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**APPENDIX A**

**APPEAL NO. 13-56141**

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**UNITED STATES COURT OF APPEALS FOR  
THE NINTH CIRCUIT**

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SARA LOWRY,  
Plaintiff-Appellant,

v.

CITY OF SAN DIEGO,  
Defendant-Appellee.

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On Appeal from the United States District Court For  
the Southern District of California

The Honorable Michael M. Anello, Presiding  
United States District Court No. 11 cv949-MMA  
(WMc)

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**BRIEF OF *AMICI CURIAE* UNITED STATES  
POLICE CANINE ASSOCIATION AND  
INTERNATIONAL MUNICIPAL LAWYERS  
ASSOCIATION IN SUPPORT OF PETITION  
FOR PANEL REHEARING AND REHEARING  
*EN BANC* FILED BY *AMICI CURIAE* CITY OF  
SAN DIEGO**

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**CORPORATE DISCLOSURE STATEMENT  
(FRAP 26.1)**

The two *amici curiae* jointly submitting this brief are either governmental entities, not corporate parties, or are corporate parties that do not have parent corporations and as to which no publicly held corporation owns 10% or more of their stock.

**STATEMENT OF IDENTITY AND INTEREST OF  
*AMICI CURIAE***

The United States Police Canine Association is the largest and oldest active organization of its kind in the United States. Its objectives and purposes include:

- To unite in a common cause all law enforcement agencies utilizing the services of the canine as an aid in the prevention and detection of crime.
- To promote friendship and brotherhood between all those interested in the training and utilization of the canine in police work.
- To endeavor to establish a minimum working standard, and improve the abilities of the canine in police work, thereby rendering better service to the community.
- To establish and maintain a legal assistance fund for acts resulting in civil suits from the use of police trained canines.
- To coordinate the exchange of any advanced techniques of training of the utilization of police dogs.

- To improve the image of the working police dog to the populace in general through improved public service in the prevention and detection of crime.
- To aid and assist those law enforcement agencies making application for information concerning the establishment of canine sections within their respective departments.

The International Municipal Lawyers Association ("IMLA") is a non-profit, nonpartisan professional organization consisting of more than 2,500 members. The membership is comprised of local government entities, including cities, counties and subdivisions thereof, as represented by their chief legal officers, state municipal leagues, and individual attorneys. IMLA serves as an international clearinghouse of legal information and cooperation on municipal legal matters.

Established in 1935, IMLA is the oldest and largest association of attorneys representing United States municipalities, counties and special districts. IMLA's mission is to advance the responsible development of municipal law through education and advocacy by providing the collective viewpoint of local governments around the country on legal issues before the United States Supreme Court, the United States Courts of Appeals, and in state supreme and appellate courts.

These *amici curiae* have a shared interest in ensuring that law enforcement officers throughout the states of the Ninth Circuit - and the United

States as a whole - are not deprived of the benefits police service dogs provide to officers and the public at large. The *amici curiae* are concerned that the positions adopted in this case will lead to the diminishment in the use and utility of police service dogs, inevitably resulting in a rise in injuries and death of law enforcement officers and lowered success in capturing criminals. Accordingly, they seek through this brief to bring to the Court 's attention additional information so that such undesirable results can be avoided.

No counsel for any party to this action authored the accompanying brief in whole or in part, nor did a party or a party's counsel contribute money that was intended to fund preparing or submitting the brief, nor did any person other than the *amici curiae*, their members, or their counsel contribute money that was intended to fund preparing or submitting the brief.

**I. ARGUMENT**

**A. THE PANEL'S MAJORITY OPINION, IF LEFT STANDING, WOULD SEVERELY LIMIT THE ABILITY OF LAW ENFORCEMENT TO USE POLICE SERVICE DOGS**

The panel, in its majority opinion, wrote that "[w]e have repeatedly held that deploying a police dog to effectuate an arrest is a 'severe' use of force." Slip Opinion, page 10. As discussed in the appellee's petition for rehearing and the amicus

brief filed by the League of California Cities, the cases cited by the majority for that proposition do not actually stand for that proposition. But regardless, the clear thrust of the current opinion is that police dogs *do* always constitute a "severe" use of force, and thus their use is subject to the same restrictions that apply to any application of a level of force deemed to be "severe". See discussion in Slip Opinion at pages 10-13.

By automatically placing the use of a police dog so high up on the continuum of force, the panel decision will inevitably limit the circumstances under which law enforcement can utilize police dogs. As the panel pointed out in its majority opinion, determining whether a particular use of force - in this instance, a police dog - is appropriate, depends on "whether the degree of force used was necessary, in other words, whether the degree of force used was warranted by the governmental interests at stake." Slip Opinion, page 23; citations omitted. "To put it in terms of the test we apply: the degree of force used by [the police] is permissible only when a strong government interest *compels* the employment of such force." Slip Opinion, page 24; italics in original, citations omitted. If the use of a police dog is always to be considered a "severe" use of force, then the dog could be used only if the circumstances "compel" the use of such a high level of force.

The problem with this approach is that it treats a police service dog simply as a weapon, no different than a gun, or a taser, or a baton. But a

police dog is something entirely different; it is not a weapon, it is a tool used to aid law enforcement officers in fulfilling their core role of locating and capturing criminal suspects.

**B. A POLICE DOG IS A TOOL, NOT A WEAPON**

Police dogs are used, in part, to apprehend criminal suspects attempting to evade arrest. In that respect, police dogs predominantly serve as a tool to assist officers in searching for and apprehending suspects, and secondarily, they serve to protect officers. The majority's opinion in this case ultimately provides that the release of a police dog into a commercial building at night to search for a potential burglary suspect, despite following all proper protocol, constitutes excessive force. The harmful effect of this ruling is to chill the ability of law enforcement officers to use this highly effective search tool for fear of retaliatory litigation.

"The increased use of canines in police operations should be viewed as a biological tool. In the past, multiple officers would be required to physically search for persons . . . [T]he police dog, as a biological detector, can complete this task much more quickly and with less risk to the officers . . . with the police dog performing a task 33% more effectively than human search teams." (citations omitted)<sup>1</sup>

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<sup>1</sup> [http://www.policek9.com/FTPResearch/florida study.pdf](http://www.policek9.com/FTPResearch/florida%20study.pdf), pg. 38

While officers draw on their years of experience and intuition, the fact is that when they are searching for a person who wants to remain hidden, officers are naturally limited to their sight and sound. They do not have the sense of smell that dogs do.

A dog's sense of smell is an effective search tool because while humans only have about six million olfactory receptors, dogs have up to 300 million and, proportionally speaking, the portion of their brains devoted to analyzing smell is 40 times greater than that of a human.<sup>2</sup> A dog's sense of smell normally is at least 44 times greater than a human's.<sup>3</sup>

Not only can dogs get into confined areas that their human partners may not, but more importantly, dogs can locate through the scent coming out of that confined area, allowing them to alert their handler to a person's presence.<sup>4</sup>

Police dogs outperform officers in both the time required to search a building and in the accuracy of locating suspects.<sup>5</sup> A study in East Lansing shows that canine teams had a 93% accuracy rate compared to officers' 59% accuracy

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<sup>2</sup> [www.pbs.org/wgbh/nova/nature/dogs-sense-of-smell.htm](http://www.pbs.org/wgbh/nova/nature/dogs-sense-of-smell.htm)

<sup>3</sup> <http://www.adlerhorst.com/wp-content/uploads/2010/08/Man-Hours-saved.pdf>

<sup>4</sup> <https://www.army.mil/article/44654/army-using-search-and-rescue-dogs-to-sniff-out-survivors>

<sup>5</sup> <http://www.adlerhorst.com/wp-content/uploads/2010/08/Man-Hours-saved.pdf>



rate in locating hidden suspects in 4 different buildings; that unlike officers, canine accuracy did not decrease as the square footage of the search perimeter increased; and that 1 dog could clear a building locating the suspect in as little as 1 minute 24 seconds, compared to 20 minutes and 52 seconds by up to 4 officers.<sup>6</sup>

In addition, the average German Shepherd's hearing ability is 10 times greater than that of human beings.<sup>7</sup>

A police dog's olfactory capabilities are even more important when one takes into account the lengths of which suspects will go to hide either themselves, or their illegal paraphernalia from sight, as the following examples reveal:

- K9 Kota tracked multiple armed suspects who had fled from a stolen vehicle into the woods, including areas with weeds up to 6 feet tall, leading to the apprehension of 2 suspects.<sup>8</sup>
- K9 Duke tracked multiple bodies in a derailed train, portions of which were otherwise inaccessible to humans.<sup>9</sup>

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<sup>6</sup> <http://www.adlerhorst.com/wp-content/uploads/2010/08/Man-Hours-saved.pdf>; see also, [http://www.policek9.com/FTPResearch/florida study.pdf](http://www.policek9.com/FTPResearch/florida%20study.pdf). pg. 42.

<sup>7</sup> <http://www.adlerhorst.com/wp-content/uploads/2010/08/Man-Hours-saved.pdf>

<sup>8</sup> [http://www.uspcak9.com/wp-content/uploads/2016/02/Canine Courier Sept 2015 LOWRES.pdf](http://www.uspcak9.com/wp-content/uploads/2016/02/Canine-Courier-Sept-2015-LOWRES.pdf), pg. 14.

<sup>9</sup> [http://www.uspcak9.com/wp-content/uploads/2016/02/Canine Courier Sept 2015 LOWRES.pdf](http://www.uspcak9.com/wp-content/uploads/2016/02/Canine-Courier-Sept-2015-LOWRES.pdf). pg. 16.

- K9 Ranger tracked a burglary suspect through a residential neighborhood to his house based on his scent left on his bike, which the suspect left at the scene of the crime.<sup>10</sup>
- K9 Major tracked a burglary suspect through multiple backyards and to his final hiding spot behind a shed where the suspect surrendered without incident.<sup>11</sup>
- K9 Patriot tracked an armed suspect wanted for sexual assault for over a half mile through a muddy swamp and a wooded area resulting in the successful apprehension of the suspect.<sup>12</sup>
- K9 Duko tracked an armed suspect for over one and a half miles into the woods before successfully apprehending the suspect.<sup>13</sup>
- K9 XigXag tracked a potentially armed suspect and found him hiding under bushes. The officer's announcement of the presence of a police dog caused the suspect to surrender.<sup>14</sup>
- K9 Ace tracked four suspects over a fence, and through rear backyards before locating all four suspects who were found hiding.<sup>15</sup>
- K9 Tag tracked an armed suspect through

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<sup>10</sup> <http://www.uspcak9.com/wp-content/uploads/2016/02/Canine Courier Sept 2015 LOWRES.pdf>, pg. 16.

<sup>11</sup> <http://www.uspcak9.com/wp-content/uploads/2016/02/Canine Courier Sept 2015 LOWRES.pdf>, pg. 16.

<sup>12</sup> <http://www.uspcak9.com/wp-content/uploads/2016/02/Canine Courier Sept 2015 LOWRES.pdf>, pg. 18.

<sup>13</sup> <http://www.uspcak9.com/wp-content/uploads/2016/03/Canine Courier Proof Full March 2016.pdf>, pg. 10

<sup>14</sup> <http://www.uspcak9.com/wp-content/uploads/2016/03/Canine Courier Proof Full March 2016.pdf>, pg. 12

<sup>15</sup> <http://www.uspcak9.com/wp-content/uploads/2016/03/Canine Courier Proof Full March 2016.pdf>, pg. 12

multiple residential yards, and located the suspect completely concealed under a tarp in the backyard.<sup>16</sup>

- K9 Rex tracked a suspect through thick woods that transitioned into marsh or swamp with reeds up to 4 feet overhead, and apprehended a suspect who had buried his entire body in the swamp to conceal himself.<sup>17</sup>

To a lesser, but no less important extent, police dogs also serve as an officer protection tool.<sup>18</sup> “The very presence of a police dog is usually enough to stop the perpetrator [because] . . . *they [the suspects] know they can't reason with him [the dog], they can't intimidate him, they can't try to scare him*”.<sup>19</sup>

The dogs take point to bring the officers to the danger point or the source of criminal activity. The key component is that they are designed specifically to work ahead of the police officer so the dog encounters the danger before the officer, thereby allowing the officer a reactionary time. That reaction time allows the officer to adjust to a potential threat to lessen the risk of being caught in an ambush, or some other deadly force situation.

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<sup>16</sup> <http://www.uspcak9.com/wp-content/uploads/2016/03/Canine Courier Proof Full March 2016.pdf>, pg. 17

<sup>17</sup> <http://www.uspcak9.com/wp-content/uploads/2016/03/Canine Courier Proof Full March 2016.pdf>, pg. 18

<sup>18</sup> <http://www.policek9.com/FTPResearch/florida study.pdf> Pg 21

<sup>19</sup> <https://blog.pawedin.com/dogs/learn-how-police-dogs-are-trained/>

For example, K9 Pepper tracked an armed suspect through densely populated woods where the suspect had created piles of disturbed leaves to fool officers. Pepper located the suspect lying on the ground completely covered in leaves with only his head exposed. As Pepper approached to apprehend the suspect, the suspect sat up and fired two rounds from his .40 caliber handgun, killing Pepper instantly. Officers later learned that the suspect was wanted on several felony warrants and had told his friends and family that he intended to kill police officers.<sup>20</sup>

In another example: During a nine hour standoff with an armed suspect who was firing a weapon and requesting an officer shootout, upon command K9 Talos attacked the suspect giving officers the time necessary to retreat to safety. Officers later learned that during the attack, K9 Talos incurred injuries, but his effective bites led to a peaceful surrender by the suspect.<sup>21</sup>

One of the concerns the majority seemed to have with the use of the police dog in the *Lowry* case was the fact that it was trained to bite. But the bite and hold policy employed by most law enforcement agencies provides officers with more control of their canine than find and bark policies.

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<sup>20</sup> [http://www.uspcak9.com/wp-content/uploads/2016/02/Canine Courier Sept 2015 LOWRES.pdf](http://www.uspcak9.com/wp-content/uploads/2016/02/Canine-Courier-Sept-2015-LOWRES.pdf), pg. 12-13.

<sup>21</sup> [http://www.uspcak9.com/wp-content/uploads/2016/02/Canine Courier Sept 2015 LOWRES.pdf](http://www.uspcak9.com/wp-content/uploads/2016/02/Canine-Courier-Sept-2015-LOWRES.pdf) at pg. 21.

With "bite and hold", the canine is sent in to apprehend the suspect and does not release until required by the handler. However, the dog can be recalled by voice command at any point from the attack.<sup>22</sup> This contrasts with how find and bark works.

If a suspect gives up, the dog will not bite and *the dog is frequently in the decision to make the decision whether or not to bite*. ... This policy was developed to protect the canine ... the idea is that the dog delays the suspect until the handler can arrive and make the arrest. The dog's primary function in this system is detection and not neutralization. . . . *'a "circle and bark" dog however, is trained to attack on the slightest movement . . . there is very little tolerance level in a 'circle and bark' dog.* [italics added]<sup>23</sup>

Thus the use of canines trained under the bite and hold policy actually keeps more control with the officers, rather than abdicating that control to the canine itself.

As can be seen from this discussion, the utility of police dogs lies with their ability to aid law enforcement in fulfilling their core responsibility to locate and detain criminal suspects. That is

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<sup>22</sup> [http://www.policek9.com/FTPResearch/florida study.pdf](http://www.policek9.com/FTPResearch/florida%20study.pdf) , pg. 55-56.

<sup>23</sup> [http://www.policek9.com/FTPResearch/florida study.pdf](http://www.policek9.com/FTPResearch/florida%20study.pdf), pg. 57-59.

fundamentally different than the role of a pure weapon such as a gun or pepper spray. To treat a police dog simply as another weapon on the continuum of force is to undermine their usefulness to law enforcement, yet that is exactly what will happen if the majority's opinion in this case is allowed to stand.

**C. OTHER HOLDINGS IN THE MAJORITY'S  
OPINION FURTHER UNDERMINE THE  
ABILITY OF LAW ENFORCEMENT TO USE  
POLICE DOGS EFFECTIVELY**

As shown in Section 2 above, one of the most important values a police dog has is its ability to locate hidden suspects while minimizing the risk to the officers also searching for the suspect. But two of the additional holdings in the majority opinion, when combined with its finding that the use of a police dog always constitutes a "severe" use of force, could have the effect of drastically limiting the circumstances under which law enforcement could utilize police dogs in that manner.

The majority wrote in its opinion that "[t]he district court's reasoning assumes that any person inside an office building where a security alarm has been tripped at night necessarily poses an immediate threat to their safety or that of others. We find this assumption unwarranted." Slip Opinion, page 16; footnote omitted. The majority continued that "[t]hese facts, standing alone, do not provide an 'articulable basis for believing that' the occupant is 'armed or that [she or] he posed an

immediate threat to anyone's safety.' [Citation.]" Slip Opinion, pages 16-17.

In essence, the majority has concluded that standing alone, the fact that a burglary suspect is hidden somewhere inside of a large commercial building, is not a sufficient basis to allow the police to utilize a "severe" degree of force. Such a conclusion may be warranted when looking whether it is appropriate for an officer to utilize a true weapon, but, as has been shown in Section 2 above, that is not the proper way to describe a police dog.

There simply is no other tool that can do what a police dog can do to locate a hidden suspect in circumstances such as those that confronted the officers in this case. But the majority's holding would prevent law enforcement from using a police dog in situations such as these. Instead, absent additional information that would justify the use of a "severe" level of force, the officers would have no choice but to personally search the building for the suspect. As noted in Section 2 above, such a choice will significantly and negatively impact their chances of actually locating the suspect, and will put the officers at much higher risk if the suspect turns out to be dangerous.

In a similar vein, the majority wrote: "the district court found that . . . the officers could have construed Lowry's failure to respond to Sergeant Nulton's commands to exit the suite as an attempt to evade arrest. [if] But a reasonable jury would not necessarily be compelled to draw such an inference.

The mere failure to respond to an officer's orders, without more, generally does not support the use of serious force, ..." Slip Opinion, page 17.

Since the majority classified the use of a police dog as always constituting a "severe" use of force, this additional holding means that without additional facts justify the use of "serious force", law enforcement would be prohibited from using a police dog to locate a hidden suspect who was not responding to warnings. Again, this would leave the officers with no choice but to personally search for the suspect. As noted in Section 2 above, that will significantly and negatively impact their chances of actually locating the suspect, and will put the officers at much higher risk if the suspect turns out to be dangerous.

## II. CONCLUSION

Either the panel should agree to rehear this matter, or the Ninth Circuit should agree to rehear the matter *en banc* so that appropriate consideration can be given in deciding this case as to the fundamental difference between a police dog and true weapons that may be used by law enforcement in the course of their duties. The failure of the majority to consider that difference has created a situation where the ability of law enforcement in the Ninth Circuit to utilize a critical tool has been greatly diminished, the result of which is that more suspects will escape, and more police officers will be injured and killed on the job.



The *amici curiae* believe that this is not a result that the majority would have wanted if they had realized it was the likely outcome of the decisions they were making. Granting the appellee's petition for rehearing provides an opportunity for the panel - or the Circuit as a whole - to directly consider whether this result is one that must be reached under these circumstances, or whether there is an approach that better balances the unique role and capabilities of police dogs with the Fourth Amendment rights of the citizenry. The appellee's petition for rehearing should be granted.

DATED: May 26, 2016 **MANNING & KASS  
ELLROD, RAMIREZ,  
TRESTER LLP**

By: /s/

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**APPENDIX B**

[Jones and Mayer Letterhead Omitted]

January 19, 2017

Molly Dwyer  
Clerk of the Court  
Ninth Circuit Court of Appeals  
95 Seventh Street  
San Francisco, CA 94103-1526

Re: *Sara Lowry v. City of San Diego*  
Ninth Circuit Case No. 13-56141

Dear Ms. Dwyer:

Amici Curiae California Police Chiefs' Association, California State Sheriffs' Association and California Peace Officers' Association respectfully submit this citation of supplemental authority pursuant to Federal Rule of Appellate Procedure 28(j) and Circuit Rule 28-6. The case was argued en banc on January 18, 2017.

During the course of the oral argument, a discussion took place about police K9 bite-ratios for the “bark and guard” training method as opposed to the “bite and hold” training method. Bite ratio statistics were discussed that do not currently appear in the record.

The attached Article, Charles Mesloh PhD, *Barks or Bites? The Impact of Training on Police*

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*Canine Force Outcomes*, Vol. 7 No. 4, Police Practice and Research 323 (2006), discusses the results of a study addressing the two police K9 training methods and discussing the finding that police canines trained in the “bark and guard” method had a higher bite-ratio than those trained in the "bite and hold" method.

Respectfully Submitted,

Denise L. Rocawich  
JONES & MAYER

DLR:wag  
Enclosure

## APPENDIX C

*Police Practice and Research,  
Vol. 7, No. 4, September 2006, pp. 323-325*

### **Barks or Bites? The Impact of Training on Police Canine Force Outcomes**

Charlie Mesloh\*

*The use of force with police dogs has caught the attention of both the media and the federal government, specifically the Department of Justice (DOJ). The DOJ recommendation of interest to this study is the paradigmatic shift from 'bite and hold' to 'bark and hold' in canine apprehension methods. As there is no prior literature to base this decision upon, the question remains, will this reduce the number of suspects bitten by police dogs? This work attempts to answer this question by asking canine handlers to reveal their bite ratios through an innovative matrix (Bite Ratio Data Collector), which then became the force measurement. The results denote a number of findings. First, handlers with 'bark and hold' trained canines reported higher bite ratios than handlers with 'bite and hold' trained*

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\* Charlie Mesloh, PhD is an Assistant Professor and Director of the Weapons and Equipment Research Institute at Florida Gulf Coast University. His interests include police dog deployments and use of force, lethal weapons, and applied research for law enforcement. Correspondence to: Charlie Mesloh, Florida Gulf Coast University, 10501 FGCU Blvd S., Fort Myers, FL 33965-6565, USA. Tel: +1 239 590 7761; Email: cmesloh@fgcu.edu

*dogs. Second, additional factors such as dog breed, and Schutzhund training were all significant correlates of canine force in the final model.*

## **Introduction**

Law enforcement agencies frequently use specially trained dogs for a variety of important purposes to aid in the detection and deterrence of crime. The primary reason is that dogs are a cost effective means for crime control. These dogs possess skills and abilities that frequently exceed that of existing technology. Their use in the past has provided law enforcement with a valuable tool, which if used properly, can improve both the efficiency and effectiveness of policing, all the while serving as an important public relations tool. However, little empirical research has been conducted regarding police dog deployment as a use of force.

This study sought to examine the effect of the paradigmatic shift to the 'bark and hold' training method of patrol dogs in the state of Florida who were identified by the Florida Department of Law Enforcement and determine to what extent bite ratios differ based upon selected demographic and training variables.

## **Literature Review**

Dogs have shared their lives with mankind for the better part of the last 20,000 years. Some research indicates that the first domesticated canines were wolves used for the purpose of assisting humans hunt for food (Lilly & Puckett, 1997). This research

is supported by a recent archeological discovery of a 12,000-year-old skeleton found cradling the body of a pup (Lange, 2002). Not only have canines helped humans hunt for food and provided them companionship, but they have also been used to provide for their master's protection. In fact, since early times, canines have been trained to fight and die on command (Jennings, 1998; Lilly & Puckett, 1997).

The extant literature on the use of canines in warfare dates as far back as 700 BC (Chapman, 1990). Evidence of their military contributions can be found in every conflict since antiquity (Lilly & Puckett, 1997; Murray, 1988). During World War II, it is estimated that 250,000 dogs were used by the participants of both sides in a variety of functions (Marders, 1960; United States Air Force, 1973). One military analysis credits scout dogs with saving over 2,000 American lives during the Vietnam conflict (Murray, 1988).

The legal and practical importance of this study will become self-evident. Over the past year, the International Association of Chiefs of Police (IACP) has expressed interest and concern with the use of force by canine handlers and their partners. As a result, IACP's model policy regarding canine unit utilization proposed that 'Bark and Hold' be adopted by all law enforcement agencies. Shortly afterward, the Department of Justice (DOJ) in their publication, 'Principles for Promoting Police Integrity'<sup>1</sup> stated that agencies should train their

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<sup>1</sup> The complete text of 'Principles for Promoting Police Integrity'

dogs ‘to find and bark rather than find and bite.’<sup>2</sup>

To truly understand the issue of how force is involved in these apprehensions, one must understand how canines are trained. The next section details the two competing apprehension paradigms of how police canines are trained in this country and details the differences between them.

*‘Bite and Hold’*

According to MacKenzie, one of ‘the greatest controversies centers around what the dog should do when, during a pursuit or search, the subject is standing still as the dog arrives and makes contact’ (1992, p. 18). The most common system of apprehension is ‘bite and hold.’ The canine is sent and the apprehension is made by the dog as he engages (bites) the suspect and does not release until the handler arrives. A number of training tools such as the bungee cord and the shock collar may be used for remedial training for dogs that re-bite inappropriately or fail to release on command.

Dogs trained in this system engage the suspect under the order of the officer without provocation from the suspect. The dog remains under voice control at all times and should be operated within line of sight. However, tactical deployments frequently make visual inspection of the dog nearly

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can be found online at <http://www.ncjrs.org/pdffiles1/ojp/186189.pdf>

<sup>2</sup> The terms ‘find and bark’ and ‘bark and hold’ are used interchangeably.

impossible. According to Eden (2003),

A well trained service dog can be recalled at any point from the attack. Control of the dog through voice command permits the officer to call the dog off prior to or subsequent to the apprehension as the situation warrants. (p. 4)

This model has proven to be a very effective way to bring suspects fleeing from an officer under compliance quickly. While some argue that canines trained this way represent a less than lethal force option, others say that the use of canines to bite the suspect without giving the suspect a last chance to comply before the canine arrives represents the use of excessive force.

#### *'Bark and Hold'*

As a result of litigation and evolving law enforcement policies, a different form of training for police dogs has been suggested for implementation by the DOJ (see 'Principles for Promoting Police Integrity,' 2001, pp. 5–6) and the IACP (2001). This model is known as 'bark and hold.' According to Eden (1993), the theory of the reasonable force dog maintains, 'if a suspect gives up, the dog will not bite and the dog is frequently in the position to make the decision whether or not to bite' (p. 8).

According to Yarnall (1998), the 'circle and bark' was developed to protect the canine that might be working away from the handler and would be killed by suspects that had learned to protect themselves



from dogs that only attack, or bite without release. The idea is that the dog delays the suspect until the handler can arrive and make the arrest. Conceptually in this methodology, the dog will bark but will not engage the suspect unless he moves. The dog's primary function in this system is detection and not neutralization (unless the suspect perpetuates it through aggressive actions). It has been suggested that the bite ratio for 'bark and hold' is significantly lower than for 'bite and hold.'

Critics of this system believe that it places the dogs at greater risk by allowing the suspect the opportunity to arm himself, injure or kill the dog, or escape (Eden, 1993). Additionally, it has been argued that if a suspect were to disable the dog, the officer is tactically at a disadvantage and the agency is left with the cost of replacing a trained dog (MacKenzie, 1992).

A great deal of training is required to maintain 'bark and hold' dogs. If this training is not adequate, the dog will begin to bite when it is not warranted (Eden, 1993). As a result of training methods, the dog may also perceive the bite as the reward for apprehending the suspect. When this happens, the dog will precipitate the movement of the suspect by bumping them, thus fulfilling the requirements necessary for a 'proper' bite. This will greatly increase the number of inappropriate bites and have exactly the opposite effect sought by the DOJ. This point was clearly made by Eden (2003) who stated:

a 'circle and bark' dog however, is trained to attack on the slightest movement ... there is very little tolerance level in a 'circle and

bark' dog. If he locates a suspect and the suspect stumbles or moves accidentally, there is a high likelihood of an unwarranted bite. (p. 5)

If it is indeed true that the 'bark and hold' training method results more often in the use of excessive force, then it is reasonable to assume that agencies and officers that train their dogs using this method are more likely to have significantly higher bite ratios than other agencies that train their dogs using 'bite and hold techniques.' This proposition is one that has never been tested in the extant literature.

#### *Canine as a Forceful Intervention*

Just as the police officer on the street may improperly use a baton or firearm on a suspect, the canine handler may improperly or unknowingly utilize his dog and create unnecessary injury. Given that a German shepherd can exert a bite force of 1,500 psi (Hutson et al., 1997), the potential for serious injury is great. These injuries range from deep punctures, to large rips and crush damage (Hutson et al., 1997; Pineda, Hutson, Anglin, Flynn, & Russell, 1996).

Unfortunately, after conducting an exhaustive search of the literature, very few articles could be identified that relate specifically to the use of force with police dogs. This fact had been previously stated in the literature (Campbell, Berk, & Fyfe, 1998; Hickey & Hoffman, 2003). In fact, only two scholarly articles were identified that even

addressed the concept of the police dog as an instrument of force.

Campbell et al. (1998) examined the relationship between racial composition of neighborhoods and the use of police dogs in the Los Angeles area. Forty-four percent of the suspects that were apprehended using canines were bitten by the LAPD canine unit, while 36% of the suspects were bitten by the Los Angeles County Sheriff's canines. Both agencies suffer from unacceptably high bite ratios, which for some individual canine officers exceeded 80%. However, black suspects were shown to be at less risk of dog bites than white suspects. Of particular value in this analysis were the odds multipliers from a logistic regression, which identified a number of suspect behaviors that increased the likelihood of being bitten by the police dog. Behaviors such as failing to heed warnings regarding the canine, or refusing to leave a place of concealment, increase odds of being bitten by a factor of seven and 14, respectively. Attacking the dog increases the odds of being bitten by a factor of almost 5,000.

In a similar study, Hickey and Hoffman (2003) examined canine deployments of the Montgomery County Police Department (MD) Canine Unit over a six-year period. Their study examined canine apprehension and bite rates, in comparison with officer injuries. They found that canine handlers had a significantly lower probability of being injured during an apprehension than non-canine officers. Rather than using the bite ratio, this study used a bite rate, which was defined as the number of suspects bitten per 100 apprehensions. The agency

under study had a bite rate of 14.1%, which would clearly fall within an acceptable range as defined within the case of *Kerr v. City of West Palm Beach* (1989). Additionally, they found that non-white suspects had a significantly lower bite rate, which supports the earlier findings of Campbell et al. (1998).

### Methodology

In order to determine the factors that are related to police dog use of force, this study utilized a census of dog handlers registered with the Florida Department of Law Enforcement in the State of Florida. While this sample may not be generalizable to the entire country, Florida is a large state with counties and cities ranging in both diversity and affluence.

A review of the literature did not reveal any previous attempts at collecting any data from patrol dog handlers regarding the use of force. As a result, the survey instrument for this study was constructed based upon issues identified in the extant literature and case law. Canine-related case law is broken down by topic area in Table 1.

**Table 1** Canine Case Law.

| Reasonable canine force                | Handler control                             |
|----------------------------------------|---------------------------------------------|
| <i>Gill v. Thomas</i> (1996)<br>(1995) | <i>Fikes v. Cleghorn</i>                    |
| <i>Caldwell v. Davis</i> (2002)        | <i>Quintanilla v. City of Downey</i> (1996) |

|                                               |                                               |
|-----------------------------------------------|-----------------------------------------------|
| <i>Brewer v. City of Napa</i> (2000)          | <i>Vera Cruz v. City of Escondido</i> (1998)  |
| <i>Robinette v. Barnes</i> (1988)             |                                               |
| <i>Matthews v. Jones</i> (1994)               |                                               |
| <i>Grant v. City of Los Angeles</i> (1994)    |                                               |
| <i>Mendoza v. Block</i> (1994)                |                                               |
| <i>Fikes v. Cleghorn</i> (1995)               |                                               |
| <i>Quintanilla v. City of Downey</i> (1996)   |                                               |
| <i>Vera Cruz v. City of Escondido</i> (1998)  |                                               |
| Canines not deadly force                      | Unreasonable canine force                     |
| <i>Robinette v. Barnes</i> (1988)             | <i>Chew v. Gates</i> (1994)                   |
| <i>Matthews v. Jones</i> (1994)               | <i>Jarrett v. Yarmouth</i> (2002)             |
| <i>Brewer v. City of Napa</i> (2000)          |                                               |
| <i>Vera Cruz v. City of Escondido</i> (1998)  |                                               |
| <i>Quintanilla v. City of Downey</i> (1996)   |                                               |
| Bite ratios                                   | Bark versus bite and hold                     |
| <i>Kerr v. City of West Palm Beach</i> (1989) | <i>Kerr v. City of West Palm Beach</i> (1989) |
| <i>Chew v. Gates</i> (1994)                   | <i>Watkins v. City of Oakland</i> (1989)      |

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*Source:* LexisNexis Academic (2003).

In the first week of October 2002, the survey instrument, an explanatory cover letter, and a postage-paid self-addressed return envelope were sent via first class mail to all 334 dog handlers that

comprised a census of the State of Florida. Several weeks later, a follow-up letter, a second survey instrument, and a second postage-paid return envelope were mailed to non-respondents in the first week of November 2002. Finally, emails (when available) and letters (to all non-respondents) were sent to both agency administrators and canine handlers in the first week of December as a final reminder to encourage participation. At the conclusion of data collection, a total of 181 survey instruments (52%) had been returned.

### *Study Data*

In this study, several types of data will be used. These sections include: apprehension methods, methods of training, and individual level demographics regarding the handler and dog, which are then applied in relation to the bite ratio.

### *Dependent variable*

The key dependent variable for this research was the bite ratio. For researchers not familiar with the use of bite ratios as an industry standard, it might appear that canine handlers might not readily recall the amount of deployments, apprehensions, and bites within a year timeframe. However, for the canine handler, this is their lifeline. For instance, a baseball pitcher will be able to instantly recount his won/loss record because if nothing else, this is a measure of his value to the team. The same can be said of bite ratios for canine handlers. This is how their levels of force are measured.

The bite ratio is computed from the total number of apprehensions and bites from each of the utilizations (tracking, area search, building search, and fleeing suspect apprehension) and combined to form a uniform bite ratio that is comparable across agencies within the state, then it is possible to compare agencies from across the state to examine the individual, situational, and organizational correlates of canine forceful interventions (Figure 1).

$$\text{Bite Ratio} = \frac{\text{Apprehensions with Bites}}{\text{Total Apprehensions}}$$

$[a/b]$ , where  $a$  = the number of apprehensions with bites and  $b$  = the total number of apprehensions. For example, if a canine team were to apprehend 50 suspects but during the course of arresting them 5 suspects were bitten by the dog, it could be shown as  $[5/50]$  or a 1/10 (10%) ratio.

**Figure 1** Bite Ratio Model.

Each deployment (tracking, area search, etc.) is broken down into an exact number of apprehensions and resulting bites. From this data, a bite ratio can be computed within each typology (Table 2). Although the bite ratio should not be considered the final word in measuring force with police dogs, it does act as a barometer for misconduct and measured police violence.

**Table 2** Bite Ratio Data Collector (BRDC).

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|                 |                |        |              |
|-----------------|----------------|--------|--------------|
| Tracking        | __Apprehension | __Bite | __Bite ratio |
| Area search     | __Apprehension | __Bite | __Bite ratio |
| Fleeing suspect | __Apprehension | __Bite | __Bite ratio |
| Building search | __Apprehension | __Bite | __Bite ratio |
| Total           | __Apprehension | __Bite | __Bite ratio |

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*Independent variables*

*Apprehension method.* The method of apprehension in which the dog was trained is of vital importance to this study and future policy decisions. The DOJ report ‘Principles for Promoting Police Integrity’ has promoted the adoption of the bark and hold model. However, other training issues will be examined as well. One of the critical questions that these variables seek to answer is if different training paradigms impact bite ratios. *Training methods.* This section of the survey examined a variety of different training concepts that could affect the future performance of police dogs. These variables can be divided into equipment and methodology related training issues. There is no previous research that has examined any of these variables.

Equipment for the training of police dogs is quite diverse and varies greatly in cost, usefulness, and availability. For persons not familiar with the large number of options available when seeking dog training equipment, an examination of the Ray Allen catalogue ([www.rayallen.com](http://www.rayallen.com)) offers an overview of



the state of the art in this arena.<sup>3</sup> Although there are a number of training options, certain key items of equipment are used with great frequency and are directly related to aggression training. These items the electric collar and bungee cord both rely heavily on negative reinforcement to pattern behavior.

Just as equipment variables used in training are important in this analysis, so are the methods of training. There are so many variations and models used to train dogs, but there are a limited number that directly relate to aggression.

Training for tracking deployments could influence bite ratios. One method of training uses the concept of agitation to stimulate interest in tracking. During the training scenario the 'offender' taunts the dog before fleeing. This stimulates a prey drive where the dog's instinctual urge is to pursue anything that runs from him (Air Force Office of Scientific Research, 1970). However, when agitation is used to stimulate interest, the reinforcing reward is the physical apprehension (bite) at the end of the track. Thus, the dog learns to expect a bite at the end of every track.

*Officer and canine demographics.* One hundred and seventy-seven (97.8%) officers were male and 161 (91%) were white. Respondents were also asked for information regarding their highest level of education completed. Two (1.1%) described them-

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<sup>3</sup>The Ray Allen Company is viewed as the industry leader in police dog equipment and supplies.

selves as having achieved an advanced degree, while 42 (23.2%) stated that they had completed a bachelor's degree. The majority of the respondents indicated that they had completed less than a bachelor's degree as indicated by the breakdown of associates degrees (23, 12.7%), some college (99, 54.7%), and high school graduates (15, 8.3%).

Accordingly, this group of canine handlers could be classified as extremely homogeneous as most are white males that are under 37 years old, are not supervisors but have a substantial amount of experience as canine handlers. Only a small number (less than 6%) had received more than four complaints in three years.

The great majority of the 181 respondents (142, 78.5%) stated that they were utilizing German shepherds, while only 34 (18.8%) utilized the Belgian Malinois. A profile of the Florida patrol dog was then developed. Most were purchased within the continental USA at approximately two years of age for a median cost of \$4,000.

Table 3 shows the factors related in canine training. Four dichotomous response questions measure specific exposure to different training paradigms. Twenty-five dogs (13.9%) were reported to have received Schutzhund (German dog sport) training, while the remainder (155, 86.1%) did not. This is surprising as the '*Bark and Hold*' model is closely linked to Schutzhund.

**Table 3** Training Characteristics.

| Demographic information                             | Frequency | Percent |
|-----------------------------------------------------|-----------|---------|
| Received Schutzhund                                 |           |         |
| Yes                                                 | 25        | 13.9    |
| No                                                  | 155       | 86      |
| Use of electric collar in                           |           |         |
| Yes                                                 | 89        | 49      |
| No                                                  | 92        | 50      |
| Use of bungee ( $n = 181$ )                         |           |         |
| Yes                                                 | 84        | 46      |
| No                                                  | 97        | 53      |
| Use of agitation in tracking                        |           |         |
| Yes                                                 | 59        | 32      |
| No                                                  | 121       | 67      |
| Percentage of tracks ending with bite ( $n = 158$ ) |           |         |
| Median                                              | 10.0      |         |
| Mean                                                | 26.1      |         |
| Number of hours/month training dog ( $n = 178$ )    |           |         |
| Median                                              | 20.0      |         |
| Mean                                                | 24.3      |         |
| Apprehension method ( $n = 181$ )                   |           |         |
| Bark and hold                                       | 46        | 25.4    |
| Bite and hold                                       | 135       | 74.6    |
| Narcotics detection ( $n = 181$ )                   |           |         |
| Yes                                                 | 124       | 68.5    |
| No                                                  | 57        | 31.5    |
| Explosives detection ( $n = 181$ )                  |           |         |
| Yes                                                 | 26        | 1       |
| No                                                  | 155       | 85.6    |
| Cadaver detection                                   |           |         |
| Yes                                                 | 10        | 5.5     |
| No                                                  | 171       | 9       |

*Note:* Not all respondents completed every survey item.

Slightly less than half of the respondents stated that they used either the electric collar (89, 49.2%) or the bungee (84, 46.4%). These factors make up the bulk of the equipment related variables and had actually lower usage than was predicted by the focus group. Although there is no way to know for sure, this could indicate that there are fewer dogs requiring extreme training aids being marketed to US law enforcement agencies. Less than one-third (59, 32.8%) of the respondents stated that they use agitation in foundation tracking exercises and even a smaller percentage (26.07%) concluded training tracks with a bite.

This implies that fewer dogs are actually expecting to receive a bite at the end of the track as a reward. Consequently, fewer unnecessary bites should occur. As canine handlers reported an average of 24.3 hours of training their dogs per month, it is promising that these areas indicate responsible training practices.

Cross training of the canines for specific scent operations was also captured through dichotomous responses. One hundred and twenty-four (68.5%) reported narcotics detection training, while 26 (14.4%) reported explosives training. Cadaver trained dogs were the smallest group (10, 5.5%), but could overlap into either of the other scent groups without any substantial training issues.

Table 3 also contains the identification of those canine teams trained in '*bark and hold*' vs. '*bite and hold*.' As defined earlier in this study, the '*bark and hold*' dog does not engage (bite) the suspect unless the suspect moves or actively resists. Forty-six

(25.4%) of the respondents stated that their dogs were trained in '*bark and hold*' (find and bark).

Slightly less than three quarters of the respondents (135, 74.6%) reported that their dogs were trained in '*bite and hold*' (find and bite). These dogs are released under certain circumstances (often defined by policy or severity of the crime) and are under voice control of the handler. The canines trained in this method will bite a suspect on command regardless of the suspect's actions. This demographic provides a first look at the scope of the issue, should a national mandate require all dogs to be trained in '*bark and hold*.' Almost 75% of Florida's patrol dogs would need to be taken out of service and retrained, adding to the budgetary strain placed on municipal and county governments.

The following regression analysis examines the training variables predicting the dimensions of bite ratio data collection. Table 4 displays the  $R^2$ , the unstandardized coefficients, intercept, and standardized regression coefficients for each variable. For the model, examining normal probability plots of residuals and scatter diagrams of the residuals tested assumptions necessary for regression. No violations of normality, linearity, or heteroskedasticity were noted. In addition, box plots revealed no evidence of outliers. The following model examined key training correlates in canine use of force.

**Table 4** Multiple Regression of Bite Ratios by Training Variables.

| Variable              | Bite ratio data |       |           |
|-----------------------|-----------------|-------|-----------|
|                       | <i>B</i>        | SE    | $\beta$   |
| Apprehend method      | -9.34           | 4.57  | -0.175**  |
| Dog breed             | -28.7           | 4.96  | -0.484*** |
| Narcotics dog         | -5.99           | 5.25  | -0.117    |
| Explosives dog        | -3.53           | 6.58  | -0.055    |
| Cadaver dog           | -0.259          | 7.32  | -0.003    |
| Age purchased         | -0.170          | 0.234 | -0.060    |
| Original training     | -0.015          | 0.013 | -0.094    |
| Schutzhund            | -12.1           | 6.12  | -0.154*   |
| Electric collar       | 4.27            | 3.62  | 0.094     |
| Bungee                | -0.932          | 3.68  | -0.020    |
| Agitation track       | -1.23           | 4.17  | -0.025    |
| Bite track            | 0.009           | 0.067 | -0.012    |
| Sex intact            | -3.89           | 4.87  | -0.063    |
| <i>F</i>              | 4.25            |       |           |
| <i>R</i>              | 0.538           |       |           |
| <i>R</i> <sup>2</sup> | 0.289***        |       |           |

*Note:* *B* = unstandardized coefficient; SE = standard error;  $\beta$  = standardized coefficient. \* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ .

The breed of the dog variable was significant. This suggests that the Belgian Malinois has a significantly higher bite ratio than that of the German shepherd. In fact, subsequent analysis reveals that the Malinois has two times the bite ratio (based upon beta and mean values), which has never been identified as an issue in past research. This

may have serious policy implications in the future, as agencies may tend to avoid purchasing Malinois in an attempt to lower their force usage and consequent liability.

A number of variables were not significant predictors of canine force, such as cross training in all scent functions, equipment oriented variables, and specific training methods.

Cross training dogs to do scent related functions, such as narcotics or explosives detection, did not significantly increase or decrease bite ratios. Similarly, the use of the bungee and the shock collar has no predictive value as well. Their use seems to be evenly distributed between dogs and handlers reporting both high and low levels of force. Finally, there appears to be no relationship between higher levels of force and the use of agitation in tracking training. It had been suggested that by stimulating the prey drive of the dog in foundation tracking or by rewarding the dog with a bite on a protective sleeve at the conclusion of a track would significantly increase later force levels. Had this been the case, a simple solution to reduce force levels would be to slightly modify training scenarios. As this is not the case, trainers and handlers may still use this shortcut to increase the performance of their canines without later suffering from high bite ratios as a result.

Officers with sexually intact dogs reported lower mean bite ratios (8.49) than officers with dogs that had been 'fixed' (13.18). It is unclear what factors are in play that could produce that outcome. Since the data also indicate that 'fixed' dogs are not a correlate

of force, agencies and handlers should consider this procedure on a case-by-case basis and not as a matter of policy.

Relying on these findings, it is clear that '*bark and hold*' dogs will produce much higher bite ratios than '*bite and hold*.' Again, this is contrary to the findings of the DOJ and has serious implications for the future.

### **Summary and Discussion of Findings**

Using the data from Florida canine handlers, *bite and hold* dogs had lower mean bite ratios (15.7) than bark and hold trained canines (22.4) and there was a statistically significant difference between the two apprehension methods. Consequently, any mandated changes in apprehension training are not a feasible solution to combat canine use of force issues. This may seem odd; dogs trained in what was perceived as a reduced level of force actually generating higher levels of force. However, several concepts may better explain how this is so.

First, the data do not capture the length of time that each dog has been trained within the apprehension method. Many of the '*bark and hold*' trained dogs could have started out as '*bite and hold*' and been transitioned into the opposing paradigm, as a result of legal action or unacceptable bite ratios. In either case, a canine with previous behavior problems, such as inappropriate levels of aggression, will likely continue to have high bite ratios regardless of training.



The second and more likely concept is handler related. It may be that canine handlers with '*bark and hold*' dogs may be deploying their canines under circumstances where bite and hold dogs are not. In this scenario, the handler is allowing his or her canine to operate freely in a wider variety of conditions and relying on the training to provide a framework for the dog to make decisions. It is unreasonable for a human officer to rely upon the decision-making abilities of a dog, no matter how well trained. Law enforcement agency policy should clearly define the acceptable and non-acceptable deployments for their canines. Although many handlers may feel that they are in the best position to determine appropriateness in deployment of their canines, agency administrators ultimately have the final word and should guide their personnel through unambiguous policies and general orders.

A multiple regression model was calculated to identify the likely correlates of canine force. Using data collected by the Bite Ratio Data Collector (BRDC), three principle training factors were identified.

First, the breed of the dog was a significant predictor of canine force. The Belgian Malinois had a much higher bite ratio than the German shepherd. Although many agencies successfully use this breed without incident, agencies without experienced handlers and trainers might choose a less aggressive breed, such as the German shepherd. However, this decision should be made on a case-by-case basis, and not viewed as a theoretical moratorium on specific breeds in law enforcement.

Second, the apprehension method became a significant predictor. When placed in the regression model and controlling for the other factors, '*bark and hold*' trained dogs were predictive of canine force. Therefore, the data suggest that the current model of '*bite and hold*' is less damaging than shifting to the '*bark and hold*' paradigm. This is reassuring as the impact upon the canine community would be staggering if this were not the case. This finding is of significant importance as it does not support the position of both the DOJ and the IACP.

Third, the presence of Schutzhund training in the dog's background was found to reduce bite ratios. Schutzhund is a method of rating dogs that are performing a series of complex functions. All competitions are off-lead and the dogs are under the voice control of the handlers. To perform at this level requires a great deal of training and discipline. These dogs are under handler control and are not required to make complex decisions. It is not surprising that the additional training and subsequent control over the dog has a direct impact on later use of force.

## Conclusion

Overall, the findings of this study indicate that mandating a massive paradigm shift for training police service dogs is both unwarranted and potentially damaging. If one were to simply compare the bite ratios for canines trained in both apprehension methods, it is clear that bark and hold does not produce the panacea as it has been advertised. In theory, a dog trained to contain the

suspect without causing injury is a noble proposition and seemingly the answer to many problems. Unfortunately, this is not the case. The decision to use force is a complex and dynamic issue, best suited to the handler and not the dog. While police dogs can be trained to do amazing things, it is unrealistic to expect them to decide which actions warrant force and which ones do not. Regardless of training methodology, the handler alone is responsible for the force delivered by his four-legged partner.

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