some arrests of suspects following a pursuit. The average percentage of arrests following pursuits which involved excessive force as reported by the supervisors ranged from 15% (MDPD) to 11% (Mesa). In MDPD, 35 supervisors (71%) reported that excessive force was used in 1-25% of the arrests made after a pursuit. They also reported that excessive force was used in no more than 50% of the arrests. In Aiken, the supervisors reported that excessive force was used in approximately the same number of arrests as their deputies. In Mesa, most of the supervisors reported that excessive force was used in 1-25% of the arrests.

The figures on the use-of-force are difficult to interpret but the acknowledged use of excessive force by so many officers and supervisors can only be seen as a serious problem for the agencies. The opinions provided by the officers and supervisors reveal much more force and excessive force than the figures which are available on the official pursuit report forms. Apparently, more force is used than reported but the majority of the force, whether excessive or not, probably does not result in many injuries. The experiences of the suspects provide a picture

more in line with the officers' opinions as opposed to what they report.

Suspect Interviews

The suspects we interviewed had another perspective on use of force after a pursuit. Unfortunately, the individuals who were interviewed do not constitute the same offenders who ran from the agency from which we have data on use of force. In other words, these individuals were jailed but could have been arrested or chased by an agency unrelated to the ones included in our study. For example, the inmates in the Dade county jail could have been arrested by an officer from any one of the 27 police agencies in the county. Similarly, the inmate could have been pursued by an officer from any agency. In fact, the suspect interviews in South Carolina were conducted in Richland and Lexington county jails, not in the Aiken county jail. These data are presented as another way to understand police use of force.

In Miami, 28 of the 51 (55%) persons interviewed reported being beaten by the police. In South Carolina, 11 of the 32 (34%) inmates reported being beaten and in Omaha, 15 of the 35 (43%) subjects reported being beaten by the police. On average, 46% of the subjects reported being beaten by the police after they were caught and while being apprehended. There is little doubt that the officers and suspects report use-of-force at a different rate (Alpert and Smith, 1994). It is clear that the officers and suspects report that force is used significantly more often than what is provided on the official pursuit reporting form.

Summary and Conclusions

Pursuit driving creates danger or excitement for those involved or those who happen to be in the area. One consequence of an exciting and adrenalin-driven pursuit is the force used by the

police to apprehend the suspect. The use of force after a pursuit is an issue that must be addressed by police policy makers and trainers. Unfortunately, unraveling the nature and extent of that force depends upon who is asked and under what circumstances. The pursuit forms collected from each agency reveal one set of "facts." These forms document the official action of the officers. In Metro-Dade, 13% of the arrests made after a pursuit utilized force. In Aiken County, 36% of the arrests used force and in Omaha, only 3% of the arrests reported the use-of-force. None of the forms indicated or admitted that any force was excessive.

The officers' interviews provided another picture of the use-of-force after a pursuit. The officers reported that force was used in slightly more than one-half of the arrests following a pursuit. The supervisors revealed that force was used in just under 50% of the arrests following a pursuit. The officers reported that excessive force was used in slightly under 13% of the arrests and the supervisors reported a similar number.

The suspects provided a third snapshot of force used to make an arrest following a pursuit. Forty-six percent of the suspects reported that they were beaten by the police as they were being arrested. It is interesting that the officers' interview data and the suspects' reports are more closely related than the departmental reports. These differences raise some important organizational issues, concerns and implications.

There may be several (and alternative) explanations as to why the differences exist. First, these differences may be a result of *perspective*, as some force may be perceived as reasonable by one officer but not another or a suspect. Certainly, the meaning of 'excessive' or 'beating' is open to more than one interpretation and the differences may be measurement error. Second, the differences may be a result of an officer's *unwillingness to report* force and especially force that

might be considered excessive. It is unlikely that an officer will admit that he used unnecessary force. These two explanations in the differences of reported use of force may be influenced by the excitement and danger of the pursuit incident. In any case, the nature and extent of force utilized and the differences in that force as recorded on the forms, and reported by officers and suspects, raises some management issues.

The nature and extent of force used to take a suspect into custody after a pursuit suggests an immediate need for corrective measures. The target of reform must be agency policies, officers and their supervisors. First, departments must incorporate in their pursuit policies a component that requires any officer (a secondary officer) other than the primary pursuit officer to make the physical arrest of the suspect, if at all possible. This permits an officer who has not been caught up in the heat of the chase, to make physical contact with the suspect. This secondary officer is less likely to use force beyond what is necessary to take control compared to an officer who has been in an adrenalin-driven chase, who is highly excited or extremely angry at the suspect. It is the suspect who has disregarded the officer's order to stop, placed himself, the officer and the public at risk and committed the serious offense of "contempt of Cop." Second, officers must be trained to understand the dynamics of pursuit and its effect on their mentality. This training must include the need to manage one's anger and frustration. While it may be a natural desire to "teach the suspect a lesson" or provide a little "street justice," it is unprofessional and unacceptable to use more force than is necessary to take the suspect into custody (see Sykes, 1986). Beach et al. (1993) and Homant et al. (1993) both suggest that training should include the warning to officers and supervisors that personality factors may affect their decision-making. Training officers must recognize that the emotions can not be eliminated

but they can be controlled (IADLEST, 1989: 3.2).

Supervisors hold the key to controlling the anger, emotions and the use of force and excessive force. Ineffective or incompetent supervision is translated into permission for officers to do what comes naturally. If officers were given total discretion, there would be no need for supervision. However, as police officers require guidance and management, it should be serious direction not "winking" at violations or finding ways to circumvent policy. Supervision includes direction, training and discipline. Each element must be taken seriously and supported by the administration. This responsibility falls into the final category, departmental accountability systems. These systems must hold officers and supervisors responsible for their decisions and actions. In the area of pursuit, the formal reporting forms must be reviewed and the information provided must be investigated to assure the quality of the information. This is not to say that all pursuits must be subjected to an exhaustive investigation, but if officers realize that an inventive report will remove any further scrutiny or responsibility, it is likely that reports will become more and more creative. However, it is important to find out from the witnesses' perspective what occurred during a pursuit and the level of force that was used to apprehend a suspect. If this suggestion were taken seriously, investigators could randomly investigate pursuits, even ones which resulted in no accident or significant injury. This would certainly help establish support from the public which is concerned about pursuit driving and would tend to keep officers from submitting creative reports. In addition, such investigations may well keep officers from engaging in the use of excessive force.

This suggestion to investigate and verify the actions of police during and after a pursuit may appear as an unnecessary control tactic over what is an infrequent and inconsequential

event. After all, it is the suspect who has directed a highly-dangerous pursuit and who may be receiving "what he deserves." Does it really cause any harm to modify the report a little to justify the administration of street justice? As Hunt and Manning have informed us, many police agencies routinely engage in "normal" lies which are acceptable to some audiences such as fellow officers (Hunt and Manning, 1991:53). Specifically, these researchers report, "In the police academy, instructors encouraged recruits to lie in some situations, while strongly discouraging it in others" (Harris and Manning, 1991: 54).

It may be that creative writing occurs in pursuit reports, and that it is known and approved, "winked at" or not reviewed by supervisors in some departments because only the 'guilty' get what they deserve. If this is true, the effects on the officers, supervisors and public may have multiple and long-term consequences. Officers and supervisors may develop customs and practices which are not only bad police procedures but also violations of civil and criminal law. However, the most serious consequence of this type of action is its effect on the officers and the organization if they believe the lies.