



NAVAL POSTGRADUATE SCHOOL

MONTEREY, CALIFORNIA

THESIS

**BRING IN THE DOGS: USING CANINES TO IMPROVE
SCHOOL SAFETY AND SECURITY**

by

Matthew W. Cybert

September 2019

Thesis Advisor:
Second Reader:

Carolyn C. Halladay
Glen L. Woodbury

Approved for public release. Distribution is unlimited.

THIS PAGE INTENTIONALLY LEFT BLANK

REPORT DOCUMENTATION PAGE			<i>Form Approved OMB No. 0704-0188</i>	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188) Washington, DC 20503.				
1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE September 2019	3. REPORT TYPE AND DATES COVERED Master's thesis		
4. TITLE AND SUBTITLE BRING IN THE DOGS: USING CANINES TO IMPROVE SCHOOL SAFETY AND SECURITY			5. FUNDING NUMBERS	
6. AUTHOR(S) Matthew W. Cybert				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Naval Postgraduate School Monterey, CA 93943-5000			8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) N/A			10. SPONSORING / MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government.				
12a. DISTRIBUTION / AVAILABILITY STATEMENT Approved for public release. Distribution is unlimited.			12b. DISTRIBUTION CODE A	
13. ABSTRACT (maximum 200 words) School violence is a consistent problem that cannot be underestimated by government and school officials. Though pervasive and ever-changing, current school safety initiatives are not always effective. This thesis explores how schools can take advantage of a dog's therapeutic and security instincts to improve existing school safety initiatives. To assess fittingness, the thesis first explores research that indicates there is an evolutionary bond between humankind and dogs, which—when paired with dogs' general and emotional intelligence—makes them a perfect candidate for the school safety platform. The thesis then presents data to suggest that therapy and police dogs are equally suitable to improve school safety initiatives. Finally, the thesis details a theoretical observational study that demonstrates the practicality and benefits of pairing a therapy dog with a school resource officer. The findings reveal that dogs could be an added layer to improve current school safety initiatives. A dog's security instincts can bolster school resource officers' crime-prevention capabilities and also enhance or replace other physical security measures, like metal detectors. Furthermore, a dog's therapeutic abilities can provide stress relief and can strengthen a school resource officer's informal counseling skills, which may help the officer develop much-needed rapport with troubled students.				
14. SUBJECT TERMS therapy dogs, animal therapy, comfort dogs, human-animal bonds, animal assisted programs, companion animals, dogs, working dogs, dogs in schools, human emotions, school safety, school threat assessment models, safe school initiatives, psychosocial crises, enhancing school safety, canines, K9, police dogs, school resource officer			15. NUMBER OF PAGES 113	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT UU	

THIS PAGE INTENTIONALLY LEFT BLANK

Approved for public release. Distribution is unlimited.

**BRING IN THE DOGS: USING CANINES TO IMPROVE SCHOOL SAFETY
AND SECURITY**

Matthew W. Cybert
Assistant Special Agent in Charge, U.S. Secret Service,
Department of Homeland Security
BA, University of Michigan - Dearborn, 1997

Submitted in partial fulfillment of the
requirements for the degree of

**MASTER OF ARTS IN SECURITY STUDIES
(HOMELAND SECURITY AND DEFENSE)**

from the

**NAVAL POSTGRADUATE SCHOOL
September 2019**

Approved by: Carolyn C. Halladay
Advisor

Glen L. Woodbury
Second Reader

Erik J. Dahl
Associate Chair for Instruction
Department of National Security Affairs

THIS PAGE INTENTIONALLY LEFT BLANK

ABSTRACT

School violence is a consistent problem that cannot be underestimated by government and school officials. Though pervasive and ever-changing, current school safety initiatives are not always effective. This thesis explores how schools can take advantage of a dog's therapeutic and security instincts to improve existing school safety initiatives. To assess fittingness, the thesis first explores research that indicates there is an evolutionary bond between humankind and dogs, which—when paired with dogs' general and emotional intelligence—makes them a perfect candidate for the school safety platform. The thesis then presents data to suggest that therapy and police dogs are equally suitable to improve school safety initiatives. Finally, the thesis details a theoretical observational study that demonstrates the practicality and benefits of pairing a therapy dog with a school resource officer. The findings reveal that dogs could be an added layer to improve current school safety initiatives. A dog's security instincts can bolster school resource officers' crime-prevention capabilities and also enhance or replace other physical security measures, like metal detectors. Furthermore, a dog's therapeutic abilities can provide stress relief and can strengthen a school resource officer's informal counseling skills, which may help the officer develop much-needed rapport with troubled students.

THIS PAGE INTENTIONALLY LEFT BLANK

TABLE OF CONTENTS

I.	INTRODUCTION.....	1
A.	LITERATURE REVIEW	2
1.	School Resource Officers / Armed Security	2
2.	Other Physical-Security Implementations.....	7
3.	Threat Assessment Models.....	9
B.	OVERVIEW OF THE RESEARCH.....	11
II.	WHY DOGS?	13
A.	HISTORY	13
B.	DOG SMARTS.....	18
1.	The Dog’s Brain: A Complex Mind	19
2.	Emotional Intelligence	25
C.	PUTTING THE SKILLS TO WORK IN SCHOOLS.....	26
III.	THE DOGS.....	29
A.	THERAPY DOGS.....	29
1.	Defining a Therapy Dog	30
2.	Therapy Dogs in Schools	33
B.	POLICE DOGS.....	36
1.	Defining a Police Dog.....	36
2.	Why Police Dogs?.....	39
IV.	WHO USES DOGS AND FOR WHAT?	41
A.	THERAPY DOGS IN ACTION	41
1.	FBI.....	42
2.	Badin High School—Hamilton, Ohio.....	43
3.	Brighton Schools—Brighton, Michigan.....	44
4.	Alliance City School District—Alliance, Ohio.....	45
5.	Marjory Stoneman Douglas High School—Parkland, Florida.....	46
B.	POLICE DOGS IN ACTION	47
1.	Drug Detection Dogs	47
2.	Gun Detection Dogs	49
3.	Personal Screening Canine.....	50
4.	Apprehension / Gunshot Detection Dog.....	51

V.	TRYING IT OUT: THE OBSERVATIONAL STUDY	53
A.	SETTING.....	54
B.	PARTICIPANTS.....	55
C.	PROCEDURE	56
D.	RESULTS	56
	1. Arapahoe High School.....	57
	2. Moody Elementary School	60
	3. Goddard Middle School	63
	4. Follow-up Questions for SROs	66
	5. Assessment	68
VI.	CONCLUSION	69
A.	CHALLENGES.....	70
B.	FINAL THOUGHTS	75
	LIST OF REFERENCES.....	77
	INITIAL DISTRIBUTION LIST	91

LIST OF FIGURES

Figure 1.	Dolce, FBI Victim Assistance Therapy Dog	42
Figure 2.	Therapy Dog Rudy at School.....	43
Figure 3.	Brighton School Therapy Dogs—Duncan, Shadow, Scout, Caesar, Buckley, and Ford	44
Figure 4.	Kamo, a School Counselor’s Therapy Dog	45
Figure 5.	Therapy Dogs at Marjory Stoneman Douglas	46
Figure 6.	Bull, a Drug Detection Dog, with His SRO	48
Figure 7.	Clark County School Police Gun Detection Dogs	49
Figure 8.	Secret Service PSC Open Area Dog with Handler	51
Figure 9.	Gunshot Detection Dog during Active Shooter Training	52
Figure 10.	Lulu’s Employee ID.....	56
Figure 11.	Lulu and Her SRO in the Arapahoe High Cafeteria	57
Figure 12.	Lulu and Her SRO Engaging with Students in the Hallway at Arapahoe High	58
Figure 13.	Lulu and Her SRO with Students outside Arapahoe High	59
Figure 14.	Lulu and Her SRO on the Way to Lunch with Students at Moody Elementary	61
Figure 15.	Lulu on the Playground at Moody Elementary.....	62
Figure 16.	Lulu and Her SRO in a Goddard Middle School Classroom.....	63
Figure 17.	Lulu and Her SRO in the Goddard Middle School Cafeteria	64

THIS PAGE INTENTIONALLY LEFT BLANK

LIST OF TABLES

Table 1.	The Emotional Impact of Therapy Dogs on Students.....	35
Table 2.	The Impact of Dogs on Police Work	37
Table 3.	Arapahoe High School Sample Comments, May 2, 2019	60
Table 4.	Moody Elementary Sample Comments, May 3, 2019	62
Table 5.	Goddard Middle School Sample Comments, May 3, 2019	65
Table 6.	Demonstration Questions and Answers—SRO Edson	66
Table 7.	Demonstration Questions and Answers—SRO LaVelle	67
Table 8.	SRO Duties that Could Be Improved with Dogs.....	69

THIS PAGE INTENTIONALLY LEFT BLANK

LIST OF ACRONYMS AND ABBREVIATIONS

AKC	American Kennel Club
CCTEC	Cumberland Country Technical Education Center
CDC	Centers for Disease Control and Prevention
FBI	Federal Bureau of Investigation
MRI	magnetic resonance imaging
PSC	personal screening canine
SRO	school resource officer
USSS	U.S. Secret Service

THIS PAGE INTENTIONALLY LEFT BLANK

EXECUTIVE SUMMARY

Violence, in many ways, challenges school safety on a regular basis in the United States. According to the *Washington Post*, since 1999, gun violence in America's schools has affected more than 187,000 students in thirty-six states, and 2018 was one of the deadliest years thus far.¹ Between 1970 and today, there has been a total of 1,360 school shootings in grades K–12.² But it is not just about shootings: the Centers for Disease Control and Prevention purports that violence in the form of bullying, fighting, or gang activity in schools may not only physically but also emotionally harm students.³ Statistical reporting by the National Center for Educational Statistics revealed that 827,000 students suffered from some form of violence during the 2017 school year.⁴

Current scholarship reveals mixed findings on the effectiveness of school safety initiatives, and on the impact of armed security and school resources officers (SROs). Some research supports the effectiveness of the presence of SROs, but few studies offer overwhelming evidence that an armed security or SRO presence yields a safer school environment. Schools have implemented physical security measures as well, such as metal detectors, access control, and security cameras. The limited scholarly literature on the impact of these physical-security measures reveals their marginal effect on school safety. One of the more promising initiatives is the threat assessment models from the Secret Service and FBI, which focus on mitigation by assessing and managing individuals who have a propensity toward violence. School violence persists, however, despite well-

¹ John Woodrow Cox and Steven Rich, "Scarred by School Shootings," *Washington Post*, March 25, 2018, <https://www.washingtonpost.com/graphics/2018/local/us-school-shootings-history/>.

² David Riedman and Desmond O'Neill, "CHDS K-12 School Shooting Database," Center for Homeland Defense and Security, accessed July 15, 2019, https://www.chds.us/ssdb/resources/uploads/2019/04/K12-SSDB_Findings-Summary_032219.pdf.

³ "Understanding School Violence," Centers for Disease Control and Prevention (CDC), 2016, https://www.cdc.gov/violenceprevention/pdf/School_Violence_Fact_Sheet-a.pdf.

⁴ Lauren Musu et al., *Indicators of School Crime and Safety: 2018*, NCES 2019-047, NCJ 252571 (Washington, DC: U.S. Department of Education, 2019), iii, <https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2019047>.

intentioned initiatives aimed at curbing it—threat assessments, SROs, metal detectors, cameras, and similar means. Continued effort is needed to discover the right combination of approaches.

It may be time to bring in the dogs—literally. Dogs can save lives by locating hidden bombs, solve crimes by revealing a concealed drug stash, and catch suspects who flee.⁵ Dogs help people who suffer from a physical handicap, mental illness, or emotional disorder. Dogs are pets and they are also valuable colleagues, but they are largely absent from schools. This thesis asserts that dogs possess therapeutic and security instincts that can benefit current school safety initiatives, especially when combined with a school resource officer (SRO). Humans love dogs, dogs love humans, and dogs are smart enough to ensure it stays that way. School counselors, teachers, SROs, and coaches alike all strive to bond with, understand, and help the students they support. These professionals do not always succeed, and this is precisely why dogs make sense. The complexities and humanlike functioning of a dog’s mind further bolster their fittingness for schools. With a dog as a partner, an SRO can be significantly more effective at physical security.

The stressors students face may lead to violent actions, and therapy dogs are specially trained to provide emotional assistance to students in need, thereby reducing the impact of stress and emotional or behavioral issues. This thesis found that many law enforcement agencies and school counseling offices have already implemented therapy dogs into their daily regimen. The results are profound: therapy dogs have been able to provide emotional support for crime victims, help students who are having trouble learning, relieve anxiety, and offer instant affection and support for people who have experienced traumatic events. Beyond their natural ability to provide emotional support, dogs are also exceptionally fit for police work, specifically in apprehension, detection, and search and rescue.⁶ This thesis found that some law enforcement agencies are successfully using dogs to detect drugs and weapons in schools, in addition to at least one dog that is trained to

⁵ Cat Warren, *What the Dog Knows: Scent, Science, and the Amazing Ways Dogs Perceive the World* (New York, NY: Touchstone, 2013), 34–35.

⁶ Katie Finley, “What Do Police Dogs Do?,” American Kennel Club, June 30, 2017, <https://www.akc.org/expert-advice/lifestyle/what-do-police-dogs-do/>.

locate and subdue an active shooter. Outside of schools, government agencies are using dogs to detect a variety of odors in public areas. These examples showcase dogs' wide-ranging security instincts, which, this thesis argues, have a place in improving current school safety measures.

The thesis includes an observational study to demonstrate the positive effects of dog in schools. Focusing on the therapeutic qualities dogs possess, the study indicates that a therapy dog, when paired with an SRO, is a positive and beneficial experience for students, faculty, and SROs alike.

This research suggests that there are seemingly endless ways that dogs can improve current school safety initiatives. If the problem is with physical security, a specially trained dog can be brought in to enhance security. If the problem is with stress and emotional issues, a therapy dog has that covered. Whatever the need, bringing in a dog also softens the prison-like appearance of current physical security measures. This thesis suggests that the most practical way of introducing dogs into school safety initiatives is by pairing them with SROs. At the very least, dogs are a premier tool for building rapport, and there is no reason why an SRO should not have this tool at his or her disposal.

THIS PAGE INTENTIONALLY LEFT BLANK

ACKNOWLEDGMENTS

This thesis is a work of passion and dedication to two important topics in my life. First and foremost, for the safety of the children in our schools, who deserve to learn and grow in an environment that is free of violence. Second, for the love of dogs, who have always been a part of my life and work; their unconditional love and dedication are too often underestimated.

I want to thank School Resource Officer Mark Edson for helping me coordinate the observational study and also for his participation. I also want to thank School Resource Officer Derek Lavelle for his assistance. Of course, I am ever grateful to the Arapahoe County Sheriff's Department and Littleton Police Department for their foresight and willingness to try something new. I also appreciate the support I have received from the United States Secret Service.

I am most grateful to Dr. Carolyn Halladay, first for her extreme patience, but mostly for her brilliance, guidance, and support along the way. Also, I want to thank Glen Woodbury for his outstanding advice and fine attention to detail. I also owe a debt of gratitude to Marianne Taflinger and the countless scholars at the Center for Homeland Security and Defense who provided unwavering support along the way.

Even though she will never know how much gratitude is owed to her by the masses she has helped, I want to commend Lulu for everything she does! Thanks, Lulu.

Anyone I may have inadvertently missed: thanks!

Most importantly, I want to thank my family. You have sacrificed so much on my behalf for almost two years. You have been patient in my absence. You have never once complained. Your support, love, and strength are undying.

Last but certainly not least, to Joe, Molly, Maggie, and Maxine, my best friends, I miss you, pups. To Gabbi and Maxine, my Labradors, thanks for the vote of confidence every day; no matter what, you two always seemed impressed.

THIS PAGE INTENTIONALLY LEFT BLANK

I. INTRODUCTION

Violence, in many ways, challenges school safety on a regular basis in the United States. Since 1999, gun violence in America's schools has affected more than 187,000 students in thirty-six states, and 2018 was one of the deadliest years thus far.¹ Between 1970 and today, there have been a total of 1,360 school shootings in grades K–12.² But it is not just about shootings: violence in the form of bullying, fighting, or gang activity in schools may not only physically but also emotionally harm students.³ Statistical reporting by the National Center for Educational Statistics revealed that 827,000 students suffered from some form of violence during the 2017 school year.⁴

School resource officers (SROs) are perhaps the most noticeable aspect of a suite of current school safety initiatives—uniformed police officers at schools. Best practices dictate that SROs utilize a triad approach to school policing, which means they are not only law enforcement officers but also teachers and informal counselors as well.⁵ As a law enforcement officer, the SRO is responsible for crime prevention and physical security.⁶ As a teacher, the SRO is responsible for delivering educational lessons to students, teachers, and parents.⁷ As a counselor, the SRO is responsible for, among other things, mentoring, understanding adolescent brain development, and providing support for

¹ John Woodrow Cox and Steven Rich, “Scarred by School Shootings,” *Washington Post*, March 25, 2018, <https://www.washingtonpost.com/graphics/2018/local/us-school-shootings-history/>.

² David Riedman and Desmond O’Neill, “CHDS K-12 School Shooting Database,” Center for Homeland Defense and Security, accessed July 15, 2019, https://www.chds.us/ssdb/resources/uploads/2019/04/K12-SSDB_Findings-Summary_032219.pdf.

³ “Understanding School Violence,” Centers for Disease Control and Prevention (CDC), 2016, https://www.cdc.gov/violenceprevention/pdf/School_Violence_Fact_Sheet-a.pdf.

⁴ Lauren Musu et al., *Indicators of School Crime and Safety: 2018* (Washington, DC: U.S. Department of Education, 2019), iii, <https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2019047>.

⁵ Maurice Canady, *Standards and Best Practices for School Resource Officer Programs* (Hoover, AL: National Association of School Resource Officers, 2018), <https://nasro.org/cms/wp-content/uploads/2013/11/NASRO-Standards-and-Best-Practices.pdf>.

⁶ Canady.

⁷ Canady.

students' social and emotional development.⁸ The steadily increasing numbers of sworn law enforcement officers or other types of school security personnel present in primary and secondary schools are making a difference; but, alone, they cannot tackle every security and safety consideration that arises at schools.⁹ They are, after all, only human.

It may be time to bring in the dogs—literally. Throughout history, people have found that dogs play an integral role in solving human problems.¹⁰ Dogs can save lives by locating hidden bombs, solve crimes by revealing a concealed drug stash, and catch suspects who flee. Dogs help people who suffer from a physical handicap, mental illness, or emotional disorder. Dogs are pets and they are also valuable colleagues, but they are largely absent from schools. This thesis asks the question: How can a dog's security instincts and therapeutic abilities improve current school safety initiatives?

A. LITERATURE REVIEW

This literature review addresses three areas related to current school safety and security initiatives and their impact on violence: school resource officers (SROs) or security personnel, physical security technologies, and safe-school initiatives that implement a threat assessment model for identifying and managing violent students.

1. School Resource Officers / Armed Security

Violence in U.S. schools has fueled the implementation of a variety of school safety initiatives; in recent decades, one of the most significant changes has been the uptick in armed security or police officers patrolling school grounds. SROs are highly trained law enforcement officers from local police departments or sheriff's offices who have been

⁸ Canady.

⁹ Lauren Musu-Gillette et al., *Indicators of School Crime and Safety: 2017* (Washington, DC: U.S. Department of Education, 2018), 8–13, <https://nces.ed.gov/pubs2018/2018036.pdf>.

¹⁰ Cat Warren, *What the Dog Knows: Scent, Science, and the Amazing Ways Dogs Perceive the World* (New York, NY: Touchstone, 2013), 34–35.

handpicked to promote a safe and secure school environment.¹¹ Statistics from the National Center for Education Statistics reveal that during the 2015–2016 school year, 42 percent of public schools reported having an SRO (up from 32 percent a decade earlier), and 57 percent (up from 42 percent from the previous decade) reported having some sort of security staff on their campuses.¹²

The literature regarding the impact of armed security and SROs on school safety shows mixed opinions. Some research supports the effectiveness of the presence of SROs. For instance, Wesley Jennings et al. found that SROs in schools serve as a deterrent for serious crimes, and that they may strengthen the relationship between students and police.¹³ Similarly, Jon Maskaly et al. found that SROs are more effective in specific areas—such as reducing gang-related violence and deterring crime—when they possess the most extreme use-of-force capabilities.¹⁴ In contrast, Jennings et al. also found that the presence of armed security guards has a significant association with higher criminal activity in the schools they are assigned to. By the same token, Gary Zhang found that SROs could improve safety in schools, but the results are varied based on different types of conflicts and by the number of years the SROs have been assigned to the school.¹⁵ Few studies offer overwhelming evidence in support of SROs’ effectiveness or suggest that an armed security presence yields a safer school environment.

¹¹ Benjamin Thomas et al., “School Resource Officers: Steps to Effective School-Based Law Enforcement” (brief, National Center for Mental Health Promotion and Youth Violence Prevention, September 2013), 2, <http://www.ncjfcj.org/sites/default/files/SRO%20Brief.pdf>.

¹² Musu-Gillette et al., *Indicators of School Crime and Safety: 2017*, 8–14.

¹³ Wesley G. Jennings et al., “Evaluating the Relationship between Law Enforcement and School Security Measures and Violent Crime in Schools,” *Journal of Police Crisis Negotiations* 11, no. 2 (January 2011): 109–24, <https://doi.org/10.1080/15332586.2011.581511>.

¹⁴ Jon Maskaly et al., “On the Association between SROs, Private Security Guards, Use-of-Force Capabilities, and Violent Crime in Schools,” *Journal of Police Crisis Negotiations* 11, no. 2 (January 2011): 159–76, <https://doi.org/10.1080/15332586.2011.587381>.

¹⁵ Gary Zhang, “The Effects of a School Policing Program on Crime, Discipline, and Disorder: A Quasi-Experimental Evaluation,” *American Journal of Criminal Justice* 44, no. 1 (February 2019): 45–62, <https://doi.org/10.1007/s12103-018-9440-z>.

Countless variables affect an SRO's measure of success. For instance, Charles Crawford and Ronald Burns found that grade levels and types of crime and violence are the most important factors to consider when determining an SRO's effect on curbing school violence.¹⁶ Their study revealed that students in high schools with greater numbers of SROs present were more frequently found to possess guns than those in schools without SROs; in other grade levels, gun possession was lower. In another study, Crawford and Burns found that having armed security in schools only significantly affected violence—in the form of fights and physical attacks—in non-minority schools; in minority schools, the reports were more reports of violence in most categories.¹⁷ Their study suggests that many variables impact the effectiveness of armed security, and one method that works at one school might fail in another.¹⁸

Some research points out that measuring variables does not matter, and SROs and armed security seem to be irrelevant. Chongmin Na and Denise Gottfredson, using a nationally representative sample, found that neither SROs nor other armed law enforcement had any positive impact on school safety.¹⁹ In fact, according to Na and Gottfredson, there may be a negative correlation: schools without a police presence report fewer narcotics and weapons crimes than those with an SRO.²⁰ In a study that examined a robust law-enforcement-based school safety program in New York, Kevin Brady, Sharon Balmer, and Deinya Phenix found that the program did not improve safety levels in the

¹⁶ Charles Crawford and Ronald Burns, "Preventing School Violence: Assessing Armed Guardians, School Policy, and Context," *Policing: An International Journal of Police Strategies & Management* 38, no. 4 (November 2015): 631–47, <https://doi.org/10.1108/PIJPSM-01-2015-0002>.

¹⁷ Charles Crawford and Ronald Burns, "Reducing School Violence: Considering School Characteristics and the Impacts of Law Enforcement, School Security, and Environmental Factors," *Policing: An International Journal of Police Strategies & Management* 39, no. 3 (August 2016): 455–77, <https://doi.org/10.1108/PIJPSM-05-2016-0061>.

¹⁸ Crawford and Burns, 474.

¹⁹ Chongmin Na and Denise C. Gottfredson, "Police Officers in Schools: Effects on School Crime and the Processing of Offending Behaviors," *Justice Quarterly* 30, no. 4 (August 2013): 619–50, <https://doi.org/10.1080/07418825.2011.615754>.

²⁰ Na and Gottfredson, 24.

city's most dangerous schools.²¹ Deanna Devlin and Gottfredson determined that the presence of an SRO is often consistent with an increased number of crimes reported by the school to which the SRO is assigned.²² Accurately measuring the success of SROs and armed security in schools is a daunting task and the results do not always indicate a positive influence on school safety.

In fairness to SROs and armed security, crime statistics often overshadow success stories. Ben Brown believes that the presence of SROs in schools leads to an increase in crime reporting because “what was once considered schoolyard bullying” by school staff “may now be treated as assault” by the police.²³ Contradicting Brown's concerns that SROs are obligated to insert themselves into too many diverse roles, Benjamin Thomas et al. mention that the effectiveness of an SRO program should be determined by measuring an officer's success not only in filling the role of a police officer but also as a casual counselor and educator.²⁴ Similarly, Zhang advocates that, for SROs to be most effective, alterations must be made to their traditional crime-fighting roles.²⁵ To reduce crime, Zhang implies that SROs should focus on proactively patrolling high-crime areas on school grounds; if criminal activity is not an issue, then they should focus on building relationships with parents, teachers, and students. Barbara Raymond notes that if SROs cannot be present in schools on a daily basis, then they must only focus on the most problematic students who possess the most violent tendencies.²⁶ The consensus in the literature is that SRO and

²¹ Kevin P. Brady, Sharon Balmer, and Deinya Phenix, “School-Police Partnership Effectiveness in Urban Schools: An Analysis of New York City's Impact Schools Initiative,” *Education and Urban Society* 39, no. 4 (August 2007): 455–78, <https://doi.org/10.1177/0013124507302396>.

²² Deanna N. Devlin and Denise C. Gottfredson, “The Roles of Police Officers in Schools: Effects on the Recording and Reporting of Crime,” *Youth Violence and Juvenile Justice* 16, no. 2 (April 2018): 208–23, <https://doi.org/10.1177/1541204016680405>.

²³ Ben Brown, “Understanding and Assessing School Police Officers: A Conceptual and Methodological Comment,” *Journal of Criminal Justice* 34, no. 6 (November 2006): 596, <https://doi.org/10.1016/j.jcrimjus.2006.09.013>.

²⁴ Brown, 600–601; Thomas et al., “School Resource Officers,” 5–6.

²⁵ Zhang, “Effects of a School Policing Program,” 14.

²⁶ Barbara Raymond, *Assigning Police Officers to Schools* (Washington, DC: U.S. Department of Justice, Office of Community Oriented Policing Services, 2010), 24–25.

armed security programs in schools today could be improved, but scholars have not yet agreed on the best solution.

Beyond claims of unsuccessful safety enhancements, the mere presence of SROs may also have unintended consequences. According to Matthew Theriot, a number of factors affect students' views regarding the presence of SROs.²⁷ For instance, students might perceive the placement of SROs as a solution to a severe crime problem within the school, which may cause tension make students feel isolated from one another.²⁸ A lack of student interconnection often fuels feelings of unfairness, an inability to bond with faculty and other students, and an unwillingness to support school spirit.²⁹ Paul Hirschfield suggests that SROs and other security implementations unnecessarily cause students to see themselves as delinquents.³⁰ Both Theriot and Hirschfield advocate for SRO practices that emphasize strengthening the relationship between the student and the school, as opposed to focusing on the enforcement of criminal statutes.³¹

Despite the mixed findings about SRO programs' effect on school safety, such programs have support. According to Brad Myrstol's summary of public perception, "key stakeholder groups—including school administrators, teachers, students, and parents—believe that these programs are effective and express strong support for them."³² Thus, SRO and armed security programs now seem to be integral parts of school safety initiatives, and some scholars the programs should not be judged by criminal statistics but by other

²⁷ Matthew T. Theriot, "The Impact of School Resource Officer Interaction on Students' Feelings about School and School Police," *Crime & Delinquency* 62, no. 4 (April 2016): 446–69, <https://doi.org/10.1177/0011128713503526>.

²⁸ Theriot, 461.

²⁹ Theriot, 447–48.

³⁰ Paul J. Hirschfield, "Preparing for Prison? The Criminalization of School Discipline in the USA," *Theoretical Criminology* 12, no. 1 (February 2008): 82, <https://doi.org/10.1177/1362480607085795>.

³¹ Theriot, "Impact of School Resource Officer Interaction"; Hirschfield, "Preparing for Prison."

³² Brad A Myrstol, "Public Perceptions of School Resource Officer (SRO) Programs," *Western Criminology Review* 12, no. 3 (2011): 33, <http://wcr.sonoma.edu/v12n3/Myrstol.pdf>.

measures.³³ As Brown suggests, it is essential to assess how SROs may positively influence a valuable academic experience, reduce truancy, or relieve fear of victimization.³⁴ SROs are here to stay, but it is essential to understand how and where they are effective and to maximize their skillsets.

2. Other Physical-Security Implementations

In addition to the placement of SROs and armed security guards, schools have implemented physical-security measures such as metal detectors, access control, and security cameras. According to Emily Tanner-Smith et al., with varying degrees of effectiveness and under a variety of circumstances, schools choose to use a combination of security measures rather than limiting themselves to a single measure.³⁵ Recent statistics point out that, among public high schools, 80.6 percent use security cameras, 94.1 percent control access, and 4.5 percent conduct random metal detector checks.³⁶ The question now is whether these physical-security implementations have a positive impact on school safety.

The limited scholarly literature on the impact of physical-security measures reveals their marginal effect on school safety. For example, Tanner-Smith et al. discovered that visible security measures like security cameras or metal detectors do not affect exposure to violence and crime in schools.³⁷ The study uncovered that, of all possible crimes, the visible security measures might only have an impact on property crimes. Crawford and Burns concluded that most security implementations have a definite link to higher ratios of violence in schools, but access-controlled doors alone correlate to a lessening of the threat of attack with weapons.³⁸ Similarly, Lauren O’Neil and Jean Marie McGloin discovered

³³ Brown, “Understanding and Assessing School Police Officers,” 599–600.

³⁴ Brown, 599–600.

³⁵ Emily E. Tanner-Smith et al., “Adding Security, but Subtracting Safety? Exploring Schools’ Use of Multiple Visible Security Measures,” *American Journal of Criminal Justice* 43, no. 1 (August 2, 2017): 103, <https://doi.org/10.1007/s12103-017-9409-3>.

³⁶ Musu-Gillette et al., *Indicators of School Crime and Safety: 2017*, 117.

³⁷ Tanner-Smith et al., “Adding Security, but Subtracting Safety,” 113.

³⁸ Crawford and Burns, “Preventing School Violence,” 640–42.

that locking doors, closing campus for lunch, and implementing fewer classroom changes reduced only property crimes in schools.³⁹ O’Neil and McGloin further acknowledged that other security technologies did not reveal any significant impact on violent crimes.⁴⁰

Other physical-security implementations, like cameras and metal detectors, have done little to deter school violence. While school safety administrators see cameras and recording systems, among other visible security measures, as being most effective at deterring and preventing criminal behavior, Crystal Garcia determined that perception may not be reality: cameras have flaws, and are often not placed in the most violent areas due to privacy and legal concerns.⁴¹ Weapons-detection systems, such as metal detectors, do not fare any better, and also seem to have little impact on serious school violence.⁴² Investing in expensive physical security has its benefits and drawbacks, but finding the appropriate niche is extremely important in determining its worth.

Some scholars argue that physical-security measures may be counterproductive. Tanner-Smith et al. suggest that implementing security measures to control crime may have detrimental effects on the learning environment, and schools should employ other means to advocate for school safety.⁴³ The authors recommend involving not only school officials and law enforcement but the entire community, including parents, students, and other social institutions, to create safety initiatives that do not focus relationship building rather than on physical security.⁴⁴ Furthermore, Garcia proposes that physical-security measures, such as security camera systems, are expensive and cause privacy issues. She argues, “If districts

³⁹ Lauren O’Neill and Jean Marie McGloin, “Considering the Efficacy of Situational Crime Prevention in Schools,” *Journal of Criminal Justice* 35, no. 5 (September 2007): 511–23, <https://doi.org/10.1016/j.jcrimjus.2007.07.004>.

⁴⁰ O’Neill and McGloin, 517–19.

⁴¹ Crystal A. Garcia, “School Safety Technology in America: Current Use and Perceived Effectiveness,” *Criminal Justice Policy Review* 14, no. 1 (March 2003): 44–46, <https://doi.org/10.1177/0887403402250716>.

⁴² Jennings et al., “Evaluating the Relationship,” 121.

⁴³ Tanner-Smith et al., “Adding Security, but Subtracting Safety,” 115.

⁴⁴ Tanner-Smith et al., 115.

diverted funds from prohibitively expensive technologies such as intricate metal detection programs, complicated entry control device (ECD) systems, or inefficient duress alarm (DA) systems, they could funnel resources into any number of programs and policies that would aid in the regeneration of the school community.”⁴⁵ Studies suggest that the implementation of physical security measures is flawed, but halting such measures completely is not likely to make schools safer.

3. Threat Assessment Models

It has been difficult for schools to identify potential violent perpetrators to mitigate their threats prior to an attack. Marisa Reddy et al. pinpoint the issue as follows: “The question is not whether the student might be at increased risk for engaging in some form of aggressive behavior during adolescence, but rather whether he or she currently poses a substantial risk of harm to another identified or identifiable person(s) at school.”⁴⁶ Prompted by the 1999 Columbine High School shooting, the U.S. Department of Education and the U.S. Secret Service (USSS) examined thirty-seven incidents of school attacks that occurred in the United States between 1974 and 2000 to determine how schools can prevent future attacks.⁴⁷ Bryan Vossekuil et al. found that there “is no useful ‘profile’ of students who engaged in targeted violence.”⁴⁸ Similarly, the Federal Bureau of Investigation (FBI) found that no specific traits or known characteristics distinguish a would-be school shooter from a typical student.⁴⁹ According to Mary O’Toole, immediately after a school shooting, knee-jerk reactions aim at increasing or improving school safety and security without

⁴⁵ Garcia, “School Safety Technology in America,” 50.

⁴⁶ Marisa Reddy et al., “Evaluating Risk for Targeted Violence in Schools: Comparing Risk Assessment, Threat Assessment, and Other Approaches,” *Psychology in the Schools* 38, no. 2 (March 2001): 160, <https://doi.org/10.1002/pits.1007>.

⁴⁷ Bryan Vossekuil et al., *The Final Report and Findings of the Safe School Initiative: Implications for the Prevention of School Attacks in the United States* (Washington, DC: United States Secret Service, May 2002), https://www.secretservice.gov/data/protection/ntac/ssi_final_report.pdf.

⁴⁸ Vossekuil et al., 19.

⁴⁹ Mary O’Toole, *The School Shooter: A Threat Assessment Perspective* (Washington, DC: American Psychological Association, 2000), 1, <https://doi.org/10.1037/e319532004-001>.

actually understanding the underlying causes of the shooter's actions.⁵⁰ Regarding understanding shooter profiles, O'Toole cautions that crucial information, which may only be obtained by court order, is often missing from publicly available accounts.⁵¹ So, it seems that identifying an attacker before he or she inflicts carnage might be an improbable task.

Still, according to the USSS and the FBI, law enforcement and school officials may be able to prevent, or lessen the probability of, future school attacks.⁵² The USSS and FBI recommend implementing measures that focus on intervening and managing problematic individuals after identifying their violence-provoking risk factors.⁵³ The FBI recommends a systematic, four-pronged approach to threat assessment.⁵⁴ Using the FBI method, an assessor would measure whether or not a student has severe problems with his or her personality, family dynamics, school dynamics, and social dynamics.⁵⁵ Based on the assessment, law enforcement or school authorities can decide on the appropriate level of intervention. The USSS recommends a more robust, eight-step "comprehensive targeted violence prevention plan."⁵⁶ According to the USSS, schools should establish a multidisciplinary threat assessment team, define problematic behaviors, create a mechanism by which students can report issues, decide the appropriate time for law enforcement intervention, develop procedures for assessment, determine risk management, promote a safe school environment, and conduct training.⁵⁷

⁵⁰ O'Toole, 3.

⁵¹ O'Toole, 3.

⁵² O'Toole, 1–32; Vossekuil et al., "Final Report and Findings of the Safe School Initiative," 1–44.

⁵³ Lina Alathari et al., *Enhancing School Safety Using a Threat Assessment Model: An Operational Guide for Preventing School Violence* (Washington, DC: United States Secret Service, July 2018), 1–27, https://www.secretservice.gov/data/protection/ntac/USSS_NTAC_Enhancing_School_Safety_Guide_7.11.18.pdf.

⁵⁴ O'Toole, *The School Shooter*, 11–25.

⁵⁵ O'Toole, 16–25.

⁵⁶ Alathari et al., *Enhancing School Safety Using a Threat Assessment Model*, 2.

⁵⁷ Alathari et al., 2–21.

The flaws in physical-security initiatives leave room for other measures. At least one study concludes that training teachers to apply the threat assessment approach is a real way of mitigating targeted school violence.⁵⁸ Reddy et al., while promoting the threat assessment approach, posit that a reflexive and impractical solution to a school shooting usually involves the implementation and expansion of physical-security measures.⁵⁹ The proactive threat assessment approach might be able to fill gaps in the effectiveness of preventative school safety initiatives. School violence persists, however, despite well-intentioned initiatives aimed at curbing it—threat assessments, SROs, metal detectors, cameras, and similar means. This suggests that continued effort is needed to discover the right measure or combination thereof.

B. OVERVIEW OF THE RESEARCH

This thesis begins with an explanation of how dogs and humankind are meant to be together, followed by an examination of the traits that make dogs a good fit for school service. From there, the thesis explores the world of therapy and working police dogs to explain how dogs' therapeutic and security instincts are currently being used. Finally, the thesis presents an observational study of a trained dog teamed with an SRO.

Because dogs are trendy, an abundance of evidence already documents how dogs play an integral role in support systems designed to promote human welfare. However, in this thesis, I focus on data that is consistent with what a dog might encounter in a school setting—such as large groups of people in all age groups, a lot of noise, and chaotic situations, but also quiet, more subdued settings. Wherever possible, I use reports on dogs that are in a school environment today, and evaluate cases based on how or why dogs were brought in to help that particular situation. I look for a causal relationship in the work that is occurring outside the schools and then explain how suitable it would be for a school

⁵⁸ Vincenz Leuschner et al., “Prevention of Targeted School Violence by Responding to Students’ Psychosocial Crises: The Netwass Program,” *Child Development* 88, no. 1 (January 2017): 68–82, <https://doi.org/10.1111/cdev.12690>.

⁵⁹ Reddy et al., “Evaluating Risk for Targeted Violence in Schools,” 157.

setting. I also observe and report on the demonstration of pairing SROs with a therapy canine during a routine school patrol.

This research does not suggest that one type of dog is more suitable than another for school safety initiatives. Nor does it imply that current initiatives are entirely inadequate. By using a “strength-based” approach to making improvements on existing designs, this thesis encourages the betterment of school safety programs.⁶⁰ This research demonstrates that dogs truly have a place in schools. Given the conceptual nature of the study, however, future research to test the effects that dogs might have on the measurements of the overall impact of school safety initiatives is undoubtedly warranted. But before the dogs can be tested, they first must go to school.

⁶⁰ Jan Reed, *Appreciative Inquiry* (Thousand Oaks, CA: SAGE, 2007), 17–18, <https://doi.org/10.4135/9781412983464>.

II. WHY DOGS?

Dogs have given us their absolute all. We are the center of their universe. We are the focus of their love and faith and trust. They serve us in return for scraps. It is without a doubt the best deal man has ever made.

—Roger A. Caras⁶¹

History has revealed that dogs and humans are meant to be together, that dogs are smart, that their relationship with humans is their livelihood, and that all of these qualities together are the reason why dogs can play a role in school safety initiatives. This chapter first explains how humans and dogs essentially grew up together. Then, it digs into the dog's mind to showcase their intelligence. Finally, it takes a glimpse at how these qualities make sense for schools.

A. HISTORY

Dogs are much more than just pets; they have had a profound and vital symbiotic relationship with humankind. Their story is unique because, among all domestic species, the longest record of interspecies cohabitation is the evolutionary history between humankind and dogs.⁶² To put it plainly, humanity and dogs evolved together, and they have throughout the ages found ways to benefit each other.⁶³ Humans learned long ago how to harness a dog's potential, though even today people are finding new ways for dogs to help, including, perhaps, using them in schools to enhance safety initiatives. As history reveals, humankind put the dog's skills to the test time and time again with great success, so searching for a solution to man's problems should never exclude a little help from his best friend.

⁶¹ Roger A. Caras, *A Celebration of Dogs* (New York, NY: Times Books, 1982).

⁶² Benjamin L. Hart and Lynette A. Hart, "Breed and Gender Differences in Dog Behavior," in *The Domestic Dog: Its Evolution, Behavior, and Interactions with People*, 2nd ed., ed. James Serpell (Cambridge, UK: Cambridge University Press, 2017), 119, www.cambridge.org/9781107699342.

⁶³ James Serpell, "Epilogue: The Tail of the Dog," in *The Domestic Dog: Its Evolution, Behavior and Interactions with People*, 2nd ed., ed. James Serpell (Cambridge, UK: Cambridge University Press, 2017), 404–12.

It all started with wolves as they bridged the gap with humans and eventually became domesticated thousands of years ago. Through repeated and persistent contact with social milieus, gray wolves subsequently evolved into domesticated dogs.⁶⁴ Domestication “is a biological process that leads to the development of unique human-animal relationships that vary greatly both in quality and intensity.”⁶⁵ Notably, archaeological findings indicate that the dog is the first animal to be domesticated.⁶⁶ Exactly when dogs and humans cemented their coexistence is unknown, but some scholars believe domestication commenced anywhere from 18,800 to 32,100 years ago.⁶⁷ Physical evidence suggests that man and dog have been together for a long time, which is why their relationship is so strong today. In one substantial discovery, a 12,000-year-old tomb in Israel revealed some of the oldest archaeological evidence of domestication of the dog.⁶⁸ Inside the gravesite, researchers found human bones, and beneath the skeletal hand were the remains of a puppy.⁶⁹ In a later finding, archaeologists also discovered a tomb from around the same period that contained the bones of three humans and two dogs buried together.⁷⁰ The tombs not only indicate an ages-old friendship but also explain how it developed.

⁶⁴ Bridgett M. Vonholdt and Carlos A. Driscoll, “Origins of the Dog: Genetic Insights in Dog Domestication,” in *The Domestic Dog: Its Evolution, Behavior and Interactions with People*, 2nd ed., ed. James Serpell (Cambridge, UK: Cambridge University Press, 2017), 22–41, www.cambridge.org/9781107699342.

⁶⁵ Vonholdt and Driscoll, 25.

⁶⁶ Juliet Clutton-Brock, “Origins of the Dog: The Archaeological Evidence,” in *The Domestic Dog: Its Evolution, Behavior and Interactions with People*, 2nd ed., ed. James Serpell (Cambridge, UK: Cambridge University Press, 2017), 7–21, www.cambridge.org/9781107699342.

⁶⁷ Vonholdt and Driscoll, “Origins of the Dog,” 31.

⁶⁸ Simon J. M. Davis and Francois R. Valla, “Evidence for Domestication of the Dog 12,000 Years Ago in the Natufian of Israel,” *Nature* 276, no. 5688 (December 1, 1978): 608–10, <https://doi.org/10.1038/276608a0>.

⁶⁹ Davis and Valla, 608–10.

⁷⁰ Eitan Tchernov and François F. Valla, “Two New Dogs, and Other Natufian Dogs, from the Southern Levant,” *Journal of Archaeological Science* 24, no. 1 (January 1997): 65–95, <https://doi.org/10.1006/jasc.1995.0096>.

In both gravesites, the human remains belonged to the members of a primitive hunter-gatherer society.⁷¹ Because the hunter-gatherer groups produced a lot of refuse, this food waste attracted wolves.⁷² But only the wolves that showed no fear or hostility toward humans could access the garbage.⁷³ Throughout many generations, these wolves produced offspring with similar behavioral traits and lost hostility toward humans.⁷⁴ Also, these wolves' dependence on humans affected their appearance, and eventually their skulls and bodies became smaller.⁷⁵ The wolves, often referred to as proto-dogs, no longer appeared wolf-like and did not shy away from human interaction.⁷⁶ Humans began to recognize the proto-dog's behavioral and appearance differences and similarly warmed up to having them around.⁷⁷ As Brian Hare and Vanessa Woods conclude in *The Genius of Dogs*, "Humans did not set out to domesticate wolves. Wolves domesticated themselves."⁷⁸ The domestication process laid the groundwork for dogs to become man's best friend.

As time went on, people not only grew comfortable with having dogs around but also realized the benefits of living with them. The early societies that accepted proto-dogs had an advantage over those that did not. For instance, the proto-dogs made noise when startled, which primarily served as an early warning device of possible intruders.⁷⁹ The relationship eventually grew stronger. For example, one study revealed that pottery

⁷¹ Clutton-Brock, "Origins of the Dog," 14.

⁷² Brian Hare and Vanessa Woods, *The Genius of Dogs: How Dogs Are Smarter Than You Think* (New York, NY: Penguin, 2013), 89.

⁷³ Hare and Woods, 89.

⁷⁴ Hare and Woods, 89.

⁷⁵ Mietje Germonpré, Martina Lázníčková-Galetová, and Mikhail V. Sablin, "Palaeolithic Dog Skulls at the Gravettian Předmostí Site, the Czech Republic," *Journal of Archaeological Science* 39, no. 1 (January 2012): 184–202, <https://doi.org/10.1016/j.jas.2011.09.022>.

⁷⁶ Vonholdt and Driscoll, "Origins of the Dog," 28; see also, for example, WeDogsInc, "Protodog," YouTube video, November 5, 2010, <https://www.youtube.com/watch?v=z9tBH94FYc0>.

⁷⁷ Hare and Woods, *The Genius of Dogs*, 89.

⁷⁸ Hare and Woods, 90.

⁷⁹ Hare and Woods, 120.

unearthed in Iran, which dates back to 4200 to 3900 BCE, depicts images of humans and dogs together.⁸⁰ One of the pieces of pottery shows a dog on a leash, and a man holding the leash in one hand and hunting tools in another. The researchers have deduced that the image of the dog on the pottery is reminiscent of the modern-day saluki, an Afghan hound breed that has a storied history as a successful hunting dog.⁸¹ The significance of the study is not in the dog's similar appearance to modern-day domesticated breed, but mainly in its support of dogs as hunting partners with a significant role in that culture.⁸² So it stands to reason that if dogs were on leashes more than 6,000 years ago, man and dog have been comfortable working and living together for a long time.

Dogs served as herders as well as sentries. Livestock-guarding dogs are one of the earliest types of working dogs, and they lived among nomadic pastoralist societies.⁸³ The pastoralists kept only those dogs that were fundamentally good at herding livestock.⁸⁴ The nomads killed or discarded the dogs that were not as skilled, leaving only the most capable dogs to mate with each other.⁸⁵ These actions exemplify how ancient human societies bred only those dogs skilled in herding. Thousands of years later, humans, now grasping the concept of genetics, would begin to create breeds of dogs to satisfy a variety of needs.

From wolves, to proto-dogs, to the iconic German shepherd, dogs are what they are today because of their impact on people's lives. The American Kennel Club (AKC) recognizes 193 breeds of dogs, all of which have been created by humans to suit their

⁸⁰ Frank Hole and Cherra Wyllie, "The Oldest Depictions of Canines and a Possible Early Breed of Dog in Iran," *Paléorient* 33, no. 1 (2007): 175–85, <https://doi.org/10.3406/paleo.2007.5213>.

⁸¹ Hole and Wyllie, 177.

⁸² Hole and Wyllie, 182.

⁸³ Kathryn Lord, Richard A. Schneider, and Raymond Coppinger, "Evolution of Working Dogs," in *The Domestic Dog: Its Evolution, Behavior and Interactions with People*, 2nd ed., ed. James Serpell (Cambridge, UK: Cambridge University Press, 2017), 53, www.cambridge.org/9781107699342.

⁸⁴ Lord, Schneider, and Coppinger, 44.

⁸⁵ Lord, Schneider, and Coppinger, 44.

needs.⁸⁶ Even with so many breeds, the process of creating them has only been in existence for around 150 years.⁸⁷ People breed dogs for a multitude of reasons. For example, a quality sled dog should be capable of running a 1,000-mile race in good time by covering 100 miles a day.⁸⁸ The breeder does not care what the dog looks like; all that matters is how fast he can pull a sled.⁸⁹ Dogs are not only bred for their physical abilities but also for appearance and behavioral characteristics. Certain dog breeds are better suited to be around young children, might bark less or more, require more affection, are more active, or are easier to train.⁹⁰ In the end, the various dog breeds are what they are only because their particular characteristics in some way are able to benefit humanity.

In 1910, E.H. Richardson wrote about the valuable services dogs accomplish on behalf of humankind as military, police, and personal watchdogs.⁹¹ Richardson notes the significant impact dogs have had on military conquests dating back as early as 4000 BCE. In modern warfare, dogs are vital members of elite military units like the Navy Seals, and many credit them with saving the lives of countless soldiers.⁹² Beyond the tyranny of war, dogs are also employed to assist wounded warriors with a multitude of tasks, like pulling their wheelchairs, turning on lights, and fetching food and drink.⁹³ The stories of how dogs have aided humankind are endless, and the number of lives they save is countless, but there

⁸⁶ “Dog Breeds—Types of Dogs,” American Kennel Club, accessed April 6, 2019, <https://www.akc.org/dog-breeds/>.

⁸⁷ G. Larson et al., “Rethinking Dog Domestication by Integrating Genetics, Archeology, and Biogeography,” *Proceedings of the National Academy of Sciences* 109, no. 23 (June 5, 2012): 8878–83, <https://doi.org/10.1073/pnas.1203005109>.

⁸⁸ Lord, Schneider, and Coppinger, “Evolution of Working Dogs,” 46.

⁸⁹ Lord, Schneider, and Coppinger, 47.

⁹⁰ Hart and Hart, “Breed and Gender Differences in Dog Behavior,” 121–29.

⁹¹ E. H. Richardson, *War, Police and Watch Dogs* (Redditch, UK: Read Books Limited, 2017), <https://books.google.com/books?id=XRI4DwAAQBAJ>.

⁹² M. Ritland, G. Brozek, and T. Feldman, *Navy Seal Dogs: My Tale of Training Canines for Combat* (New York, NY: St. Martin’s Press, 2013).

⁹³ See, for example: Jason Morgan and Damien Lewis, *A Dog Called Hope: A Wounded Warrior and the Service Dog Who Saved Him* (New York, NY: Atria Books, 2017).

is much more to consider. The bond between man and dog is ancient, and what we have realized must endure. This bond continues to strengthen as humankind is just beginning to understand the extent of the relationship complexities and how to harness the full potential of a dog's abilities, love, and dedication.

B. DOG SMARTS

Measuring dog smarts is a complicated science because most people underestimate some of their canine companions' most remarkable abilities. With training and education, so to speak, most dogs only get better—just like kids as they proceed in their school years. A dog's full intellectual repertoire is not yet fully understood, but one dog named Chaser, dubbed the “canine Einstein,” is perhaps an extreme example.⁹⁴ Chaser belonged to psychology professor John Pilley, who helped Chaser learn more than 1,000 words.⁹⁵ As a result of Pilley's extensive instruction, Chaser knew nouns, verbs, adverbs, and prepositions as well as how the words can be used differently and interact with each other.⁹⁶ Even though Chaser may be the genius among dogs, scientists believe her capabilities are not isolated.⁹⁷ Like humans, some dogs are smarter than others, and where one dog excels in one skill, her brother excels in a completely different one.⁹⁸ Chaser's superior intellect is but one example of canine smarts; for dogs as a whole, measuring their intelligence is not simply a matter of word games.

No evidence exists to sustain the claim that dogs are the smartest animals around. On the other hand, there is also no argument to hold that they are merely simpletons. Yet

⁹⁴ Jeffrey Kluger, ed., *How Dogs Think: Inside the Canine Mind*, TIME Special Edition (New York, NY: TIME, 2018), 96.

⁹⁵ Anna Lee, “Smart Dog: Border Collie Learns Language, Grammar,” *USA Today*, November 24, 2017, <https://www.usatoday.com/story/news/nation/2013/11/24/smart-dog-border-collie-learns-language-grammar/3691967/>.

⁹⁶ Lee.

⁹⁷ Anderson Cooper, “The Smartest Dog in the World,” CBS, August 6, 2018, <https://www.cbsnews.com/news/smart-dog-anderson-cooper-60-minutes-chaser-8-16-18/>.

⁹⁸ Markham Heid, “Dogs at the Head of the Class,” in *How Dogs Think: Inside the Canine Mind*, TIME Special Edition (New York, NY: TIME, 2018), 30.

there are many intelligent aspects of a dog that differentiate them from other animals, like the ability to understand and interpret hundreds of different human sounds.⁹⁹ Astonishingly, dogs may even possess the ability to count or grasp rudimentary arithmetic skills.¹⁰⁰ Not every dog is a canine Einstein, but all dogs are gifted with a human-like brain, complex minds, and high emotional intelligence.

1. The Dog's Brain: A Complex Mind

The makeup of a dog's brain is strikingly similar to a human brain.¹⁰¹ Human brains are approximately 1:50 in size ratio when compared with the body, and dogs are at about a 1:125 ratio.¹⁰² Brain size does matter; a dog's brain/body ratio is not even close to being the smallest in the animal kingdom, but its size limits functional capacity.¹⁰³ In other words, in brain speak, it is unfair to assume a dog could ever be as smart as a human, but in the animal kingdom, dogs are better off than most.¹⁰⁴ So, dogs begin with the advantage of having a better-than-average processor, which is beneficial in their quest to master human interaction. However, early research on dog intelligence is dull and documents little more than the dog's ability to understand a series of commands.¹⁰⁵ For almost half a century, up until 1995, canine cognition is the focus of only two insignificant studies.¹⁰⁶ The dogs, these creatures that are so intimately intertwined with humans, somehow failed to pique researchers' interests.

⁹⁹ Heid, 29–30.

¹⁰⁰ Rebecca E. West and Robert J. Young, "Do Domestic Dogs Show Any Evidence of Being Able to Count?" *Animal Cognition* 5, no. 3 (September 2002): 183–86, <https://doi.org/10.1007/s10071-002-0140-0>.

¹⁰¹ Jeffrey Kluger, "What the World Looks Like to a Dog: New Research Peels Back the Mystery," in *How Dogs Think: Inside the Canine Mind*, TIME Special Edition (New York, NY: TIME, 2018), 10–15.

¹⁰² Kluger, 12.

¹⁰³ Kluger, 12.

¹⁰⁴ Kluger, 12.

¹⁰⁵ Hare and Woods, *The Genius of Dogs*, 13–14.

¹⁰⁶ Hare and Woods, 14.

Perhaps researchers did not care about dog cognition because psychologists in the early twentieth century were focused on behaviorism and hypothesized that humans had no mind, and that man was purely driven only by responses to various stimuli.¹⁰⁷ This theoretical framework began with the work of psychologist Ivan Pavlov, who, using dogs as his test subjects, popularized the concept of classical conditioning (a learning theory that suggests one can condition a response by pairing two sets of stimuli).¹⁰⁸ Pavlovian research was not so much about dogs as much as it was about how dogs responded to various stimuli. Building on Pavlov's work, psychologist B. F. Skinner pioneered behaviorism, an approach that held steady from about 1913 to 1960, and beyond.¹⁰⁹ Skinner believed that animals learned behaviors only through positive reinforcement, like training a dogs to sit by giving them a treat every time they get it right.¹¹⁰ The behaviorists believed all learning is uniform across species, and that it is predictable and controllable.¹¹¹ Because not all animals are created equal, and every animal's performance does not improve through trial and error, the behaviorist approach to animal psychology is inherently flawed.¹¹²

Behaviorist beliefs have since been debunked and replaced by the cognitive approach, which looks at intelligence in a more complex way.¹¹³ The cognitive approach to explaining thought suggests that behaviors are a set of scientific processes that are

¹⁰⁷ Hare and Woods, 290.

¹⁰⁸ "Pavlovian Conditioning Principles/Laws/Theories," in *Elsevier's Dictionary of Psychological Theories*, ed. Jon E. Roedelein (Amsterdam, Netherlands: Elsevier, 2006), http://libproxy.nps.edu/login?url=https%3A%2F%2Fsearch.credoreference.com%2Fcontent%2Fentry%2Festpsyctheory%2Fpavlovian_conditioning_principles_laws_theories%2F0%3FinstitutionId%3D901.

¹⁰⁹ Hare and Woods, *The Genius of Dogs*, 224–32.

¹¹⁰ Hare and Woods, 224–32.

¹¹¹ Hare and Woods, 230.

¹¹² Hare and Woods, 232.

¹¹³ Hare and Woods, 232–34.

controlled by thought and reactions to a combination of stimuli.¹¹⁴ Dog cognition experts believe this is precisely where a dog's mind sits. According to Dr. Brian Hare, founder of Duke University's Canine Cognition Center, "A cognitive approach works so well with dogs, not because they have no mind, but precisely because they do."¹¹⁵ In other words, the dog's mind is not mindless; the simplicity of giving a dog a snack is not the only deciding factor that exists in the dog's head.

Digging deeper into the mind of a dog, when defining genius—not only in dogs but in all animals—one expert argues that two criteria must be met:

1. A mental skill that is strong compared with others, either within your own species or closely related species.
2. The ability to spontaneously make *inferences*.¹¹⁶

Dogs, when compared with other animals, possess cognitive abilities similar to human infants and their understanding of communicative intentions.¹¹⁷ Research has shown that dogs repetitively demonstrate that they can understand human gesturing, whether it be a gaze or pointing. For example, if a researcher places several cups on the floor and hides a piece of food under one of them, when the researcher points to the cup with the food, the dog will go directly to it. The type of dog, breed, whether it was a shelter dog or one that was highly trained, and the human gesturing did not matter.¹¹⁸ Furthermore, other research has demonstrated that humans are the key to the dog's interpretation of communicative

¹¹⁴ "Cognitive Approach," Psychologist World, accessed July 17, 2019, <https://www.psychologistworld.com/cognitive/approach>.

¹¹⁵ Hare and Woods, *The Genius of Dogs*, 234.

¹¹⁶ Hare and Woods, 7.

¹¹⁷ Hare and Woods, 33–55.

¹¹⁸ Brian Hare and Michael Tomasello, "Domestic Dogs (*Canis Familiaris*) Use Human and Conspecific Social Cues to Locate Hidden Food," *Journal of Comparative Psychology* 113, no. 2 (June 1999): 173–77, <https://doi.org/10.1037/0735-7036.113.2.173>.

intentions because they do not respond the same way to gestures from a mechanical arm.¹¹⁹ Even the simplest human movements mean a great deal to a dog.

Neuroscientist Gregory Berns is one of the first researchers to map a dog's brain activity using high-tech magnetic resonance imaging (MRI), a process previously reserved only for the human brain.¹²⁰ Berns trained his adopted dog, Callie, and another dog, McKenzie, to remain still in an MRI long enough to obtain a viable brain scan. Using peas and hot dogs, Berns deduced that both dogs understood the meaning of hand gestures. Berns created a series of hand gestures indicating to the dogs that they would either receive a pea, a hot dog, or nothing. The MRI revealed that the caudate nucleus area in both dogs' brains activated in anticipation of receiving the treats, but coincided precisely with the appropriate hand gesture. If the hand gesture suggested nothing was coming, the dog's caudate nucleus area showed no activity. Previous studies revealed the caudate nucleus area in the human brain responds the same way under similar circumstances.¹²¹ Thus, Berns's MRI results demonstrate that dogs observe humans and read their gestures, in a constant effort to decipher human intentions. Berns argues that hand gestures have many meanings that are subject to human interpretation, which is something his study revealed that dogs understand and correctly interpret.¹²²

Grasping an understanding of human intentions is not easy even for other people—who often miss social cues; nonetheless, it is an important social skill. Extraordinarily, even puppies show an ability to understand communicative intentions as early as six months old.¹²³ At some point “during the process of domestication, dogs evolved a basic understanding of human communicative intentions” and “had independently evolved to be

¹¹⁹ Monique A. R. Udell, Robson F. Giglio, and Clive D. L. Wynne, “Domestic Dogs (*Canis Familiaris*) Use Human Gestures but Not Nonhuman Tokens to Find Hidden Food,” *Journal of Comparative Psychology* 122, no. 1 (2008): 84–93, <https://doi.org/10.1037/0735-7036.122.1.84>.

¹²⁰ Gregory Berns, *How Dogs Love Us: A Neuroscientist and His Adopted Dog Decode the Canine Brain* (Seattle, WA: Lake Union Publishing, 2013).

¹²¹ Berns, 183–84.

¹²² Berns, 181–82.

¹²³ Hare and Woods, *The Genius of Dogs*, 33–55.

cognitively more similar to us than we were to our closest relatives.”¹²⁴ It does not seem to be remarkably significant to understand that pointing at something means “that’s what I want you to do,” but arguably what is most important is the uniqueness of the ability to properly interpret what is otherwise utterly human.¹²⁵ Dogs live in human homes, sleep in their beds, and, in a display of social learning, they study humans and interpret their intentions.¹²⁶ Dogs alter their behavior to appeal to human actions, and they understand humans better than humans understand dogs.¹²⁷

Beyond gestures, humans also convey intentions with words. When a person talks to a dog, the left and right hemispheres in the dog’s brain activate, very similar to human brain activity.¹²⁸ This type of brain activity suggests that dogs understand meaningful words as well as tonal expression often associated with praise, essentially meaning that “[d]ogs do care about what we say and how we say it.”¹²⁹ What is problematic for humans, and probably frustrating for dogs, is the inability to carry on an actual conversation.

Dogs perform well in other tests of cognitive development, like object permanence tasks. Object permanence refers to the understanding that when an object has been removed from view, searching for it is an option.¹³⁰ Research indicates that dogs, like other animal species, do grasp the concept of object permanence and exhibit the abilities of a child between the ages of one and two years old.¹³¹ Dogs not only grasp the concept, they do so

¹²⁴ Hare and Woods, 60.

¹²⁵ Udell, Giglio, and Wynne, “Domestic Dogs,” 90–92.

¹²⁶ Berns, *How Dogs Love Us*, 206.

¹²⁷ Berns, 206–14.

¹²⁸ Sarah Knapton, “Dogs Understand What We Say and How We Say it, Scientists Find,” *Telegraph*, August 30, 2016, <https://www.telegraph.co.uk/science/2016/08/30/dogs-understand-what-we-say-and-how-we-say-it-scientists-find/>.

¹²⁹ Knapton.

¹³⁰ Thomas R. Zentall and Kristina F. Pattison, “Now You See it, Now You Don’t,” *Current Directions in Psychological Science* 25, no. 5 (2016): 357.

¹³¹ Zentall and Pattison, 357–61.

faster than humans.¹³² Evidence for this, though it is less scientific, can readily be found online; for instance, the “dog blanket trick” provides good video evidence of a dog’s surprise when her owner “disappears.”¹³³ In the trick, dog owners present themselves to their dogs, hide behind a sheet, and drop the sheet while at the same time hiding behind an adjacent wall. The owner appears to have disappeared into thin air. The dog reactions range from head tilting, to a state of frozen surprise, to barking and going to investigate. In all cases, the dogs recognize that something was not right when the owner disappeared.

A dog can do more than just comprehend the basic concept of object permanence. Research indicates dogs also possess the ability to distinguish when an item has changed shape, size, and color.¹³⁴ For example, if a researcher presents a large bone to a dog and then, using a screen to obscure the dog’s view, switches the bone with a smaller bone, the dog will react to the change in size.¹³⁵ Another study revealed that dogs are capable of tactical deception.¹³⁶ In the study, the dog would lead a cooperative human partner (a human that gave the dog food) to a box that held a preferred treat, and would lead a competitive human partner (a human that kept the food for themselves) to an empty box.¹³⁷ These are but a few examples of a dog’s cognitive abilities. Dogs continue to impress researchers, and dog owners replicate these studies at home to substantiate the research.¹³⁸

¹³² Kluger, *How Dogs Think*, 12.

¹³³ See, for example: ViralBe, “Best Dogs Reactions to Magic Trick with Blanket,” YouTube video, May 31, 2019, <https://www.youtube.com/watch?v=b9VvkzZtGDA>.

¹³⁴ Kristina F. Pattison, Jennifer R. Laude, and Thomas R. Zentall, “The Case of the Magic Bones: Dogs’ Memory of the Physical Properties of Objects,” *Learning and Motivation* 44, no. 4 (November 2013): 252–57, <https://doi.org/10.1016/j.lmot.2013.04.003>.

¹³⁵ Pattison, Laude, and Zentall, 253–55.

¹³⁶ Marianne T. E. Heberlein, Marta B. Manser, and Dennis C. Turner, “Deceptive-Like Behaviour in Dogs (*Canis Familiaris*),” *Animal Cognition* 20, no. 3 (May 2017): 511–20, <https://doi.org/10.1007/s10071-017-1078-6>.

¹³⁷ Heberlein, Manser, and Turner, 516–19.

¹³⁸ Laughlin Stewart et al., “Citizen Science as a New Tool in Dog Cognition Research,” *PLOS ONE* 10, no. 9 (September 16, 2015): 1–16, <https://doi.org/10.1371/journal.pone.0135176>.

2. Emotional Intelligence

Scientists assert that dogs possess basic emotions like disgust, fear, joy, and anger, which is consistent with a two- or two-and-a-half-year-old human.¹³⁹ Dogs also read human emotions remarkably well. Dogs can recognize emotions through facial and sound expressions in humans as well as dogs, and they can differentiate between happy/playful and angry/aggressive states.¹⁴⁰ Researchers found that when a human or dog sound did not match the facial expression, then the dog would not respond; when the sound matched the expression, however, the dog reacted accordingly.¹⁴¹ Even primates do not possess the ability to make such emotional distinctions.¹⁴² Furthermore, dogs that have not grown up or lived in human households also exhibit the profound ability to interpret human emotion and react appropriately to aggressive or friendly cues.¹⁴³ Emotional intelligence is important because it suggests that dogs care about humans, and simply caring is just one part of it.

Many people often wonder if their dogs love them.¹⁴⁴ One of the dog's most important assets is its nose, which is essential not only for survival but also for interaction with humans.¹⁴⁵ Ten percent of the real estate in a dog's brain goes to its nose, which is approximately 100,000 times stronger than ours.¹⁴⁶ One experiment revealed that when dogs were presented with familiar odors, like those belonging to human family members,

¹³⁹ Stanley Coren, "Which Emotions Do Dogs Actually Experience?" *Modern Dog Magazine*, accessed June 10, 2019, <https://moderndogmagazine.com/articles/which-emotions-do-dogs-actually-experience/32883>.

¹⁴⁰ Natalia Albuquerque et al., "Dogs Recognize Dog and Human Emotions," *Biology Letters* 12, no. 1 (January 2016): 1–5, <https://doi.org/10.1098/rsbl.2015.0883>.

¹⁴¹ Albuquerque et al., 2.

¹⁴² Albuquerque et al., 3.

¹⁴³ Debottam Bhattacharjee, Shubhra Sau, and Anindita Bhadra, "Free-Ranging Dogs Understand Human Intentions and Adjust Their Behavioral Responses Accordingly," *Frontiers in Ecology and Evolution* 6 (December 21, 2018): 1–9, <https://doi.org/10.3389/fevo.2018.00232>.

¹⁴⁴ Berns, *How Dogs Love Us*, 186–94.

¹⁴⁵ Warren, *What the Dog Knows*, 27–45.

¹⁴⁶ Berns, *How Dogs Love Us*, 195.

the caudate area and inferior temporal area of their brains activated.¹⁴⁷ Because the caudate area in humans is linked to reward and the inferior temporal area is linked to memory, the researchers posit that dogs' brains associate positive memories with the people familiar to them.¹⁴⁸ Taking it even further, when the same brain activity is present in humans, the same brain activity indicates love.¹⁴⁹ Dogs' brain activity therefore is a strong indicator that a dog can also love a human.

C. PUTTING THE SKILLS TO WORK IN SCHOOLS

The genius of dogs may very well lie in how they understand humans, maybe even better than some humans do. Humans love dogs, dogs love humans, and dogs are smart enough to ensure it stays that way. School counselors, teachers, SROs, and coaches alike all strive to bond with, understand, and help the students they support. These professionals do not always succeed, and this is precisely why dogs make sense. Dogs are soft and furry; the benefits of the unconditional touch they offer cannot be replicated by any school staff.¹⁵⁰ It is really a matter of embracing the advantages of a centuries-old bond between humankind and dogs.

The complexities and humanlike functioning of a dog's mind only further bolster the reasoning behind why they are right for schools. For instance, dogs read human emotions from a dog's perspective and could notice a student that is depressed by picking up on cues that may otherwise go unnoticed. Dogs can also read anger or rage and act accordingly, whether that means actively subduing the threat or merely diffusing the situation by simply being a dog. They can quickly master the skills needed to solve problems that exist in schools today, like finding hidden drugs, vaping devices, or even

¹⁴⁷ Berns, 195–205.

¹⁴⁸ Berns, 204.

¹⁴⁹ Berns, 204.

¹⁵⁰ Milena Penkowa, *Dogs & Human Health: The New Science of Dog Therapy & Therapy Dogs* (Bloomington, IN: Balboa Press, 2015), pt. 695.

guns. Ultimately, dogs can help school officials with tasks that might not be humanly possible.

An SRO with a dog as partner can be significantly more effective at physical-security than an SRO alone. In a recent school shooting, two students who entered the building with four guns killed one student, and injured eight others.¹⁵¹ Concerning physical-security at the school, a court affidavit revealed that the shooters “knew they would not be checked and could get anything past those doors.”¹⁵² This situation never would have presented itself if officials had implemented weapons searches at the school. In the same incident, the shooters were able to fully discharge at least two guns before they were subdued.¹⁵³ Even with the presence of security guards, one of the shooters managed to get away; he left the classroom with a gun, intending to later kill himself.¹⁵⁴ If an apprehension/gunshot detection dog had been present, the incident may well have come out differently—better for the students, teachers, and responders involved.

¹⁵¹ State of Colorado Eighteenth Judicial District, “Determination of Probable Cause to Detain and Affidavit in Support of Warrantless Arrest—D182019CR451” (court order, Colorado Judicial Department, May 2019), 3–9, https://www.courts.state.co.us/userfiles/file/Court_Probation/18th_Judicial_District/18th_Courts/2019CR451/Redated%20PC_Redacted.pdf.

¹⁵² State of Colorado Eighteenth Judicial District, 7.

¹⁵³ State of Colorado Eighteenth Judicial District, 7.

¹⁵⁴ State of Colorado Eighteenth Judicial District, 7.

THIS PAGE INTENTIONALLY LEFT BLANK

III. THE DOGS

The great pleasure of a dog is that you may make a fool of yourself with him and not only will he not scold you, but he will make a fool of himself too.

—Samuel Butler

Dogs possess inherent characteristics that, when brought into a school setting, enhance the human workforce in ways that only a dog can. Their therapeutic capabilities can relieve a variety of stressors, and their security instincts help them perform tasks that police officers cannot. This chapter first defines therapy dogs and discusses some of the ways they are already helping in schools, mainly with school counselors. Then, the chapter focuses on police dogs, explaining how they significantly enhance police work.

A. THERAPY DOGS

Unfortunately, schools do not always offer the most pleasant environment for kids. Bullying, for example, is a problem, and approximately 20 percent of students between the ages of twelve and eighteen endure it.¹⁵⁵ As a result of bullying, students often suffer from psychological and behavioral issues such as anxiety, increased levels of stress, and depression.¹⁵⁶ Bullying aside, the overall school experience is challenging for many students; in one poll, 45 percent of teens reported being under constant stress as a result of relationships with other students and their teachers.¹⁵⁷ And solutions are missing the mark: another survey revealed that more than half of all students believe their school is failing to

¹⁵⁵ Musu et al., *Indicators of School Crime and Safety*: 2018, 16–21.

¹⁵⁶ Gail Hornor, “Bullying: What the PNP Needs to Know,” *Journal of Pediatric Health Care* 32, no. 4 (July 2018): 399–408, <https://doi.org/10.1016/j.pedhc.2018.02.001>.

¹⁵⁷ Jeff Collins, “45% of Teens Say They’re Stressed ‘All the Time,’ Turn to Online Resources and Apps for Help Says Poll on Stress and Mental Health,” *Globe Newswire*, February 21, 2018, <http://www.globenewswire.com/news-release/2018/02/21/1372739/0/en/45-of-Teens-Say-They-re-Stressed-All-the-Time-Turn-to-Online-Resources-and-Apps-for-Help-Says-Poll-on-Stress-and-Mental-Health.html>.

help them cope with stress.¹⁵⁸ Students are in need of emotional support, and as luck would have it, there is a type of dog that specializes in exactly that kind of support.

1. Defining a Therapy Dog

A therapy dog, in the simplest terms, is “[a] dog that has been specially trained to provide emotional assistance to people in hospitals, nursing homes, and other institutions.”¹⁵⁹ Therapy dogs fit into a broad range of animals that are generally referred to as emotional support animals.¹⁶⁰ A therapy dog does not need to be a particular breed or have a distinguishing feature; dogs are selected based on individual preferences.¹⁶¹ Therapy dog owners maintain the dogs as personal pets and may take them voluntarily to a variety of public places like hospitals, airports, or rehabilitation facilities to provide emotional support or a boost of happiness for those in need.¹⁶² There are not many requirements for a dog to become a therapy dog; the dog must simply be comfortable in its surroundings, not shed a lot, and have a cheerful and emotionally stable disposition.¹⁶³ The costs associated with training a therapy dog vary greatly, but one source estimates the price to be around \$30 per training session, or \$250 for eight sessions.¹⁶⁴ Therapy dogs do receive training, but standards of practice vary. A typical training scenario may take place over six weeks, with the following curriculum:

¹⁵⁸ Kate Stringer, “Bored in Class: A National Survey Finds Nearly 1 in 3 Teens Are Bored ‘Most or All of the Time’ in School, and a Majority Report High Levels of Stress,” *The 74*, January 16, 2019, <https://www.the74million.org/bored-in-class-a-national-survey-finds-nearly-1-in-3-teens-are-bored-most-or-all-of-the-time-in-school-and-a-majority-report-high-levels-of-stress/>.

¹⁵⁹ *The American Heritage Dictionary of Medicine*, s.v. “Therapy Dog” (Houghton Mifflin, 2015).

¹⁶⁰ Regina Schoenfeld-Tacher et al., “Public Perceptions of Service Dogs, Emotional Support Dogs, and Therapy Dogs,” *International Journal of Environmental Research and Public Health* 14, no. 6 (June 15, 2017): 642, <https://doi.org/10.3390/ijerph14060642>.

¹⁶¹ “Therapy Dogs,” Paws’itive Teams, accessed April 20, 2019, <https://www.pawsteams.org/therapy-dogs/>.

¹⁶² “Therapy Dogs—The Different Types & Their Benefits,” Feinberg Consulting, May 8, 2018, <https://feinbergconsulting.com/therapy-dogs-the-different-types-and-their-benefits/>.

¹⁶³ Feinberg Consulting.

¹⁶⁴ “2019 Dog Training Costs,” Home Guide, accessed May 4, 2019, <https://homeguide.com/costs/dog-training-cost>.

- Therapy dog commands
- Beneficial patient interaction techniques
- Handler understanding of signs that indicate stress on the dog
- Handler understanding of various dog therapy programs
- Participation in typical therapy dog role-playing experiences
- Testing in a real-world setting
- Review and critique of performance¹⁶⁵

There are no standard certifications for therapy dogs, and one can readily find a variety of certifiers online. For instance, the AKC recognizes 190 different therapy dog certification organizations in the United States.¹⁶⁶ Notably, the AKC itself will not certify a therapy dog; however, if the dog meets specific stringent requirement standards, it can receive an AKC Therapy Dog Title.¹⁶⁷ In the end, a great therapy dog is judged by its accomplishment rather than by its certifications.

A facility dog is a specific type of therapy dog, one that differs from the visitation-type therapy dogs described above. One key distinguishing factor is that a facility dog partners with a working professional like a social worker or psychologist to cater to a variety of human needs within a specific environment.¹⁶⁸ Generally, to be considered a facility dog, a dog must undergo an average of two years of extensive training, and must:

¹⁶⁵ “Therapy Dog Prep School,” Paws’itive Teams, accessed August 7, 2019, <https://www.pawsteams.org/therapy-dogs/therapy-dog-prep-school/>.

¹⁶⁶ “AKC Recognized Therapy Dog Organizations,” American Kennel Club, accessed April 20, 2019, <https://www.akc.org/sports/title-recognition-program/therapy-dog-program/therapy-dog-organizations/>.

¹⁶⁷ “AKC Therapy Dog Program,” American Kennel Club, accessed April 20, 2019, <https://www.akc.org/products-services/training-programs/akc-therapy-dog-program/>.

¹⁶⁸ “Facility Dogs,” Canine Companions for Independence, accessed April 20, 2019, <http://www.cci.org/assistance-dogs/Our-Dogs/facility-dogs.html>.

- Be easily controlled and able to demonstrate basic obedience skills
- Comply with the public behavior standards that apply to an assistance dog
- Be partnered with a professional facilitator who is accustomed to working with people in all types of therapeutic environments
- Be able to prove a need for the dog to operate in the facility
- Have a suitable working environment that offers “downtime” and constant supervision
- Have formal authorization from the handler’s supervisor for the dog’s placement
- Be covered by liability insurance
- Wear an identification vest and have proper facility credentials¹⁶⁹

Many working professionals choose to apply for a facility dog through a charitable or nonprofit organization, and that group will fund the dog and associated training.¹⁷⁰ In addition to training with the primary handler, the facility dog must live with his or her handler, or with trained secondary handlers at the facility to ensure the dog is used to his or her full potential.¹⁷¹ Although the use of therapy and facility dogs is increasing, they do not have any legal privileges, like service dogs do.

¹⁶⁹ “Facility Dogs: What Is a Facility Dog?” Paws’itive Teams, accessed April 20, 2019, <https://www.pawsteams.org/therapy-dogs/facility-dogs/>.

¹⁷⁰ “Facility Dog Process,” paws4people, accessed April 20, 2019, https://paws4people.org/wp-content/uploads/FacilityDogProcess_161220.pdf.

¹⁷¹ paws4people.

Service dogs are specially trained to support disabled individuals by performing difficult tasks for them.¹⁷² The Code of Federal Regulations directs, “Generally, a public entity shall modify its policies, practices, or procedures to permit the use of a service animal by an individual with a disability.”¹⁷³ With few exceptions—e.g., unruliness or lack of housetraining—the code provides that service dogs are permitted in any establishment, schools included.¹⁷⁴

In 2009, a Michigan school denied a disabled girl from bringing her service dog to school, citing that humans could provide the services in place of the dog.¹⁷⁵ The case, *Fry v. Napoleon Community Schools*, eventually made it to the Supreme Court. In a unanimous decision, the court ruled that the school’s actions were discriminatory and in violation of the Americans with Disabilities Act.¹⁷⁶ Several lower courts in multiple states have also ruled against excluding service dogs from schools.¹⁷⁷ Service dogs, under most circumstances, cannot be denied access and without a doubt are irreplaceable assistance providers for the disabled. Nonetheless, society often underestimates the wide-reaching benefits of therapy dogs for all, and unfortunately these dogs can be denied access.

2. Therapy Dogs in Schools

The concept of having a therapy dog in a school is not new. Unfortunately, therapy dogs in most cases are often brought in after a traumatic event, or under more pleasant

¹⁷² Melinda Jacobs, “Service Animals in Schools: Get Ready for Dogs and Horses in Your School!” *School Transportation News*, 2011, 12, <https://www.stnonline.com/images/editorial/pdfs/mjacobs-service-animals-school.pdf>.

¹⁷³ Service Animals, 28 CFR § 35.136 (2016), <https://www.govinfo.gov/content/pkg/CFR-2016-title28-vol1/pdf/CFR-2016-title28-vol1-sec35-136.pdf>.

¹⁷⁴ Service Animals.

¹⁷⁵ Reuters, “Supreme Court Sides with Disabled Girl in Service Animal Case,” *Newsweek*, February 22, 2017, <https://www.newsweek.com/supreme-court-disability-service-animals-michigan-559763>.

¹⁷⁶ Reuters.

¹⁷⁷ Jacobs, “Service Animals in Schools,” 6–9.

circumstances they might visit once a week to help with reading.¹⁷⁸ For example, in 2012, after the Sandy Hook Elementary School shooting, dogs were brought in as “professional comforters” for the students and teachers.¹⁷⁹ This concept works great in the short term, but a longer stay is where the true benefits lie. In New York City, a different approach is underway: one therapy dog joined a school full time in 2014 to help teach young students the importance of kindness, sharing, and an abundance of other meaningful lessons in life.¹⁸⁰ The dog was so successful that the program has been expanded and therapy dogs can now be found in sixty schools in the district.¹⁸¹ Therapy dogs bring a special type of emotional support to the schools, one that arguably a human cannot.

Some schools have already harnessed the therapeutic power of having a dog around, and the ways in which the dogs offer support are seemingly endless. Therapy dogs are perfectly adapted to help school-age children because dogs are flexible and indiscriminate.¹⁸² If a counselor cannot break through to a student in need, a dog can bridge that gap and make a connection.¹⁸³ This revelation could mean the difference between the life and death of the student, depending on the nature of the situation.¹⁸⁴ In a sample of schools that currently use therapy dogs, about half of surveyed students viewed the dog as

¹⁷⁸ Sarah McKibben, “Why Schools Are Going to the Dogs,” *ASCD Education Update* 60, no. 2 (February 2018), <http://www.ascd.org/publications/newsletters/education-update/feb18/vol60/num02/Why-Schools-Are-Going-to-the-Dogs.aspx>.

¹⁷⁹ Amanda Fiegl, “The Healing Power of Dogs,” *National Geographic*, December 21, 2012, <https://news.nationalgeographic.com/news/2012/12/121221-comfort-dogs-newtown-tragedy-animal-therapy/>.

¹⁸⁰ Danielle Yurkew, “After This School Launched New York City’s First Comfort Dog Program, Others Joined the Pack,” *Chalkbeat* (blog), October 29, 2018, <https://www.chalkbeat.org/posts/ny/2018/10/29/after-this-school-launched-new-york-citys-first-comfort-dog-program-others-joined-the-pack/>.

¹⁸¹ Yurkew.

¹⁸² Daniel Mills and Sophie Hall, “Animal-Assisted Interventions: Making Better Use of the Human-Animal Bond,” *Veterinary Record* 174, no. 11 (March 15, 2014): 269–73, <https://doi.org/10.1136/vr.g1929>.

¹⁸³ Courtney E. Zents, Amy K. Fisk, and Cris W. Lauback, “Paws for Intervention: Perceptions about the Use of Dogs in Schools,” *Journal of Creativity in Mental Health* 12, no. 1 (January 2, 2017): 82–98, <https://doi.org/10.1080/15401383.2016.1189371>.

¹⁸⁴ Thom Patterson, “The Mysterious Science Behind Lifesaving Dogs,” CNN, July 10, 2018, <https://www.cnn.com/2017/06/09/health/champions-for-change-lifesaving-dogs/index.html>.

nonjudgmental and loving; these students said they felt close to the dog, and the dog made them feel more comfortable.¹⁸⁵ Similarly, faculty members communicated appreciation for the dog and acknowledged that the dog positively impacted students, especially in helping with anxiety issues and low self-esteem.¹⁸⁶ Highlighted in Table 1 are examples of how a therapy dog has impacted student problems that school counselors and school psychologists deal with. A therapy dog can also increase feelings of school connectivity among the students, which helps to alleviate troublesome behaviors or violence directed toward the school.¹⁸⁷ Evidence suggests a dog's presence in schools helps students and faculty alike, so if a dog is not on staff then perhaps the human resources department should seek to improve the workforce.

Table 1. The Emotional Impact of Therapy Dogs on Students¹⁸⁸

Problem	Dog's Impact
Selective Mutism	The therapy dog promoted communication in a nonverbal student. The student wrote letters to the dog and eventually spoke to the dog.
Autism Spectrum Disorder	After developing a relationship with the therapy dog, the student was more communicative, improved his goal achievement, and fostered more positive relationships with faculty and students.
Attendance	The therapy dog helped a student with chronic absenteeism and tardiness dramatically improve his attendance.
Emotional Support	Two years of interaction with the therapy dog decreased a student's enduring problematic behavioral referrals by 94 percent.

¹⁸⁵ Zents, Fisk, and Lauback, 89–90.

¹⁸⁶ Zents, Fisk, and Lauback, 90–92.

¹⁸⁷ Jill Fedor, "Animal-Assisted Therapy Supports Student Connectedness," *NASN School Nurse*, June 6, 2018, 1–3, <https://doi.org/10.1177/1942602X18776424>.

¹⁸⁸ Adapted from Zents, Fisk, and Lauback, "Paws for Intervention," 93–94.

Last-Resort Intervention	After interaction with the therapy dog, three students, who were destined for alternative education programs, significantly improved their emotional functioning and were able to remain in their current programs or were moved up to a general education setting.
Meltdowns	The therapy dog helped to deescalate a kindergartner who had frequent and disruptive tantrums in the classroom. As a result, the tantrums eventually ceased.
"I Don't Talk to Counselors"	A student who refused to speak with counselors opened up to regular consultations after having the opportunity to engage with the therapy dog.

B. POLICE DOGS

Today, it is not uncommon to see a dog accompanying a police officer, whether it be on routine patrol, in an airport, around government buildings, or at border checkpoints. For example, the U.S. Secret Service Emergency Response Team uses a team of highly trained Belgian Malinois who are stationed strategically around the White House for the sole purpose of intercepting anyone who dares to jump the fence.¹⁸⁹ The police dog era in the United States initiated over a century ago and was relatively small until the 1950s.¹⁹⁰ But things changed in the 1960s as the U.S. military demonstrated the full potential of the dog's scent and policing capabilities during the Vietnam War, and domestic police agencies took notice.¹⁹¹ Today, dogs are now prevalent among law enforcement communities, and most departments have a dog—but most SROs do not.

1. Defining a Police Dog

Unlike a therapy dog, a police dog's purpose is not to comfort those in need of emotional support; a police dog's purpose is primarily to enhance police work and do the

¹⁸⁹ Maria Goodavage, *Secret Service Dogs: The Heroes Who Protect the President of the United States* (New York, NY: Dutton, 2016), 21–23.

¹⁹⁰ Warren, *What the Dog Knows*, 33.

¹⁹¹ Warren, 33.

work that a human cop cannot (see examples in Table 2)—though many police dogs naturally also offer emotional support to those they encounter. Police dogs are working dogs trained to excel at one or two specific tasks, and not every breed is suited to the demands pressed on them.¹⁹² Scholars sort police dogs into three main working classes: apprehension, detection, and search and rescue.¹⁹³ Apprehension dogs are aggressively postured in the sense that their job is to attack suspected criminals by subduing and possibly biting them until they are taken into custody.¹⁹⁴ A detection dog’s purpose is to use its nose, which is about a hundred thousand to a million times more powerful than a human’s, to detect specific odors to prevent or solve a crime.¹⁹⁵ The final category of dogs, search and rescue dogs, is used to locate missing persons, escaped criminals, people trapped as a result of a catastrophic event, and cadavers.¹⁹⁶ Unlike therapy dogs, which comprise a variety of breeds, the AKC asserts a few specific breeds are most popular for police work: like Belgian Malinois, German shepherds, bloodhounds, Dutch shepherds, and Labradors.¹⁹⁷

Table 2. The Impact of Dogs on Police Work

Task	Dog’s Impact
Tracking Missing People	After a homicide, the police dog, using the scent from a pair of the murderer’s flip-flops, locates him in three hours, four miles away from the crime scene. ¹⁹⁸

¹⁹² Katie Finley, “What Do Police Dogs Do?” American Kennel Club, June 30, 2017, <https://www.akc.org/expert-advice/lifestyle/what-do-police-dogs-do/>.

¹⁹³ Finley.

¹⁹⁴ Finley.

¹⁹⁵ William S. Helton, ed., *Canine Ergonomics: The Science of Working Dogs* (Boca Raton, FL: CRC Press/Taylor & Francis, 2009), 136–38.

¹⁹⁶ Finley, “What Do Police Dogs Do?”

¹⁹⁷ Finley.

¹⁹⁸ Paula Fitzsimmons, “The Inspiring Story of a Police Officer and Her K-9 Partner,” Pet Central, June 7, 2017, <https://petcentral.chewy.com/pet-parenting-pet-stories-inside-the-life-of-a-k9-police-dog/>.

Task	Dog's Impact
Detecting Drugs and Other Contraband	After hundreds of failed human-initiated searches, a police dog found more than \$750,000 in cash, dozens of guns, more than 17 kilos of narcotics, and several hundred pounds of cannabis. ¹⁹⁹
Providing Officer Safety	While attempting to subdue an uncooperative subject, a lengthy fight ensued and three officers were able to finally gain control of the subject with the help of a K-9 who engaged by biting and holding onto the subject's swinging arms and legs. ²⁰⁰
Detecting Explosives	Over the course of three years, a dog that participated in combat operations in Iraq located 26 explosive devices and various weapons, saving countless lives. ²⁰¹
Apprehension	One dog, in sheer determination, jumped off a 30-foot wall to chase a fleeing suspect. That same dog is responsible for aiding in the arrests of over a hundred suspects. ²⁰²
Heroism	While chasing an armed suspect, a police K-9 was stabbed in the chest. The suspect then turned on the officer; even after being wounded, the dog put himself between the knife and the officer, saving him from being stabbed in the neck. ²⁰³

¹⁹⁹ "Dax—Law Enforcement / Arson," Hero Dog Awards, accessed July 18, 2019, <http://herodogawards.org/dog/dax-2019/>.

²⁰⁰ Rick, "Top 10 'Best Service Dogs of the Year'...Final Day of Voting," The Chive, February 4, 2019, <https://thechive.com/2019/02/04/top-10-best-service-dogs-of-the-yearfinal-day-of-voting-13-photos/>.

²⁰¹ Grant Suneson and John Harrington, "The 25 Most Heroic Dogs in America," *USA Today*, July 5, 2019, <https://www.usatoday.com/story/life/people/2018/07/05/25-most-heroic-dogs-america/761906002/>.

²⁰² Christian Gollayan, "These Brave Police Dogs Are True Heroes," *New York Post*, March 7, 2017, <https://nypost.com/2017/03/07/these-brave-police-dogs-are-true-heroes/>.

²⁰³ Rosie Hopegood, "Police Dog Risked His Life to Save Officer," *Mirror*, August 3, 2018, <https://www.mirror.co.uk/news/real-life-stories/police-dog-risked-life-save-12863160>.

Unlike therapy dogs, police dogs are costly and must undergo extensive and ongoing training throughout their careers. The training of an apprehension dog consists of at least 600 hours, spent on mastering topics like obedience, bite work, searching, apprehension, crowd control, and protecting the handler.²⁰⁴ From the beginning, police dogs are hand-selected with the understanding they must be aggressive but not overly aggressive, extremely smart, easily trainable, and not easily stressed.²⁰⁵ Most of the dogs are born and bred in Europe and can cost upwards of \$8,000 to acquire, and additional training costs average from \$12,000 to \$15,000.²⁰⁶ A highly trained dual-purpose dog, or one trained in two categories such as apprehension and detection, can cost more than \$50,000.²⁰⁷ However, these types of dogs are often only procured by the military and possess skills most applicable to a battlefield setting. Regardless of where the police dogs serve, they are frequently recognized as sworn police officers, gain celebrity status from the public and receive awards, and officials honor them as heroes.²⁰⁸ As a result, generous public and private donations often offset the costs associated with police dogs.²⁰⁹ All of this is for the best: nobody wants to encounter a potentially deadly police dog that is not highly trained and is heavily scrutinized for the position it holds.

2. Why Police Dogs?

The work of police dogs is irreplaceable; they bring something to the table that a machine cannot. Recently, the president of the United States stated that working dogs are

²⁰⁴ Clinton R. Sanders, “‘The Dog You Deserve’: Ambivalence in the K-9 Officer/Patrol Dog Relationship,” *Journal of Contemporary Ethnography* 35, no. 2 (April 2006): 148–72, <https://doi.org/10.1177/0891241605283456>.

²⁰⁵ Sanders, 153–55.

²⁰⁶ Peter Fehler, “FAQs,” National Police Dog Foundation, accessed May 4, 2019, <https://nationalpolicedogfoundation.org/faqs/>.

²⁰⁷ Ritland, Brozek, and Feldman, *Navy Seal Dogs*, 30.

²⁰⁸ Kevin Walby, Alex Luscombe, and Randy K. Lippert, “Going to the Dogs? Police, Donations, and K9s,” *Policing: An International Journal* 41, no. 6 (December 3, 2018): 798–812, <https://doi.org/10.1108/PIJPSM-05-2017-0066>.

²⁰⁹ Walby, Luscombe, and Lippert.

“the greatest equipment in the world.”²¹⁰ He made this statement after receiving a briefing that the dogs outperform \$500 million worth of government equipment that is used to accomplish the same task.²¹¹ The Department of Defense realized, only after spending \$17 billion on various machines, that nothing compares to the dog’s ability to detect explosives.²¹² No artificial means are available today that harness the same capacity of a working dog.²¹³ As William Helton predicts, “The role of working dogs in society is far greater than most people know, and is likely to increase, not diminish, in the future.”²¹⁴ The future for dogs in school safety is right now.

²¹⁰ Betsy Klein, “Trump Calls Working Dogs ‘the Greatest Equipment in the World,’” CNN, April 24, 2019, <https://www.cnn.com/2019/04/24/politics/donald-trump-dogs-equipment-opioids/index.html>.

²¹¹ Klein.

²¹² Warren, *What the Dog Knows*, 225.

²¹³ Helton, *Canine Ergonomics*, 5.

²¹⁴ Helton, 5.

IV. WHO USES DOGS AND FOR WHAT?

What counts is not necessarily the size of the dog in the fight—it's the size of the fight in the dog.

—Dwight Eisenhower

The examples in this chapter highlight some of the practical implementations of dogs in a variety of settings. The first section covers therapy/facility dogs, and the beneficial role they play in emotional and behavioral support. The chapter reveals some of dogs' therapeutic benefits, such as providing emotional support for victims of crime or trauma, helping students who are having trouble learning, and relieving anxiety. The second section provides a more multifaceted discussion of police dogs, covering the numerous apprehension and detection roles they are capable of filling. The chapter focuses on how dogs are positively impacting police work in areas such as drug detection, gun detection, personal screening, apprehension, and even gunshot detection. These dogs' skills—whether stemming from their therapeutic or security instincts, or a combination of both—can be applied in school settings.

A. THERAPY DOGS IN ACTION

The popularity of therapy dogs in schools is growing. In most situations, the dogs accompany school counselors, who use them to assist in their daily routine, but most often in managing students' mental health issues.²¹⁵ About 4,000, have taken a more formal approach by implementing a program developed by Yale University that uses dogs to teach kids social emotional values.²¹⁶ In other schools, formalities aside, the dog might accompany the school principal and just hang out.²¹⁷ Having dogs in schools is a good thing. As one principal sums it up “schools should be fun and exciting, and dogs can be a

²¹⁵ McKibben, “Why Schools Are Going to the Dogs.”

²¹⁶ The Mutt-i-grees Curriculum, accessed June 14, 2019, <https://education.muttigrees.org/>.

²¹⁷ Linda Flanagan, “Making Comfort Dogs an Everyday Part of School,” KQED, February 26, 2018, <https://www.kqed.org/mindshift/50580/making-comfort-dogs-an-everyday-part-of-school>.

big part of that.”²¹⁸ The following cases highlight how therapy dogs are working to help people in a variety of circumstances, some of which are in schools and some not.

1. FBI

A German shepherd/Siberian husky named Dolce (Figure 1), who is now retired, was the FBI Office for Victim Assistance’s first therapy dog. He received formal training as a service dog but eventually settled into his role as a therapy dog. Dolce’s purpose was to comfort crime victims and their families, and his mere presence opened channels of communication between victims and investigators. Because of Dolce’s work with crime victims, he received the 2011 FBI Director’s Award for Excellence.²¹⁹



Figure 1. Dolce, FBI Victim Assistance Therapy Dog²²⁰

²¹⁸ Flanagan.

²¹⁹ “Therapy Dog Program a First for the Bureau,” FBI, April 27, 2012, http://www.fbi.gov/news/stories/2012/april/therapy-dog_042712.

²²⁰ Source: FBI Multimedia, accessed April 23, 2019, <https://multimedia.fbi.gov/?q=&perpage=50&page=5&searchType=image>.

2. Badin High School—Hamilton, Ohio

Rudy (Figure 2), an Australian labradoodle, works with the counselors at Badin High School. She spends most of her day in the counselor's office, where she visits with students and provides stress relief during heavy testing periods. She goes home with her family at night and on weekends. When school is out for the summer, Rudy frequents the Hamilton Police Department to provide stress relief for anyone who needs it. Private grants and donations provide the funds needed to keep her healthy and active as a therapy dog.²²¹

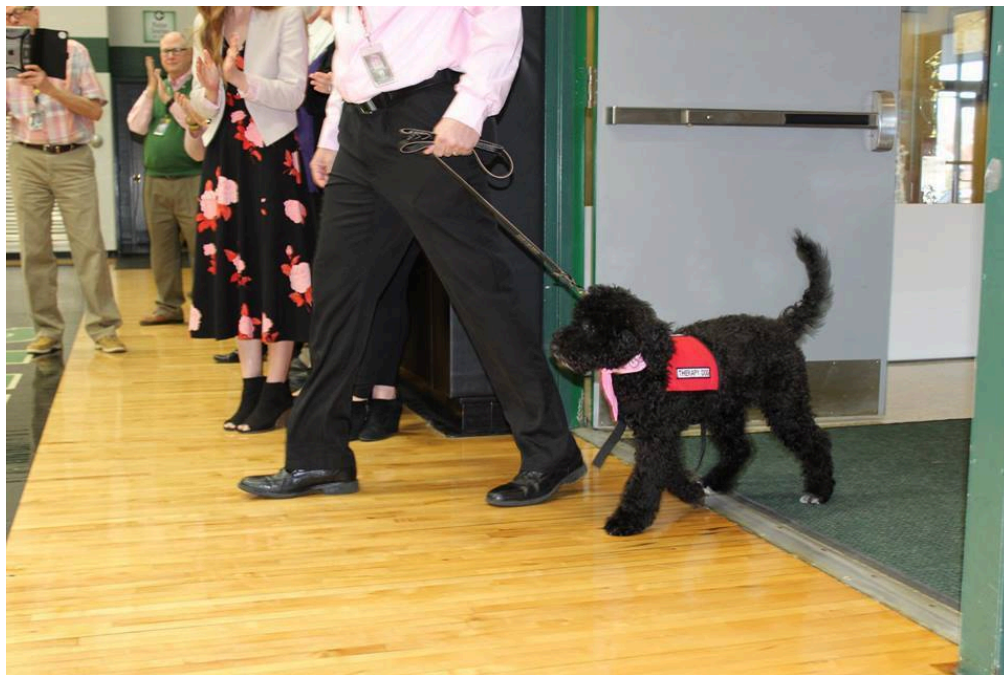


Figure 2. Therapy Dog Rudy at School²²²

²²¹ Michael Clark, "Therapy Dog a First for Butler County School," *Journal-News*, May 15, 2018, <https://www.journal-news.com/news/local/therapy-dog-first-for-butler-county-school/DKtgNoOPg8W0SQIsC4IUtL/>.

²²² Source: Penny Eims, "Ohio High School Just Welcomed Their Own Therapy Dog," *ShelterMe.TV*, March 23, 2018, <https://shelterme.tv/news/ohio-high-school-just-welcomed-their-own-therapy-dog/>.

3. Brighton Schools—Brighton, Michigan

The Brighton School District started its therapy dog program around 2008; because of its success, the district is in the process of placing dogs each of its schools. Charitable donations fund the dogs (some of whom are shown in Figure 3), including their training, food, and veterinary care.²²³ The dogs are in school all week, and they live with a school-district-designated host family. Each dog is there to help students with emotional issues such as anxiety, sadness, and anger, and the effects of being bullied.²²⁴ The dogs also assist students with their reading, serving as attentive and nonjudgmental listeners. According to one elementary school principal, the school's therapy dog is like magic: "A child can be having a bad day and they sit down with Scout and it turns their whole day around."²²⁵ There are currently nine dogs on staff, and four more are in training.²²⁶



Figure 3. Brighton School Therapy Dogs—Duncan, Shadow, Scout, Caesar, Buckley, and Ford²²⁷

²²³ Susan Bromley, "Brighton Schools Plan to Have Therapy Dogs in Every Building by Spring," *Livingston Daily*, October 11, 2018, <https://www.livingstondaily.com/story/news/local/community/brighton/2018/10/11/brighton-schools-plan-have-therapy-dogs-every-building-spring/1582270002/>.

²²⁴ BAS Pack of Dogs, accessed April 30, 2019, <http://baspackofdogs.weebly.com/>.

²²⁵ Bromley, "Brighton Schools Plan to Have Therapy Dogs."

²²⁶ BAS Pack of Dogs.

²²⁷ Source: BAS Pack of Dogs.

4. Alliance City School District—Alliance, Ohio

Kamo, the standard poodle shown in Figure 4, works with school counselors in Alliance Middle School. Kamo is trained as a therapy dog and is owned by a school counselor, who brings him to the school once a week. Kamo assists with kids who exhibit behavioral and emotional issues. When kids are in crisis mode, Kamo gives support by significantly decreasing the time it takes for the counselor to calm the student down. Kamo's mere presence in a classroom can turn chaos into calm.²²⁸



Figure 4. Kamo, a School Counselor's Therapy Dog²²⁹

²²⁸ Shannon Flanagan, "Alliance Middle School Adds Canine Counselors," *Akron Beacon Journal*, November 6, 2018, <https://www.ohio.com/news/20181106/alliance-middle-school-adds-canine-counselors>.

²²⁹ Source: Alliance Middle School, accessed May 1, 2019, https://www.alliancecityschools.org/live_feed?org=middle-school.

5. Marjory Stoneman Douglas High School—Parkland, Florida

Since the tragic shooting at Marjory Stoneman Douglas High School in February 2018, a small contingent of therapy dogs visits the campus daily to help students overcome the trauma they experienced. Local volunteers from four therapy dog organizations have combined their efforts to ensure the dogs, shown in Figure 5, are at the school.²³⁰ The dogs seek out students in need, put their head on the students' laps or a paw on their shin, or roll over for endless petting.²³¹ The dogs are popular and are accomplishing their mission with great success, which has not gone unnoticed. After witnessing the positive effects the therapy dogs had on students, a school librarian adopted a Bernese mountain dog–poodle mix and trained her to be a therapy dog. The dog, River, is now a permanent fixture in the library.²³²



Figure 5. Therapy Dogs at Marjory Stoneman Douglas²³³

²³⁰ Gina Pfingsten, "Therapy Dog Thursday at P-REC at Pine Trails Park," TAP into Parkland, January 2, 2019, <https://www.tapinto.net/towns/parkland/articles/therapy-dog-thursday-at-p-rec-at-pine-trails-park>.

²³¹ Jessica Bakeman, "Meet the Therapy Dogs—and One Pig—Back by Popular Demand at Stoneman Douglas," WLRN, September 3, 2018, <https://www.wlrn.org/post/meet-therapy-dogs-and-one-pig-back-popular-demand-stoneman-douglas>.

²³² "Parkland High School Gets Official Therapy Dog to Help Shooting Survivors," Clear the Shelters, July 23, 2018, <http://www.cleartheshelters.com/Marjory-Stoneman-Douglas-Librarian-Gifted-Therapy-Dog-488683611.html>.

²³³ Source: Pfingsten, "Therapy Dog Thursday."

B. POLICE DOGS IN ACTION

The following cases are current examples of how police dogs might benefit school safety initiatives. Some of the cases are current school initiatives and some are not. This discussion only addresses detection and apprehension dogs, since search and rescue dogs are not practical for a permanent assignment in a school. Furthermore, when considering the legal challenges surrounding Fourth Amendment rights and unreasonable searches and seizures, students lack a reasonable expectation of privacy while on school grounds.²³⁴ Thus, detection dogs can be a legal and practical asset in schools. When discussing the use of drug detection dogs in his school, one principal commented: “If there’s ... an acceptance of K-9 dogs as something that is not invasive, that if a student is not doing anything that’s incorrect or unlawful, the dog really has nothing to do but wag a tail and be scratched on the head.”²³⁵

1. Drug Detection Dogs

A recent rise in vaping and marijuana use is prompting many school districts to implement the use of drug detection dogs.²³⁶ Most of the dogs are not permanent fixtures; they make random appearances in the schools.²³⁷ For example, Frankie, a Labrador retriever, works as a drug detection canine in the elementary and high school in Oroville, California.²³⁸ He is shared by three SROs and trained to detect illegal drugs in the schools and on the playgrounds. Local citizens and businesses provided donations to fund the dog. In another California school district, outside of Oroville, contraband detection dogs search

²³⁴ “Using Drug-Sniffing Dogs and Canine Units,” FindLaw, accessed May 5, 2019, <https://education.findlaw.com/student-rights/using-drug-sniffing-dogs-and-canine-units.html>.

²³⁵ “Dog Fight,” *Current Events* 105, no. 13 (2005): 3.

²³⁶ “Notification for Contraband Detection Dogs,” Senora High School, January 28, 2019, <http://www.fjuhsd.org/site/default.aspx?PageType=3&DomainID=11&ModuleInstanceID=3538&ViewID=6446EE88-D30C-497E-9316-3F8874B3E108&RenderLoc=0&FlexDataID=10128&PageID=15>.

²³⁷ Brian McCready, “Police Drug Sniffing Dogs to Visit Daniel Hand High: Here’s Why,” Patch, January 8, 2019, <https://patch.com/connecticut/madison-ct/police-drug-sniffing-dogs-visit-daniel-hand-high-heres-why>.

²³⁸ Hayley Watts, “Oroville PD Getting Drug-Sniffing K9 for Schools,” KHSL News, September 28, 2018, <https://www.actionnewsnow.com/content/news/Oroville-PD-to-Get-New-K9-Member-492591901.html>.

classrooms, lockers, student vehicles, and backpacks, but not the students themselves; if officials determine that a student has drugs or drug paraphernalia, the student is subject to appropriate disciplinary action.²³⁹ Many states' legalization of marijuana is forcing police dogs into early retirement.²⁴⁰ Regardless, marijuana is not legal in any school district and dogs there can still do their jobs. For example, in Colorado, where marijuana is legal, the Garfield County Sheriff recently paired a drug detection dog to work full time with a high school SRO (see Figure 6). According to the sheriff, "[Students are] more likely to bring marijuana into schools without the dog, and that's a school issue, it's a health issue, and it's a social justice issue.... We want to be able to combat that."²⁴¹ It is the hope of the school board and the sheriff that the dog will serve mainly as a deterrent.²⁴²



Figure 6. Bull, a Drug Detection Dog, with His SRO²⁴³

²³⁹ Senora High School, "Notification for Contraband Detection Dogs."

²⁴⁰ Stacy Cowley, "Marijuana Legalization Threatens These Dogs' Collars," *New York Times*, November 24, 2018, <https://www.nytimes.com/2018/11/24/business/marijuana-legalization-police-dogs.html>.

²⁴¹ Alex Zorn, "'Bull' the Drug Dog Set to Guard Coal Ridge High School," *Citizen Telegram*, December 6, 2018, <https://www.postindependent.com/rifle/bull-the-drug-dog-set-to-guard-coal-ridge-high-school/>.

²⁴² Zorn.

²⁴³ Photo by Chelsea Self. Source: Zorn.

2. Gun Detection Dogs

A gun detection dog is “trained to focus on odor that relates exclusively to the oils, powder, and residue commonly associated with a discharge of a firearm.”²⁴⁴ Like marijuana in some states, gun possession is also legal, which complicates the use of gun detection dogs and the probable cause to search a person. However, it is not legal to have a gun in a school. In the Clark County School District in Nevada, four gun detection dogs (see Figure 7) are working with the School District Police Department. The dogs conduct random searches—only for guns—in middle and high schools. In this case, the dogs are a useful tool for finding guns but they also make the kids feel safe and act as a tool to initiate dialogue between the SROs and the students. The police department’s budget covers the dogs, which cost between \$10,000 and \$15,000 each.²⁴⁵



Figure 7. Clark County School Police Gun Detection Dogs²⁴⁶

²⁴⁴ Ted Daus, “Gun Dogs: The Rise of Firearms-Sniffing K-9s,” *PoliceOne*, April 15, 2011, <https://www.policeone.com/police-products/firearms/articles/3468167-Gun-Dogs-The-rise-of-firearms-sniffing-K-9s/>.

²⁴⁵ Max Michor, “Clark County School Police Welcome Dogs Trained to Detect Guns,” *Las Vegas Review Journal*, January 24, 2019, <https://www.reviewjournal.com/news/education/clark-county-school-police-welcome-dogs-trained-to-detect-guns-1581278/>.

²⁴⁶ Source: Michor.

3. Personal Screening Canine

Another type of detection dog is a personal screening canine (or PSC). PSCs are like metal detectors, so to speak, except they are checking individuals for explosives rather than metal weapons.²⁴⁷ The U.S. Secret Service uses PSCs at the White House to regularly screen visitors. In some scenarios the PSCs remain behind a screen and sniff unsuspecting guests as they pass; in other scenarios—referred to as PSCOs (personal screening canine open areas)—they work outside the security perimeter fence.²⁴⁸ The PSC open area staff is a group of dog breeds that appear less threatening to the general public (see Figure 8), and thus the program is often referred to as the “friendly dog” program. These dogs walk among the tourists and sniff everyone they can, hoping to catch a whiff of explosive vapors.²⁴⁹ If the dog does detect odors consistent with explosives, he will enthusiastically alert his handler, leaving the rest up to his human partner.²⁵⁰ These dogs are good not only at finding explosive vapors but also at drawing attention from tourists, who try to pet them and often end up engaging their handlers in conversation.²⁵¹ From a law enforcement perspective, this can be a troublesome distraction; however, the chat often provides useful intelligence information. For the Secret Service, detecting explosives is essential, but the dogs can be trained to sniff out almost anything.

²⁴⁷ Goodavage, *Secret Service Dogs*, 25.

²⁴⁸ Goodavage, 25–27.

²⁴⁹ Goodavage, 26.

²⁵⁰ Goodavage, 26.

²⁵¹ Goodavage, 26–27.



Figure 8. Secret Service PSC Open Area Dog with Handler²⁵²

4. Apprehension / Gunshot Detection Dog

Meadow is a Dutch shepherd who works full time at the Cumberland County Technical Education Center (CCTEC) and Cumberland County College in New Jersey.²⁵³ Meadow is a dual-purpose canine, trained to detect gun residue (like the dogs previously mentioned) as well as gunshots.²⁵⁴ If there is an active shooter at the school, Meadow is trained to alert to the sound of gunfire and lead her handler to the shooter.²⁵⁵ After locating the shooter, Meadow's handler can release her to attack the threat.²⁵⁶ Meadow and her

²⁵² Photo courtesy of U.S. Secret Service, personal communication.

²⁵³ Jen Ursillo, "NJ Hires the First K-9 Officer Team to Patrol Schools Full-Time," New Jersey 101.5, March 25, 2019, <https://nj1015.com/new-jersey-has-hired-the-first-k-9-officer-team-to-patrol-a-high-school/>.

²⁵⁴ Ursillo.

²⁵⁵ Chris Franklin, "Meet Meadow, the First K-9 Dog on Patrol at an NJ High School," NJ.com, March 9, 2019, <https://www.nj.com/cumberland/2019/03/meet-meadow-the-first-k-9-dog-on-patrol-at-an-nj-high-school.html>.

²⁵⁶ Franklin.

handler routinely patrol the school campuses and often interact positively with the students and faculty.²⁵⁷ A CCTEC video documents Meadow's story. The video depicts Meadow in various training scenarios, watching over the school cafeteria, and at home with her handler.²⁵⁸ To demonstrate Meadow's capabilities, the video shows a man firing a gun, after which Meadow races through the school hallways with her handler in tow, and attacks the shooter (see Figure 9). The CCTEC superintendent and school board believe that Meadow adds a timely layer to school safety and security.²⁵⁹ According to Meadow's trainer, "there is nothing faster than a dog running down a hallway to gunfire. You got the look of an angel with the protection of the devil."²⁶⁰

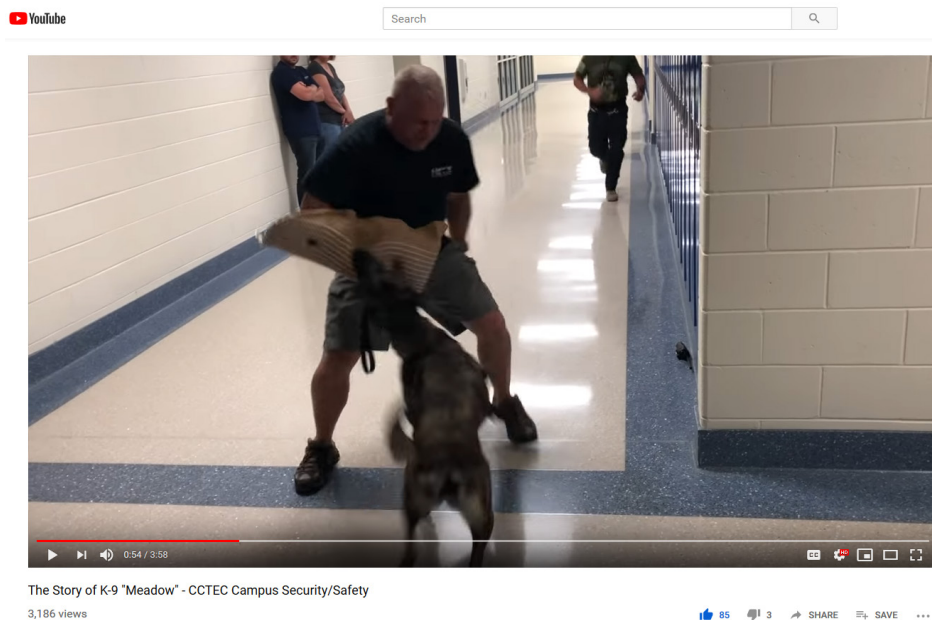


Figure 9. Gunshot Detection Dog during Active Shooter Training²⁶¹

²⁵⁷ Franklin.

²⁵⁸ CCTEC-Cumberland County Technical Education Center, "The Story of K-9 'Meadow'—CCTEC Campus Security/Safety," YouTube video, November 27, 2018, <https://www.youtube.com/watch?v=Xa0Cf5HnXOQ>.

²⁵⁹ Franklin, "Meet Meadow."

²⁶⁰ CCTEC, "The Story of K-9 'Meadow,'" 0:24–0:34.

²⁶¹ Source: CCTEC, 0:54.

V. TRYING IT OUT: THE OBSERVATIONAL STUDY

If a dog will not come to you after having looked you in the face, you should go home and examine your conscience.

—Woodrow Wilson

I conducted this observational study to demonstrate that a school resource officer (SRO) can benefit in many ways from having a dog for a partner. This is a theoretical observational study, which I hope will generate further interest and open the door to further studies.

The data on which this discussion is based are drawn from observations that occurred on May 2 and 3, 2019, during SRO patrols in three Colorado schools. The two participating SROs were never previously paired with a dog while patrolling the school facilities. I explained to them that I wanted to observe what happens when they have a dog as a partner, and both SROs were eager to participate. To this end, I solicited the support of a trained facility dog who works with a substance-abuse specialist and is already on the school district staff. I arranged a meeting with the facility dog's handler and the SRO to coordinate the patrol. After discussion, we concluded that it would be beneficial to observe the SRO and dog working together at a high school one day, followed by an elementary and middle school the next day. We chose three schools, discussed the visits with the principals, and, with their permission, we were ready to begin.

The purpose of this observational study was to first demonstrate that an SRO can partner with a dog and, second, to demonstrate that the dog generates interest from the students, draws them to the SRO, and encourages positive interactions between the parties. Finally, the study also sought to demonstrate that the dogs have calming effects on students. Overall, this study shows that having a dog around the school is a good thing.

A. SETTING

The high school observation occurred at Arapahoe County High School in Centennial, Colorado, about fifteen miles south of Denver. The school has approximately 2,200 students distributed from ninth to twelfth grade, 105 teachers, eight guidance counselors, and six administrators.²⁶² The Arapahoe County Sheriff's Office currently assigns two full-time SROs to the school.

The elementary school observation occurred at Moody Elementary School, located in Littleton, Colorado, about twelve miles south of Denver. The school's classes range from pre-kindergarten to the fifth grade, and there are approximately 390 students enrolled.²⁶³ There are sixty-two staff members at the school, which is composed of administration, teachers, counselors, and other operations staff.²⁶⁴ There is no full-time SRO assigned to the elementary school; however, the Arapahoe County Sheriff's Office and Littleton Police Department conduct regular school visits.

The middle school observation occurred at Goddard Middle School, also located in Littleton, Colorado. The school's classes range from grades six to eight, and there are approximately 740 students enrolled.²⁶⁵ There are seventy-one staff members, who serve in administrative, counseling, or teaching roles.²⁶⁶ The Littleton Police Department currently assigns one full-time SRO to the school.

²⁶² "School Profile," Littleton Public Schools, accessed May 6, 2019, <https://littletonpublicschools.net/schools/arapahoe-high-school/school-profile>.

²⁶³ "Moody Elementary School," GreatSchools.org, November 15, 2018, <https://www.greatschools.org/colorado/littleton/1117-Moody-Elementary-School/>.

²⁶⁴ "Staff Directory A-Z," Littleton Public Schools, accessed May 11, 2019, <https://littletonpublicschools.net/schools/ralph-moody/staff-directory-z>.

²⁶⁵ "Goddard Middle School," GreatSchools.org, accessed May 11, 2019, <https://www.greatschools.org/colorado/littleton/1108-Goddard-Middle-School/>.

²⁶⁶ "Staff: Alphabetical List," Littleton Public Schools, accessed May 11, 2019, <https://littletonpublicschools.net/schools/goddard-middle-school/alphabetical-list>.

B. PARTICIPANTS

There were three participants in the study: two SROs—who were selected based on their years of law enforcement experience and availability to participate in the demonstration—and a seasoned facility dog, who was selected because she was already on staff with the public school system.

SRO 1: Mark Edson began his law enforcement career in 1994. He possesses numerous law enforcement certifications, and specializes in community policing and all facets of school and campus safety. In 2012, Mark joined the Arapahoe County Sheriff's Office, where he now serves as an SRO and is assigned to cover several elementary schools. He is a member of the sheriff's office's hostage negotiation team and is their lead pilot and drone instructor. Mark is also the president of the Colorado Association of School Resource Officers and holds recognition as an SRO practitioner with the National Association of School Resource Officers.

SRO 2: Derek LaVelle began his law enforcement career as a police officer with Littleton Police Department in 2008, and is currently an SRO at the Goddard Middle School in Littleton, Colorado. He has a bachelor's degree in sociology and a master's in organizational leadership. Among his many roles, he has most notably been a field training instructor, SWAT operator, honor guard, and union president.

The dog: Lulu is an eight-year-old black Labrador retriever whose career began in a women's prison, where she was training to be a drug detection dog. Soon enough, Lulu made clear to her trainers that she was not at all interested in sniffing drugs; she then was retrained as a therapy dog, and she now specializes in comforting people in need. Today, Lulu is a facility dog (see Figure 10) in the Littleton Public School District.



Figure 10. Lulu's Employee ID

C. PROCEDURE

The data were collected through observations, photographs, and five interview questions emailed to the SROs after the demonstration. I conducted the observations in a non-manipulated, educational environment during a typical school day. I did not interact with any students and remained at a distance close enough to hear and document comments. I used a notebook to record samples of student and faculty comments, though the students and faculty remained anonymous. The data collection took place over five hours at the high school, two hours at the elementary school, and two hours at the middle school. I asked the SROs to simply go about their routine and do whatever they wanted to do with the dog. The SRO was free to move about the entire school campus, which included the playgrounds and parking lots. I told the SROs I would ask them a few questions after the demonstration; though the questions were predetermined, I did reveal them to the SROs ahead of time.

D. RESULTS

The demonstration yielded positive results at all three schools. The students, regardless of the age group, were receptive to the SRO and his canine partner. The same can be said about the reactions from the SROs.

1. Arapahoe High School

Upon arriving at Arapahoe High School, Lulu's handler provided a five-minute briefing for SRO Edson that covered her commands and some behaviors to monitor, such as the dog's interest in food or in kids that might be too aggressive. After that, Officer Edson started to make his rounds with Lulu as his partner. The students approached the officer almost immediately upon seeing him with the dog (see Figure 11). Officer Edson was in the cafeteria area, so there were a large number of students present. At first only a few approached, but rather quickly students came from all over the cafeteria to pet Lulu and to talk with the officer. The students petting Lulu were smiling, and speaking directly to her or to Officer Edson. Other students in the vicinity looked on with smiles and most eventually made their way over to the dog.



Figure 11. Lulu and Her SRO in the Arapahoe High Cafeteria

Officer Edson left the cafeteria and made his way down the school hallway during a change of class. Many students moved, undeterred, to their next classrooms, but several students also stopped to pet Lulu and spoke with Officer Edson. The students were smiling and ogling over Lulu, who proceeded to calmly lie down in the middle of the hallway (see

Figure 12). Some students stayed and engaged Lulu for several minutes, while others just stopped briefly; regardless, all the students were visibly happy. The students engaged Officer Edson in persistent dialogue, so much so that he had to remind several of them that they were going to be late for their next class if they did not get going.



Figure 12. Lulu and Her SRO Engaging with Students in the Hallway at Arapahoe High

Officer Edson continued through the hallways with Lulu by his side, and the student interactions continued as previously described. It was not just the students who approached them: several faculty members also petted Lulu and had a dialogue with Officer Edson. At one point, a student approached with a group of her friends and stated that she could not pet Lulu because she was allergic to dogs. Instead, she carried on a conversation with Officer Edson while her friends interacted with Lulu. After approximately two hours of constant interaction with the students and faculty, Officer Edson and Lulu (keeping with the aforementioned standards of practice for facility dogs) decided to take a break in the SRO's office for some downtime.

After the break, Officer Edson took Lulu with him outside one of the school entrances where students were gathered on the lawn, eating their lunches. Officer Edson walked among them, and the reaction from the students was the same. Some students engaged Lulu while others spoke with the SRO (see Figure 13). After making his rounds among the students outside, Officer Edson went back into the building and remained in the cafeteria area. Students continued to pet Lulu and speak with Officer Edson, and some of them were repeat visitors that simply could not stay away. Officer Edson left the cafeteria and resumed patrol of the halls before moving back outside near the sports fields. Two more hours transpired as Officer Edson continued to engage students while Lulu practiced her signature move of lying on her back and allowing students to rub her belly. The demonstration concluded after five hours at the school.

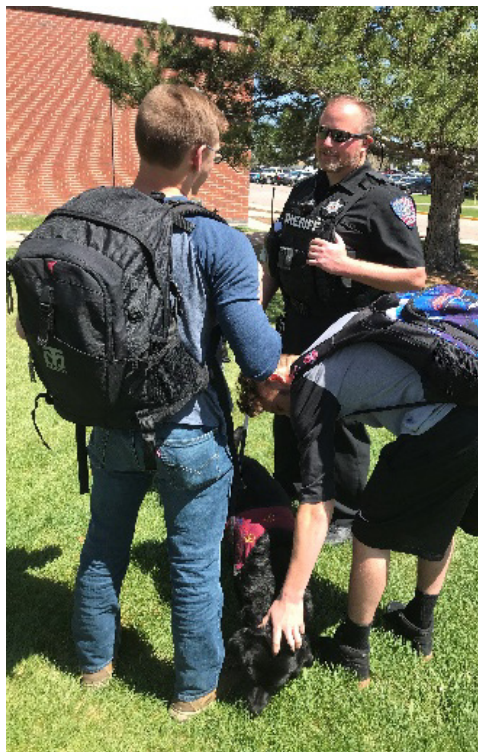


Figure 13. Lulu and Her SRO with Students outside Arapahoe High

Throughout the demonstration, Lulu’s demeanor was mellow. Her tail was wagging nonstop as students approached her, and she often flopped down on the ground and rolled over to allow everyone to rub her belly. Occasionally she was distracted by crumbs of food on the ground, but Officer Edson corrected this with a gentle tug of the leash. The students’ reactions were extremely positive toward both the SRO and Lulu; see Table 3 for some of their comments.

Table 3. Arapahoe High School Sample Comments, May 2, 2019

Type	Comment
Student	<i>This is the coolest thing ever.</i>
Student	<i>I already saw her twice today, that made my day.</i>
Student	<i>This is the best job for a dog.</i>
Student	<i>I absolutely love it.</i>
Student	<i>Petting this dog will change your day, yes!</i>
Student	<i>It makes our day like, a thousand times better.</i>
Faculty	<i>Oh, yes, this is great.</i>

2. Moody Elementary School

Upon arrival at Moody Elementary School, Officer Edson did not require another briefing, so he took Lulu right into the school. There were some students in line for lunch, and they immediately acknowledged the officer but did not immediately engage Lulu. After a few minutes of conversation with Officer Edson, one of the students asked if they could pet Lulu. After he permitted them, several of the students started stroking her, but the conversation remained consistent in the sense that the students were interested in the police officer. After a short time, Officer Edson moved on to a classroom that contained students with learning disabilities. The student reaction was immediate: they approached Lulu to pet her. As the students pet Lulu, Officer Edson engaged them in conversation. After a few minutes, he led the students to lunch (see Figure 14).



Figure 14. Lulu and Her SRO on the Way to Lunch with Students at Moody Elementary

After approximately thirty minutes, Officer Edson took Lulu outside to the playground where many of the students were having lunch. It did not take long for the students to notice, and they came from all over the playground to pet Lulu (see Figure 15), who used her signature move to get an endless supply of belly rubs. The students were smiling, chatting with the SRO, and petting Lulu. It was immediately apparent that the students were fascinated with Lulu; however, Officer Edson also received a fair amount of attention because the kids were excited by seeing a uniformed police officer.



Figure 15. Lulu on the Playground at Moody Elementary

Officer Edson and Lulu spent about two hours at the school. Lulu’s demeanor was the same as the previous day: she appeared mellow, her tail was wagging, and she was interested in letting every possible student pet her. She ignored one student who tugged on her tail, and Officer Edson intervened to stop the child’s behavior. Lulu obeyed all commands from her SRO and followed his lead. Again, the students were extremely interested in Lulu and Officer Edson, and their reactions were positive (see Table 4).

Table 4. Moody Elementary Sample Comments, May 3, 2019

Type	Comment
Student	<i>We love Lulu.</i>
Student	<i>This dog is so cute.</i>
Student	<i>She’s everybody’s friend.</i>
Faculty	<i>This is a wonderful idea.</i>
Faculty	<i>Thanks for coming to our school.</i>

3. Goddard Middle School

SRO LaVelle is assigned full time to Goddard Middle School, so he agreed to participate in the same demonstration. Again, Lulu's handler provided a quick briefing on Lulu's commands before Officer LaVelle went into the school with the dog, first visiting a classroom. The classroom seemed chaotic: students were away from their desks and chit-chatting around the room. When Officer LaVelle entered with Lulu, the room changed, and the students were immediately focused on the SRO and Lulu (see Figure 15). Most of the students came up to pet Lulu, a few hovered around and asked Officer LaVelle questions, and many smiles filled the room. After about five minutes, Officer LaVelle and Lulu moved on. At the end of the hallway, Officer LaVelle approached a group of students who were sitting against a wall, chatting. One of the students avoided Lulu, but the remaining two started petting and hugging her. Their reactions echoed the students at the previous two schools; they were happily engaging both Lulu and her SRO.

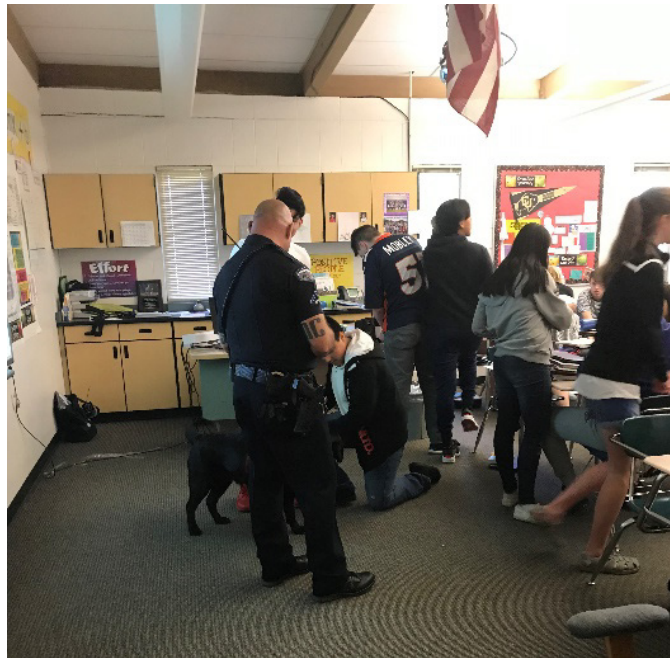


Figure 16. Lulu and Her SRO in a Goddard Middle School Classroom

Continuing on, Officer LaVelle visited a few more classrooms, and students came to pet Lulu and spoke with the officer. Back in the hallway, during a change of classes, Officer LaVelle made his way past the students. Many students were smiling, and many also asked if they could pet Lulu. When a student with autism approached them and began to pet Lulu, Officer LaVelle noted that the student had never previously spoken to him. Next, Officer LaVelle visited the faculty lounge. The faculty, too, smiled and chatted with Officer LaVelle about Lulu and other business. Finally, Officer LaVelle made his way to the lunch room. As with the previous visits, the students came from all over the place to visit with Lulu and the SRO (see Figure 16).



Figure 17. Lulu and Her SRO in the Goddard Middle School Cafeteria

Lulu spent approximately two hours with Officer LaVelle in the school. Again, Lulu’s demeanor was pleasant and mellow, and she was happy to oblige any affection from the students. Lulu also obeyed all commands from Officer LaVelle and followed his lead. The students were extremely interested in Lulu and engaged her and Officer LaVelle, and their reactions were mostly positive (see Table 5).

Table 5. Goddard Middle School Sample Comments, May 3, 2019

Type	Comment
Student	<i>Does that dog find drugs?</i>
Student	<i>I’m not a dog person.</i>
Student	<i>I love dogs. Aw!</i>
Faculty	<i>We need a dog.</i>
Faculty	<i>This is the happiest I’ve seen the kids in a long time.</i>

4. Follow-up Questions for SROs

At the conclusion of the demonstration, I asked the SROs to answer five questions; the questions, and the SROs' answers, are shown in Tables 6 and 7.

Table 6. Demonstration Questions and Answers—SRO Edson²⁶⁷

	Question	Answer
1	Can you describe your normal daily activities as an SRO without a canine partner?	<i>The School Resource Officer works as an Informal counsoler [sic], guest speaker and a law enforcement officer. Primarily responsible for the protection of the students and staff within our schools. The SRO starts their day before the busses arrive, checking vehicles in the parking lot, and looking for abnormalities around the building. When the busses arrive, [I] greet kids with a friendly face, looking for anything out of the ordinary as the students enter the building. The day might consist of pre-planned classes on digital citizenship or relationships, an unplanned marijuana violation, or a student contemplating suicide. Each day I go in and out of schools, give kids high-fives and put a friendly spin on a police officer working in a school. I work in nine elementary schools so each day for me is a bit different than the traditional SRO who is assigned to one building.</i>
2	Did your daily activities change in any way when the dog was present?	<i>Nothing in my daily activity changed due to having a dog by my side.</i>
3	Are the students and faculty engaging you more when the dog is present?	<i>I can not [sic] express how much more engagement I received having the dog, versus if I were alone. I was able to speak to many more students and staff due to the obvious reason of simply having a dog with me.</i>
4	Are the students and faculty avoiding you more when the dog is present?	<i>I did not witness any students avoiding me, however I was not looking for this.</i>
5	Did you make any concessions because the dog was present?	<i>Being that officer safety is always paramount, there were times when I noticed myself looking more at the dog than my surroundings. I do feel that this would change with proper handling training and experience.</i>

²⁶⁷ Adapted from Mark Edson, email to author, May 6, 2019.

Table 7. Demonstration Questions and Answers—SRO LaVelle ²⁶⁸

	Question	Answer
1	Can you describe your normal daily activities as an SRO without a canine partner?	<i>Provide physical security for students and staff by patrolling the hallways and school grounds. Handle anything from mental health issues (suicidal thoughts and or statements), harassment/bullying issues and social media issues. Interact with students and try and develop relationships with them personally with the intent to remove the stigma that Police are mean. Teach various classes.</i>
2	Did your daily activities change in any way when the dog was present?	<i>I wouldn't say they changed other than the fact I was walking around more inside the school to try and have the dog visible. I was still able to conduct my usual business.</i>
3	Are the students and faculty engaging you more when the dog is present?	<i>Absolutely. I had multiple kids come up to me who haven't spoken to me in three years. Multiple kids who have received citations from me were speaking with me as they engaged with the dog. Some kids with autism who have never spoken with me came up to me and the dog. What was surprising was the kid's [sic] did not overstay their welcome. They engaged the dog and I and left in a timely manner so as other kids could engage the dog. Another surprise was the calming affect [sic] it had on the teachers as well. Additionally, when I went into some classrooms you could instantly tell the dynamic changed from chaotic to peaceful.</i>
4	Are the students and faculty avoiding you more when the dog is present?	<i>I only had one student actively avoid me that I could tell. He and I have a good relationship so I believe he just wasn't a dog fan.</i>
5	Did you make any concessions because the dog was present?	<i>I don't believe so. I conducted myself with the kids and staff as I always would.</i>

²⁶⁸ Adapted from Derek LaVelle, email to author, May 22, 2019.

5. Assessment

Based on the findings of this observational study demonstrated conclusively that the dog had an overwhelmingly positive effect on many students. The recorded comments made by both students and faculty reflected mostly positive words like coolest, thanks, best, love, wonderful, and friend. The general absence of negative vernacular indicates there were very few, if any, who felt the dog's presence was a problem. A couple of students even verbalized that Lulu made their day better. The majority of the results were tremendously positive from the students, faculty, and SROs. At least one student did say they were "not a dog person," but like the other comments, it was made with a smile. One of the SROs also commented that the dog could be a distraction and potential officer safety concern. However, overall, bringing the dog into the school was a positive experience not only for students and faculty, but for the SRO as well.

VI. CONCLUSION

Dogs evolved with humankind; they are smart, and they understand people. This gives them an advantage for working in schools. SROs are good at what they do, but, as in every law enforcement role, they need all the help they can get. Table 8 shows common SRO duties, as prescribed by the National Association of School Resource Officers (NASRO), and indicates the possible added value of a dog partner.²⁶⁹

Table 8. SRO Duties that Could Be Improved with Dogs²⁷⁰

SRO Duty	Dog's Added Support
Drugs / Vaping	With a drug sniffing dog, the SRO could find concealed drugs or vaping devices.
Active Shooter	With an apprehension dog, the SRO could dispatch a dog to immediately engage the threat. The therapeutic aspects the dog provides might help the SRO detect stressors a potential shooter is enduring.
Weapons	With a gun sniffing dog, the SRO could find concealed weapons.
Fights	A police dog might serve as a deterrent, and the therapeutic qualities of a dog could defuse the situation.
Curfew and Loitering	With a dog, the SRO could locate students that might be hiding.
General Safety	A dog, together with an SRO, could further enhance students' perceptions of a safer campus.
Bullying	The dog adds emotional support in a way that only a dog could.
Counselor / Mentor	The dog is a conversation starter, or a common bond.
Suicide Intervention	The dog brings added emotional support.

²⁶⁹ Maurice Canady, Bernard James, and Janet Nease, *To Protect and Educate: The School Resource Officer and the Prevention of Violence in Schools* (Hoover, AL: National Association of School Resource Officers, 2012), 21–32, <https://nasro.org/cms/wp-content/uploads/2013/11/NASRO-To-Protect-and-Educate-nosecurity.pdf>.

²⁷⁰ Adapted from Canady, James, and Nease, 21–32.

SROs do not always have partners to help them out, and a dog is seemingly a perfect fit. Among the many challenges SROs face is balancing law enforcement with the sensitivities of an academic setting.²⁷¹ The SRO must try to avoid criminalizing everything, must address the root of students' problems, and must be sensitive to the stressors the students are facing.²⁷² The SRO must be a welcoming presence in the school and has to focus on building relationships with the faculty and students.²⁷³ Dogs already possess the qualities that can help SROs overcome the challenges they face. As in every profession, with some training, surely there is a dog that is right for the job.

A. CHALLENGES

Although therapy and police dogs are already working in schools, if they are to become a permanent fixture to enhance school safety, some challenges must be considered. Legal standing is one consideration, since lawsuits inevitably happen. The law generally allows for police dogs to go anywhere the police do; however, the police are always liable for the dog's actions.²⁷⁴ As previously mentioned, laws in place specifically protect service dogs, but not therapy dogs. One can argue that dogs providing emotional support are just as important as service dogs, so legislation should also accommodate them.²⁷⁵ Service dog training is far different than therapy dog training, as are the certifications that come with it; thus, standardizing certifications could add greater professionalism to the latter.²⁷⁶ A standard certification process ensures the dog has been trained by a licensed professional,

²⁷¹ "Violence Prevention in Schools: Enhancement through Law Enforcement Partnerships," FBI, March 2017, 3, <https://www.fbi.gov/file-repository/violence-prevention-in-schools-march-2017.pdf/view>.

²⁷² FBI, 4.

²⁷³ FBI, 5.

²⁷⁴ Natasha Dobrott, "Excessive Force, Police Dogs, and the Fourth Amendment in the Ninth Circuit: The Use of Summary Judgement in *Lowry v. City of San Diego*," *Boston College Law Review* 59, no. 9 (March 19, 2018).

²⁷⁵ Joshua T Walthall, "The Dog Days in American Public Schools: Observations and Suggestions Regarding the Laws, Challenges and Amazing Benefits of Allowing Service Animals to Accompany Children with Special Needs to School," *Campbell Law Review* 35 (2012): 25, <https://scholarship.law.campbell.edu/cgi/viewcontent.cgi?article=1565&context=clr>.

²⁷⁶ Walthall, 169–70.

as is a requirement for the legal protection of service dogs. Furthermore, regulations that define the tasks of service dogs could be updated to include the emotional support and comforting capabilities of a therapy dog.²⁷⁷ Finally, regulations should dictate that a working professional is responsible for managing the dog. Adjusting laws to ensure dogs have a more permanent place in schools is just one consideration among many.

Another problem to consider is the possibility that the dog could be responsible for the spread of some diseases. Although research has demonstrated that dogs do not spread a variety of diseases, zoonoses, or zoonotic diseases, are those “caused by infections that spread from between animals and people.”²⁷⁸ Rabies is one example of zoonosis that most people are familiar with, and dogs are responsible for its spread. Yet, today, rabies is hardly an issue because dogs most often receive vaccinations when they are puppies and throughout their lives. Rabies, however, is not the only zoonotic disease associated with dogs. One study found that 25.6 percent of dogs carry some type of intestinal parasite that could spread to humans.²⁷⁹ But preventative practices in modern veterinarian medicine, via the application of parasite controls, and the assurance of vaccinations by owners help to curb most zoonoses in dogs.²⁸⁰ In reality, dogs rarely make people sick; it is people who make people sick.²⁸¹ According to the Centers for Disease Control and Prevention (CDC), many children are already exposed to a variety of animals in schools and can avoid zoonotic diseases by simply washing their hands, avoiding feces, and by keeping their surroundings

²⁷⁷ Walthall, 170.

²⁷⁸ C.N.L. Macpherson, F.X. Meslin, and A.I. Wandler, *Dogs, Zoonoses, and Public Health*, 2nd ed. (Oxford and New York: CABI Publishing, 2012); “Zoonotic Diseases,” CDC, July 14, 2017, <https://www.cdc.gov/onehealth/basics/zoonotic-diseases.html>.

²⁷⁹ M.A Ibrahim et al., “Role of Pet Dogs in Transmitting Zoonotic Intestinal Parasites in Egypt,” *Asian Journal of Animal and Veterinary Advances* 11 (2016): 341–49, <https://doi.org/10.3923/ajava.2016.341.349>.

²⁸⁰ Elly F. Hiby and Lex R. Hiby, “Dog Population Management,” in *The Domestic Dog: Its Evolution, Behavior, and Interactions with People*, 2nd ed., ed. James Serpell (Cambridge, UK: Cambridge University Press, 2017), 385–403, www.cambridge.org/9781107699342.

²⁸¹ “Can Your Dog or Cat Make You Sick?” Berkeley Wellness, accessed May 13, 2019, <http://www.berkeleywellness.com/healthy-community/contagious-disease/slideshow/can-your-dog-or-cat-make-you-sick>.

clean.²⁸² In the end, even though dogs can spread disease, with proper care, the risk is minimal.

Another problem is that students may be afraid to approach the dog out of fear of being bitten. According to the CDC, dogs bite about 4.7 million people per year, which equates to about one out of every sixty-nine people.²⁸³ Notably, people are either uninjured or only slightly injured in 81 percent of all dog bite incidents.²⁸⁴ Unfortunately, in the United States, dog bites are one of the costliest public health issues; children are most often the victims, and about half of them are bitten before the age of twelve.²⁸⁵ This appears rather damning for dogs in general. However, statistically speaking, “You are 573 times more likely to get killed by a car and 3 times more likely to get struck by lightning as be killed by a dog.”²⁸⁶ Many interrelated factors cause canine aggression, including biological factors (breed, gender, etc.), the dog’s socialization with people and other animals, the dog’s home environment and prior history of interactions with people (like abuse), and the victim’s actions.²⁸⁷ Furthermore, some breeds of dogs bite more frequently than others; the top five biters are the Chihuahua, bulldog, pit bull, German shepherd, and Australian shepherd.²⁸⁸ One cannot discount dog bites, but taking all factors into consideration, it is unlikely that a trained facility dog will bite anyone. On the other hand, police dogs are selected and trained to bite when directed, and not doing so means having failed at the job.

²⁸² “Animals in Schools and Daycare Settings,” CDC, August 15, 2018, <https://www.cdc.gov/features/animalsinschools/index.html>.

²⁸³ “Dog Bite Statistics (How Likely Are You to Get Bit?),” Canine Journal, August 14, 2018, <https://www.caninejournal.com/dog-bite-statistics/>.

²⁸⁴ Canine Journal.

²⁸⁵ Hare and Woods, *The Genius of Dogs*, 208–209.

²⁸⁶ Hare and Woods, 213.

²⁸⁷ Randall Lockwood, “Ethology, Ecology, and Epidemiology of Canine Aggression,” in *The Domestic Dog: Its Evolution, Behavior and Interactions with People*, 2nd ed., ed. James Serpell (Cambridge, UK: Cambridge University Press, 2017), 160–77.

²⁸⁸ “11 Dog Breeds That Bite the Most,” Puppy Lover News, accessed May 13, 2019, <https://puppylovernews.com/11-dog-breeds-that-bite-the-most/>.

Another issue is the possibility that a student cannot be anywhere near a dog because of an allergy. In the United States, researchers estimate that three in every ten people have some sort of allergy to cats or dogs.²⁸⁹ The two main culprits of an allergic reaction are the dog's hair and saliva.²⁹⁰ Due to the vast number of people who own dogs and have dog hair on their clothing, dog allergens are found in almost every indoor facility.²⁹¹ Thus, dog allergens are most likely in schools regardless of whether a dog is present or not. One way for a student to combat an allergic reaction would simply be to not touch the dog.²⁹² School administrators can acquire information from parents about students' pet allergies and then ensure the dog avoids them.²⁹³ Another solution—one that would benefit the students and the dog as well—would be to wash the dog regularly.²⁹⁴ Medical solutions, which include exposure therapy to reduce allergies at an early age, as well as regular work on allergy vaccination advancements, may eliminate any risk.²⁹⁵ Finally, according to the AKC, several breeds of dogs are quasi-hypoallergenic because they shed less and are probably the best choice for allergy sufferers who want a dog.²⁹⁶ Unfortunately, researchers have found no evidence to support the idea that hypoallergenic

²⁸⁹ “Pet Allergy: Are You Allergic to Dogs or Cats?” Asthma and Allergy Foundation of America, accessed May 14, 2019, <https://www.aafa.org/pet-dog-cat-allergies/>.

²⁹⁰ Eva Zahradnik and Monika Raulf, “Animal Allergens and Their Presence in the Environment,” *Frontiers in Immunology* 5 (2014), <https://doi.org/10.3389/fimmu.2014.00076>.

²⁹¹ Zahradnik and Raulf.

²⁹² Sanny K. Chan and Donald Y. M. Leung, “Dog and Cat Allergies: Current State of Diagnostic Approaches and Challenges,” *Allergy, Asthma & Immunology Research* 10, no. 2 (2018): 97, <https://doi.org/10.4168/aair.2018.10.2.97>.

²⁹³ Matt Zalaznick, “Best (Practices) in Show: Therapy Dogs in Schools,” District Administration, April 8, 2019, <https://districtadministration.com/best-practices-show-therapy-dogs-in-schools/>.

²⁹⁴ Tessa Hodson et al., “Washing the Dog Reduces Dog Allergen Levels, but the Dog Needs to Be Washed Twice a Week,” *Journal of Allergy and Clinical Immunology* 103, no. 4 (April 1999): 581–85, [https://doi.org/10.1016/S0091-6749\(99\)70227-7](https://doi.org/10.1016/S0091-6749(99)70227-7).

²⁹⁵ Chan and Leung, “Dog and Cat Allergies.”

²⁹⁶ “Hypoallergenic Dogs,” American Kennel Club, accessed May 14, 2019, <https://www.akc.org/dog-breeds/hypoallergenic-dogs/>.

dogs actually produce fewer allergens than any other breed of dog.²⁹⁷ Even though dog allergies can be a problem, they certainly are not a deal breaker. A few simple tactics like avoiding the children with allergies and keeping the dog clean are examples of how to remedy allergy issues.

Not everyone loves dogs, and sometimes these feelings are rooted in cultural beliefs. Many people revere dogs and elevate them to a quasi-human status, but not all cultures concur.²⁹⁸ Some societies, albeit few, still believe it is acceptable to eat a dog.²⁹⁹ In the Caribbean, people see dogs as a nuisance; dogs do not receive proper veterinary care, and they are often left to wander the streets.³⁰⁰ Other cultures even believe that dogs are evil, and if one enters their home, it becomes a religious catastrophe.³⁰¹ Many Muslims, for various reasons, do not view dogs as suitable companions for people.³⁰² Thus, if dogs are here to help students, cultural beliefs may render dogs of no assistance to certain students.

Just as cultural differences affect the way people allow dogs into their lives, a fear or perception could also negatively impact someone. The fear of dogs, or cynophobia, is medically defined as “[a]n abnormal and persistent fear of dogs. Sufferers of this fear experience anxiety even though they realize that most dogs are no threat.”³⁰³ Many things can cause abnormal fears—perhaps, in this case, it may have been a traumatic experience

²⁹⁷ Doris W. Vredegoor et al., “Can F 1 Levels in Hair and Homes of Different Dog Breeds: Lack of Evidence to Describe Any Dog Breed as Hypoallergenic,” *Journal of Allergy and Clinical Immunology* 130, no. 4 (October 2012): 904–909.e7, <https://doi.org/10.1016/j.jaci.2012.05.013>.

²⁹⁸ James Serpell, “From Paragon to Pariah: Cross-Cultural Perspectives on Attitudes to Dogs,” in *The Domestic Dog: Its Evolution, Behavior, and Interactions with People*, 2nd ed., ed. James Serpell (Cambridge, UK: Cambridge University Press, 2017), 300–315.

²⁹⁹ Serpell.

³⁰⁰ Hare and Woods, *The Genius of Dogs*, 255–56.

³⁰¹ Hare and Woods, 255.

³⁰² Hugh Fitzgerald, “Why Do So Many Muslims Hate Dogs?” *New English Review*, May 2017, https://www.newenglishreview.org/blog_direct_link.cfm?blog_id=65897.

³⁰³ William Shiel Jr., “Medical Definition of Fear of Dogs,” MedicineNet, December 11, 2018, <https://www.medicinenet.com/script/main/art.asp?articlekey=12273>.

with a dog—but most phobias are treatable.³⁰⁴ For instance, after one three-hour therapy and education session, many children who were previously unable to get near a dog end up petting a dog or even taking one for a walk.³⁰⁵ Something as simple as watching a video or reading a book about dogs can also reduce the fear of dogs.³⁰⁶ Furthermore, having a dog in school may in itself act as a desensitizing mechanism for kids who are afraid, and ultimately could lead to a lessening or even elimination of the fear.³⁰⁷ The fear of dogs is indeed a real thing, but the solution to this may be in the school itself. Through education and proper exposure, one can overcome the fear of dogs.

B. FINAL THOUGHTS

How can a dog's security instincts and therapeutic abilities improve current school safety initiatives? The possibilities are seemingly endless. Physical-security measures such as cameras, metal detectors, bullet-proof glass, fences, and the like have their place, but they can create an unpleasant, prison-like setting. If the problem is with physical security, a specially trained dog can help. For example, instead of having students pass through metal detectors or be subject to detection wands, the school could have a friendly, "kid-like," but extremely effective Labrador retriever sniff around; this creates a far less stressful experience for students. Beyond physical security, a dog's therapeutic capabilities can also have a meaningful impact on school safety and security. Too often, dogs are brought in to comfort students after a traumatic event, but then the dogs leave. Students can experience stressors at any time, so having a stress reliever in the form of a furry companion on the school staff seems logical.

³⁰⁴ Sadie F. Dingfelder, "Fighting Children's Fears, Fast," *Monitor on Psychology* 36, no. 7 (August 2005), <https://www.apa.org/monitor/julaug05/fighting>.

³⁰⁵ Dingfelder.

³⁰⁶ Stephen Luntz, "Fear of Dogs Reduced by Video," *Australasian Science* 34, no. 8 (2013): 14–15, <http://search.proquest.com/docview/1436032797/>.

³⁰⁷ Michael Miller, "Ask the Doctor: How Does Someone Overcome Fear of Dogs?" *The Harvard Mental Health Letter*, May 1, 2010, <http://search.proquest.com/docview/1370197649/>.

Predicting school violence is difficult if not impossible, but threat assessment approaches can help. An essential part of the U.S. Secret Service’s threat assessment model stresses the importance of developing a positive relationship with students who are at high risk for violence.³⁰⁸ The USSS National Threat Assessment Center maintains, “When Teams have established this rapport, parents or guardians may be more likely to share their own concerns, and the students may be more forthcoming about frustrations, needs, goals, or plans.”³⁰⁹ SROs must find a way to build rapport with all students, which is without a doubt a challenging endeavor. For a variety of reasons—e.g., feeling intimidated by the uniform and gun, or adults in general—many students may be hesitant to approach an SRO; the SRO might likewise not engage the students. The dog’s therapeutic qualities solve this problem; after all, most dogs are experts at human relations. As demonstrated in the observational study, the students end up coming to the dog and naturally engage the SRO in conversation. Essentially, the dog is a premier tool for building rapport, and there is no reason why an SRO should not have this tool at his disposal.

It is naïve to assume there is a way to completely eradicate school violence. Current safety and security initiatives help, but are not flawless. If experts suggest that all resources have been exhausted, and one of those was not a dog, then a possible solution remains. Dogs—with their police skills and therapeutic capabilities—mean a practical solution to reduce school violence remains in the balance.

³⁰⁸ Alathari et al., *Enhancing School Safety Using a Threat Assessment Model*, 8.

³⁰⁹ Alathari et al., 8.

LIST OF REFERENCES

- Alathari, Lina, Ashley Blair, Catherine Camilletti, Steven Driscoll, Diana Drysdale, Jeffrey McGarry, and Amanda Snook. *Enhancing School Safety Using a Threat Assessment Model: An Operational Guide for Preventing School Violence*. Washington, DC: U.S. Secret Service, July 2018. https://www.secretservice.gov/data/protection/ntac/USSS_NTAC_Enhancing_School_Safety_Guide_7.11.18.pdf.
- Albuquerque, Natalia, Kun Guo, Anna Wilkinson, Carine Savalli, Emma Otta, and Daniel Mills. "Dogs Recognize Dog and Human Emotions." *Biology Letters* 12, no. 1 (January 2016). <https://doi.org/10.1098/rsbl.2015.0883>.
- American Kennel Club. "AKC Recognized Therapy Dog Organizations." Accessed April 20, 2019. <https://www.akc.org/sports/title-recognition-program/therapy-dog-program/therapy-dog-organizations/>.
- . "AKC Therapy Dog Program." Accessed April 20, 2019. <https://www.akc.org/products-services/training-programs/akc-therapy-dog-program/>.
- . "Dog Breeds—Types of Dogs." Accessed April 6, 2019. <https://www.akc.org/dog-breeds/>.
- . "Hypoallergenic Dogs." Accessed May 14, 2019. <https://www.akc.org/dog-breeds/hypoallergenic-dogs/>.
- Asthma and Allergy Foundation of America. "Pet Allergy: Are You Allergic to Dogs or Cats?" Accessed May 14, 2019. <https://www.aafa.org/pet-dog-cat-allergies/>.
- Bakeman, Jessica. "Meet The Therapy Dogs—and One Pig—Back by Popular Demand at Stoneman Douglas." WLRN, September 3, 2018. <https://www.wlrn.org/post/meet-therapy-dogs-and-one-pig-back-popular-demand-stoneman-douglas>.
- Berkeley Wellness. "Can Your Dog or Cat Make You Sick?" Accessed May 13, 2019. <http://www.berkeleywellness.com/healthy-community/contagious-disease/slideshow/can-your-dog-or-cat-make-you-sick>.
- Berns, Gregory. *How Dogs Love Us: A Neuroscientist and His Adopted Dog Decode the Canine Brain*. Seattle, WA: Lake Union Publishing, 2013.
- Bhattacharjee, Debottam, Shubhra Sau, and Anindita Bhadra. "Free-Ranging Dogs Understand Human Intentions and Adjust Their Behavioral Responses Accordingly." *Frontiers in Ecology and Evolution* 6 (December 21, 2018): 1–9. <https://doi.org/10.3389/fevo.2018.00232>.

- Brady, Kevin P., Sharon Balmer, and Deinya Phenix. "School-Police Partnership Effectiveness in Urban Schools: An Analysis of New York City's Impact Schools Initiative." *Education and Urban Society* 39, no. 4 (August 2007): 455–78. <https://doi.org/10.1177/0013124507302396>.
- Bromley, Susan. "Brighton Schools Plan to Have Therapy Dogs in Every Building by Spring." *Livingston Daily*, October 11, 2018. <https://www.livingstondaily.com/story/news/local/community/brighton/2018/10/11/brighton-schools-plan-have-therapy-dogs-every-building-spring/1582270002/>.
- Brown, Ben. "Understanding and Assessing School Police Officers: A Conceptual and Methodological Comment." *Journal of Criminal Justice* 34, no. 6 (November 2006): 591–604. <https://doi.org/10.1016/j.jcrimjus.2006.09.013>.
- Canady, Maurice. *Standards and Best Practices for School Resource Officer Programs*. Hoover, AL: National Association of School Resource Officers, 2018. <https://nasro.org/cms/wp-content/uploads/2013/11/NASRO-Standards-and-Best-Practices.pdf>.
- Canady, Maurice, Bernard James, and Janet Nease. *To Protect and Educate: The School Resource Officer and the Prevention of Violence in Schools*. Hoover, AL: National Association of School Resource Officers, 2012. <https://nasro.org/cms/wp-content/uploads/2013/11/NASRO-To-Protect-and-Educate-nosecurity.pdf>.
- Canine Companions for Independence. "Facility Dogs." Accessed April 20, 2019. <http://www.cci.org/assistance-dogs/Our-Dogs/facility-dogs.html>.
- Canine Journal. "Dog Bite Statistics (How Likely Are You to Get Bit?)." August 14, 2018. <https://www.caninejournal.com/dog-bite-statistics/>.
- Caras, Roger A. *A Celebration of Dogs*. New York, NY: Times Books, 1982.
- CCTEC-Cumberland County Technical Education Center. "The Story of K-9 'Meadow'—CCTEC Campus Security/Safety." YouTube video, November 27, 2018. <https://www.youtube.com/watch?v=Xa0Cf5HnXOQ>.
- Centers for Disease Control and Prevention (CDC). "Animals in Schools and Daycare Settings." August 15, 2018. <https://www.cdc.gov/features/animalsinschools/index.html>.
- . "Understanding School Violence." 2016. https://www.cdc.gov/violenceprevention/pdf/School_Violence_Fact_Sheet-a.pdf.
- . "Zoonotic Diseases." July 14, 2017. <https://www.cdc.gov/onehealth/basics/zoonotic-diseases.html>.

- Chan, Sanny K., and Donald Y. M. Leung. "Dog and Cat Allergies: Current State of Diagnostic Approaches and Challenges." *Allergy, Asthma & Immunology Research* 10, no. 2 (2018): 97. <https://doi.org/10.4168/aair.2018.10.2.97>.
- Clear the Shelters. "Parkland High School Gets Official Therapy Dog to Help Shooting Survivors." July 23, 2018. <http://www.cleartheshelters.com/Marjory-Stoneman-Douglas-Librarian-Gifted-Therapy-Dog-488683611.html>.
- Clutton-Brock, Juliet. "Origins of the Dog: The Archaeological Evidence." In *The Domestic Dog: Its Evolution, Behavior and Interactions with People*, 2nd ed., edited by James Serpell, 7–21. Cambridge, UK: Cambridge University Press, 2017. www.cambridge.org/9781107699342.
- Collins, Jeff. "45% of Teens Say They're Stressed 'All the Time,' Turn to Online Resources and Apps for Help Says Poll on Stress and Mental Health." *Globe Newswire*, February 21, 2018. <http://www.globenewswire.com/news-release/2018/02/21/1372739/0/en/45-of-Teens-Say-They-re-Stressed-All-the-Time-Turn-to-Online-Resources-and-Apps-for-Help-Says-Poll-on-Stress-and-Mental-Health.html>.
- Cooper, Anderson. "The Smartest Dog in the World." CBS, August 6, 2018. <https://www.cbsnews.com/news/smart-dog-anderson-cooper-60-minutes-chaser-8-16-18/>.
- Coren, Stanley. "Which Emotions Do Dogs Actually Experience?" *Modern Dog Magazine*, accessed June 10, 2019. <https://moderndogmagazine.com/articles/which-emotions-do-dogs-actually-experience/32883>.
- Cowley, Stacy. "Marijuana Legalization Threatens These Dogs' Collars." *New York Times*, November 24, 2018. <https://www.nytimes.com/2018/11/24/business/marijuana-legalization-police-dogs.html>.
- Cox, John Woodrow, and Steven Rich. "Scarred by School Shootings." *Washington Post*, March 25, 2018. <https://www.washingtonpost.com/graphics/2018/local/us-school-shootings-history/>.
- Crawford, Charles, and Ronald Burns. "Preventing School Violence: Assessing Armed Guardians, School Policy, and Context." *Policing: An International Journal of Police Strategies & Management* 38, no. 4 (November 2015): 631–47. <https://doi.org/10.1108/PIJPSM-01-2015-0002>.
- . "Reducing School Violence: Considering School Characteristics and the Impacts of Law Enforcement, School Security, and Environmental Factors." *Policing: An International Journal of Police Strategies & Management* 39, no. 3 (August 2016): 455–77. <https://doi.org/10.1108/PIJPSM-05-2016-0061>.
- Current Events*. "Dog Fight." 105, no. 13 (2005): 3.

- Daus, Ted. "Gun Dogs: The Rise of Firearms-Sniffing K-9s." *PoliceOne*, April 15, 2011. <https://www.policeone.com/police-products/firearms/articles/3468167-Gun-Dogs-The-rise-of-firearms-sniffing-K-9s/>.
- Davis, Simon J. M., and Francois R. Valla. "Evidence for Domestication of the Dog 12,000 Years Ago in the Natufian of Israel." *Nature* 276, no. 5688 (December 1, 1978): 608–10. <https://doi.org/10.1038/276608a0>.
- Devlin, Deanna N., and Denise C. Gottfredson. "The Roles of Police Officers in Schools: Effects on the Recording and Reporting of Crime." *Youth Violence and Juvenile Justice* 16, no. 2 (April 2018): 208–23. <https://doi.org/10.1177/1541204016680405>.
- Dingfelder, Sadie F. "Fighting Children's Fears, Fast." *Monitor on Psychology* 36, no. 7 (August 2005). <https://www.apa.org/monitor/julaug05/fighting>.
- Dobrott, Natasha. "Excessive Force, Police Dogs, and the Fourth Amendment in the Ninth Circuit: The Use of Summary Judgement in *Lowry v. City of San Diego*." *Boston College Law Review* 59, no. 9 (March 19, 2018).
- Eims, Penny. "Ohio High School Just Welcomed Their Own Therapy Dog." *ShelterMe.TV*, March 23, 2018. <https://shelterme.tv/news/ohio-high-school-just-welcomed-their-own-therapy-dog/>.
- FBI. "Therapy Dog Program a First for the Bureau." April 27, 2012. http://www.fbi.gov/news/stories/2012/april/therapy-dog_042712.
- . "Violence Prevention in Schools: Enhancement through Law Enforcement Partnerships." March 2017. <https://www.fbi.gov/file-repository/violence-prevention-in-schools-march-2017.pdf/view>.
- Fedor, Jill. "Animal-Assisted Therapy Supports Student Connectedness." *NASN School Nurse*, June 6, 2018, 1–3. <https://doi.org/10.1177/1942602X18776424>.
- Fehler, Peter. "FAQs." National Police Dog Foundation, accessed May 4, 2019. <https://nationalpolicedogfoundation.org/faqs/>.
- Feinberg Consulting. "Therapy Dogs—The Different Types & Their Benefits." May 8, 2018. <https://feinbergconsulting.com/therapy-dogs-the-different-types-and-their-benefits/>.
- Fiegl, Amanda. "The Healing Power of Dogs." *National Geographic*, December 21, 2012. <https://news.nationalgeographic.com/news/2012/12/121221-comfort-dogs-newtown-tragedy-animal-therapy/>.

- FindLaw. "Using Drug-Sniffing Dogs and Canine Units." Accessed May 5, 2019. <https://education.findlaw.com/student-rights/using-drug-sniffing-dogs-and-canine-units.html>.
- Finley, Katie. "What Do Police Dogs Do?" American Kennel Club, June 30, 2017. <https://www.akc.org/expert-advice/lifestyle/what-do-police-dogs-do/>.
- Fitzgerald, Hugh. "Why Do So Many Muslims Hate Dogs?" New English Review, May 2017. https://www.newenglishreview.org/blog_direct_link.cfm?blog_id=65897.
- Fitzsimmons, Paula. "The Inspiring Story of a Police Officer and Her K-9 Partner." Pet Central, June 7, 2017. <https://petcentral.chewy.com/pet-parenting-pet-stories-inside-the-life-of-a-k9-police-dog/>.
- Flanagan, Linda. "Making Comfort Dogs an Everyday Part of School." KQED, February 26, 2018. <https://www.kqed.org/mindshift/50580/making-comfort-dogs-an-everyday-part-of-school>.
- Flanagan, Shannon. "Alliance Middle School Adds Canine Counselors." *Akron Beacon Journal*, November 6, 2018. <https://www.ohio.com/news/20181106/alliance-middle-school-adds-canine-counselors>.
- Franklin, Chris. "Meet Meadow, the First K-9 Dog on Patrol at an NJ High School." NJ.com, March 9, 2019. <https://www.nj.com/cumberland/2019/03/meet-meadow-the-first-k-9-dog-on-patrol-at-an-nj-high-school.html>.
- Garcia, Crystal A. "School Safety Technology in America: Current Use and Perceived Effectiveness." *Criminal Justice Policy Review* 14, no. 1 (March 2003): 30–54. <https://doi.org/10.1177/0887403402250716>.
- Germonpré, Mietje, Martina Lázničková-Galetová, and Mikhail V. Sablin. "Palaeolithic Dog Skulls at the Gravettian Předmostí Site, the Czech Republic." *Journal of Archaeological Science* 39, no. 1 (January 2012): 184–202. <https://doi.org/10.1016/j.jas.2011.09.022>.
- Gollayan, Christian. "These Brave Police Dogs Are True Heroes." *New York Post*, March 7, 2017. <https://nypost.com/2017/03/07/these-brave-police-dogs-are-true-heroes/>.
- Goodavage, Maria. *Secret Service Dogs: The Heroes Who Protect the President of the United States*. New York, NY: Dutton, 2016.
- GreatSchools.org. "Goddard Middle School." Accessed May 11, 2019. <https://www.greatschools.org/colorado/littleton/1108-Goddard-Middle-School/>.
- . "Moody Elementary School." November 15, 2018. <https://www.greatschools.org/colorado/littleton/1117-Moody-Elementary-School/>.

- Hare, Brian, and Michael Tomasello. "Domestic Dogs (*Canis Familiaris*) Use Human and Conspecific Social Cues to Locate Hidden Food." *Journal of Comparative Psychology* 113, no. 2 (June 1999): 173–77. <https://doi.org/10.1037/0735-7036.113.2.173>.
- Hare, Brian, and Vanessa Woods. *The Genius of Dogs: How Dogs Are Smarter Than You Think*. New York, NY: Penguin, 2013.
- Hero Dog Awards. "Dax—Law Enforcement / Arson." Accessed July 18, 2019. <http://herodogawards.org/dog/dax-2019/>.
- Hart, Benjamin L., and Lynette A. Hart. "Breed and Gender Differences in Dog Behavior." In *The Domestic Dog: Its Evolution, Behavior, and Interactions with People*, 2nd edition, edited by James Serpell, 118–32. Cambridge, UK: Cambridge University Press, 2017. www.cambridge.org/9781107699342.
- Heberlein, Marianne T. E., Marta B. Manser, and Dennis C. Turner. "Deceptive-Like Behaviour in Dogs (*Canis Familiaris*)." *Animal Cognition* 20, no. 3 (May 2017): 511–20. <https://doi.org/10.1007/s10071-017-1078-6>.
- Heid, Markham. "Dogs at the Head of the Class." In *How Dogs Think: Inside the Canine Mind*, TIME Special Edition. New York, NY: TIME, 2018.
- Helton, William S., editor. *Canine Ergonomics: The Science of Working Dogs*. Boca Raton, FL: CRC Press/Taylor & Francis, 2009.
- Hiby, Elly F., and Lex R. Hiby. "Dog Population Management." In *The Domestic Dog: Its Evolution, Behavior, and Interactions with People*, 2nd ed., edited by James Serpell, 385–403. Cambridge, UK: Cambridge University Press, 2017. www.cambridge.org/9781107699342.
- Hirschfield, Paul J. "Preparing for Prison? The Criminalization of School Discipline in the USA." *Theoretical Criminology* 12, no. 1 (February 2008): 79–101. <https://doi.org/10.1177/1362480607085795>.
- Hodson, Tessa, Adnan Custovic, Angela Simpson, Martin Chapman, Ashley Woodcock, and Rosalind Green. "Washing the Dog Reduces Dog Allergen Levels, but the Dog Needs to Be Washed Twice a Week." *Journal of Allergy and Clinical Immunology* 103, no. 4 (April 1999): 581–85. [https://doi.org/10.1016/S0091-6749\(99\)70227-7](https://doi.org/10.1016/S0091-6749(99)70227-7).
- Hole, Frank, and Cherra Wyllie. "The Oldest Depictions of Canines and a Possible Early Breed of Dog in Iran." *Paléorient* 33, no. 1 (2007): 175–85. <https://doi.org/10.3406/paleo.2007.5213>.
- Home Guide. "2019 Dog Training Costs." Accessed May 4, 2019. <https://homeguide.com/costs/dog-training-cost>.

- Hopegood, Rosie. "Police Dog Risked His Life to Save Officer." *Mirror*, August 3, 2018. <https://www.mirror.co.uk/news/real-life-stories/police-dog-risked-life-save-12863160>.
- Hornor, Gail. "Bullying: What the PNP Needs to Know." *Journal of Pediatric Health Care* 32, no. 4 (July 2018): 399–408. <https://doi.org/10.1016/j.pedhc.2018.02.001>.
- Ibrahim, M.A, K.A. Gihan, S.M. Aboelhadid, and M.M. Abdel-Rahim. "Role of Pet Dogs in Transmitting Zoonotic Intestinal Parasites in Egypt." *Asian Journal of Animal and Veterinary Advances* 11 (2016): 341–49. <https://doi.org/10.3923/ajava.2016.341.349>.
- Jacobs, Melinda. "Service Animals in Schools: Get Ready for Dogs and Horses in Your School!" *School Transportation News*, 2011. <https://www.stnonline.com/images/editorial/pdfs/mjacobs-service-animals-school.pdf>.
- Jennings, Wesley G., David N. Khey, Jon Maskaly, and Christopher M. Donner. "Evaluating the Relationship between Law Enforcement and School Security Measures and Violent Crime in Schools." *Journal of Police Crisis Negotiations* 11, no. 2 (January 2011): 109–24. <https://doi.org/10.1080/15332586.2011.581511>.
- Klein, Betsy. "Trump Calls Working Dogs 'the Greatest Equipment in the World.'" CNN, April 24, 2019. <https://www.cnn.com/2019/04/24/politics/donald-trump-dogs-equipment-opioids/index.html>.
- Kluger, Jeffrey. *How Dogs Think: Inside the Canine Mind*, TIME Special Edition. New York, NY: TIME, 2018.
- Knapton, Sarah. "Dogs Understand What We Say and How We Say it, Scientists Find." *Telegraph*, August 30, 2016. <https://www.telegraph.co.uk/science/2016/08/30/dogs-understand-what-we-say-and-how-we-say-it-scientists-find/>.
- Larson, G., E. K. Karlsson, A. Perri, M. T. Webster, S. Y. W. Ho, J. Peters, P. W. Stahl et al. "Rethinking Dog Domestication by Integrating Genetics, Archeology, and Biogeography." *Proceedings of the National Academy of Sciences* 109, no. 23 (June 5, 2012): 8878–83. <https://doi.org/10.1073/pnas.1203005109>.
- Lee, Anna. "Smart Dog: Border Collie Learns Language, Grammar." *USA Today*, November 24, 2017. <https://www.usatoday.com/story/news/nation/2013/11/24/smart-dog-border-collie-learns-language-grammar/3691967/>.
- Leuschner, Vincenz, Nora Fiedler, Martin Schultze, Nadine Ahlig, Kristin Göbel, Friederike Sommer, Johanna Scholl, Dewey Cornell, and Herbert Scheithauer. "Prevention of Targeted School Violence by Responding to Students' Psychosocial Crises: The Netwass Program." *Child Development* 88, no. 1 (January 2017): 68–82. <https://doi.org/10.1111/cdev.12690>.

- Littleton Public Schools. "School Profile." Accessed May 6, 2019.
<https://littletonpublicschools.net/schools/arapahoe-high-school/school-profile>.
- . "Staff: Alphabetical List." Accessed May 11, 2019.
<https://littletonpublicschools.net/schools/goddard-middle-school/alphabetical-list>.
- . "Staff Directory A-Z." Accessed May 11, 2019.
<https://littletonpublicschools.net/schools/ralph-moody/staff-directory-z>.
- Lockwood, Randall. "Ethology, Ecology, and Epidemiology of Canine Aggression." In *The Domestic Dog: Its Evolution, Behavior and Interactions with People*, 2nd ed., edited by James Serpell, 160–77. Cambridge, UK: Cambridge University Press, 2017.
- Lord, Kathryn, Richard A. Schneider, and Raymond Coppinger. "Evolution of Working Dogs." In *The Domestic Dog: Its Evolution, Behavior and Interactions with People*, 2nd edition, edited by James Serpell, 42–66. Cambridge, UK: Cambridge University Press, 2017. www.cambridge.org/9781107699342.
- Luntz, Stephen. "Fear of Dogs Reduced by Video." *Australasian Science* 34, no. 8 (2013): 14–15. <http://search.proquest.com/docview/1436032797/>.
- Macpherson, C.N.L., F.X. Meslin, and A.I. Wandler, *Dogs, Zoonoses, and Public Health*, 2nd edition. Oxford and New York: CABI Publishing, 2012.
- Maskaly, Jon, Christopher M. Donner, Jennifer Lanterman, and Wesley G. Jennings. "On the Association between SROs, Private Security Guards, Use-of-Force Capabilities, and Violent Crime in Schools." *Journal of Police Crisis Negotiations* 11, no. 2 (January 2011): 159–76. <https://doi.org/10.1080/15332586.2011.587381>.
- McCready, Brian. "Police Drug Sniffing Dogs to Visit Daniel Hand High: Here's Why." Patch, January 8, 2019. <https://patch.com/connecticut/madison-ct/police-drug-sniffing-dogs-visit-daniel-hand-high-heres-why>.
- McKibben, Sarah. "Why Schools Are Going to the Dogs." *ASCD Education Update* 60, no. 2 (February 2018). <http://www.ascd.org/publications/newsletters/education-update/feb18/vol60/num02/Why-Schools-Are-Going-to-the-Dogs.aspx>.
- Michor, Max. "Clark County School Police Welcome Dogs Trained to Detect Guns." *Las Vegas Review Journal*, January 24, 2019. <https://www.reviewjournal.com/news/education/clark-county-school-police-welcome-dogs-trained-to-detect-guns-1581278/>.
- Miller, Michael. "Ask the Doctor: How Does Someone Overcome Fear of Dogs?" *The Harvard Mental Health Letter*, May 1, 2010. <http://search.proquest.com/docview/1370197649/>.

- Mills, Danie, and Sophie Hall. "Animal-Assisted Interventions: Making Better Use of the Human-Animal Bond." *Veterinary Record* 174, no. 11 (March 15, 2014): 269–73. <https://doi.org/10.1136/vr.g1929>.
- Musu, Lauren, Anlan Zhang, Ke Wang, Jizhi Zhang, and Barbara A. Oudekerk. *Indicators of School Crime and Safety: 2018*. NCES 2019-047, NCJ 252571. Washington, DC: U.S. Department of Education, 2019. <https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2019047>.
- Musu-Gillette, Lauren, Anlan Zhang, Ke Wang, Jizhi Zhang, Jana Kemp, Melissa Diliberti, and Barbara A. Oudekerk. *Indicators of School Crime and Safety: 2017*. Washington, DC: U.S. Department of Education, 2018. <https://nces.ed.gov/pubs2018/2018036.pdf>.
- Myrstol, Brad A. "Public Perceptions of School Resource Officer (SRO) Programs." *Western Criminology Review* 12, no. 3 (2011): 20–40. <http://wcr.sonoma.edu/v12n3/Myrstol.pdf>.
- Na, Chongmin, and Denise C. Gottfredson. "Police Officers in Schools: Effects on School Crime and the Processing of Offending Behaviors." *Justice Quarterly* 30, no. 4 (August 2013): 619–50. <https://doi.org/10.1080/07418825.2011.615754>.
- O'Neill, Lauren, and Jean Marie McGloin. "Considering the Efficacy of Situational Crime Prevention in Schools." *Journal of Criminal Justice* 35, no. 5 (September 2007): 511–23. <https://doi.org/10.1016/j.jcrimjus.2007.07.004>.
- O'Toole, Mary. *The School Shooter: A Threat Assessment Perspective*. Washington, DC: American Psychological Association, 2000). <https://doi.org/10.1037/e319532004-001>.
- Patterson, Thom. "The Mysterious Science Behind Lifesaving Dogs." CNN, July 10, 2018. <https://www.cnn.com/2017/06/09/health/champions-for-change-lifesaving-dogs/index.html>.
- Pattison, Kristina F., Jennifer R. Laude, and Thomas R. Zentall. "The Case of the Magic Bones: Dogs' Memory of the Physical Properties of Objects." *Learning and Motivation* 44, no. 4 (November 2013): 252–57. <https://doi.org/10.1016/j.lmot.2013.04.003>.
- paws4people. "Facility Dog Process." Accessed April 20, 2019. https://paws4people.org/wp-content/uploads/FacilityDogProcess_161220.pdf.
- Paws'itive Teams. "Facility Dogs: What Is a Facility Dog?" Accessed April 20, 2019. <https://www.pawsteams.org/therapy-dogs/facility-dogs/>.
- . "Therapy Dog Prep School." Accessed August 7, 2019. <https://www.pawsteams.org/therapy-dogs/therapy-dog-prep-school/>.

- . “Therapy Dogs.” Accessed April 20, 2019. <https://www.pawsteams.org/therapy-dogs/>.
- Penkowa, Milena. *Dogs & Human Health: The New Science of Dog Therapy & Therapy Dogs*. Bloomington, IN: Balboa Press, 2015.
- Pfingsten, Gina. “Therapy Dog Thursday at P-REC at Pine Trails Park.” TAP into Parkland, January 2, 2019. <https://www.tapinto.net/towns/parkland/articles/therapy-dog-thursday-at-p-rec-at-pine-trails-park>.
- Psychologist World. “Cognitive Approach.” Accessed July 17, 2019. <https://www.psychologistworld.com/cognitive/approach>.
- Puppy Lover News. “11 Dog Breeds That Bite the Most.” Accessed May 13, 2019. <https://puppylovernews.com/11-dog-breeds-that-bite-the-most/>.
- Raymond, Barbara. *Assigning Police Officers to Schools*. Washington, DC: U.S. Department of Justice, Office of Community Oriented Policing Services, 2010.
- Reddy, Marisa, Randy Borum, John Berglund, Bryan Vossekuil, Robert Fein, and William Modzeleski. “Evaluating Risk for Targeted Violence in Schools: Comparing Risk Assessment, Threat Assessment, and Other Approaches.” *Psychology in the Schools* 38, no. 2 (March 2001): 157–72. <https://doi.org/10.1002/pits.1007>.
- Reed, Jan. *Appreciative Inquiry*. Thousand Oaks, CA: SAGE, 2007. <https://doi.org/10.4135/9781412983464>.
- Reuters. “Supreme Court Sides with Disabled Girl in Service Animal Case.” *Newsweek*, February 22, 2017. <https://www.newsweek.com/supreme-court-disability-service-animals-michigan-559763>.
- Richardson, E. H. *War, Police and Watch Dogs*. Redditch, UK: Read Books, 2017. <https://books.google.com/books?id=XRI4DwAAQBAJ>.
- Rick. “Top 10 ‘Best Service Dogs of the Year’ ...Final Day of Voting.” The Chive, February 4, 2019. <https://thechive.com/2019/02/04/top-10-best-service-dogs-of-the-yearfinal-day-of-voting-13-photos/>.
- Riedman, David, and Desmond O’Neill. “CHDS K-12 School Shooting Database.” Center for Homeland Defense and Security, accessed July 15, 2019. https://www.chds.us/ssdb/resources/uploads/2019/04/K12-SSDB_Findings-Summary_032219.pdf.
- Ritland, M., G. Brozek, and T. Feldman. *Navy Seal Dogs: My Tale of Training Canines for Combat*. New York, NY: St. Martin’s Press, 2013.

- Sanders, Clinton R. “‘The Dog You Deserve’: Ambivalence in the K-9 Officer/Patrol Dog Relationship.” *Journal of Contemporary Ethnography* 35, no. 2 (April 2006): 148–72. <https://doi.org/10.1177/0891241605283456>.
- Schoenfeld-Tacher, Regina, Peter Hellyer, Louana Cheung, and Lori Kogan. “Public Perceptions of Service Dogs, Emotional Support Dogs, and Therapy Dogs.” *International Journal of Environmental Research and Public Health* 14, no. 6 (June 15, 2017): 642. <https://doi.org/10.3390/ijerph14060642>.
- Senora High School. “Notification for Contraband Detection Dogs.” January 28, 2019. <http://www.fjuhsd.org/site/default.aspx?PageType=3&DomainID=11&ModuleInstanceID=3538&ViewID=6446EE88-D30C-497E-9316-3F8874B3E108&RenderLoc=0&FlexDataID=10128&PageID=15>.
- Serpell, James. “Epilogue: The Tail of the Dog.” In *The Domestic Dog: Its Evolution, Behavior and Interactions with People*, 2nd edition, edited by James Serpell, 404–12. Cambridge, UK: Cambridge University Press, 2017.
- . “From Paragon to Pariah: Cross-Cultural Perspectives on Attitudes to Dogs.” In *The Domestic Dog: Its Evolution, Behavior and Interactions with People*, 2nd edition, edited by James Serpell, 300–15. Cambridge, UK: Cambridge University Press, 2017.
- State of Colorado Eighteenth Judicial District. “Determination of Probable Cause to Detain and Affidavit in Support of Warrantless Arrest—D182019CR451.” Court order, Colorado Judicial Department, May 2019. https://www.courts.state.co.us/userfiles/file/Court_Probation/18th_Judicial_District/18th_Courts/2019CR451/Redated%20PC_Redacted.pdf.
- Stewart, Laughlin, Evan L. MacLean, David Ivy, Vanessa Woods, Eliot Cohen, Kerri Rodriguez, Matthew McIntyre et al. “Citizen Science as a New Tool in Dog Cognition Research.” *PLOS ONE* 10, no. 9 (September 16, 2015): 1–16. <https://doi.org/10.1371/journal.pone.0135176>.
- Stringer, Kate. “Bored in Class: A National Survey Finds Nearly 1 in 3 Teens Are Bored ‘Most or All of the Time’ in School, and a Majority Report High Levels of Stress.” *The 74*, January 16, 2019. <https://www.the74million.org/bored-in-class-a-national-survey-finds-nearly-1-in-3-teens-are-bored-most-or-all-of-the-time-in-school-and-a-majority-report-high-levels-of-stress/>.
- Suneson, Grant, and John Harrington. “The 25 Most Heroic Dogs in America.” *USA Today*, July 5, 2019. <https://www.usatoday.com/story/life/people/2018/07/05/25-most-heroic-dogs-america/761906002/>.

- Tanner-Smith, Emily E., Benjamin W. Fisher, Lynn A. Addington, and Joseph H. Gardella. "Adding Security, but Subtracting Safety? Exploring Schools' Use of Multiple Visible Security Measures." *American Journal of Criminal Justice* 43, no. 1 (August 2, 2017): 102–19. <https://doi.org/10.1007/s12103-017-9409-3>.
- Tchernov, Eitan, and François F. Valla. "Two New Dogs, and Other Natufian Dogs, from the Southern Levant." *Journal of Archaeological Science* 24, no. 1 (January 1997): 65–95. <https://doi.org/10.1006/jasc.1995.0096>.
- Theriot, Matthew T. "The Impact of School Resource Officer Interaction on Students' Feelings about School and School Police." *Crime & Delinquency* 62, no. 4 (April 2016): 446–69. <https://doi.org/10.1177/0011128713503526>.
- Thomas, Benjamin, Laura Towvim, John Rosiak, and Kellie Anderson. "School Resource Officers: Steps to Effective School-Based Law Enforcement." Brief, National Center for Mental Health Promotion and Youth Violence Prevention, September 2013. <http://www.ncjfcj.org/sites/default/files/SRO%20Brief.pdf>.
- Udell, Monique A. R., Robson F. Giglio, and Clive D. L. Wynne. "Domestic Dogs (*Canis Familiaris*) Use Human Gestures but Not Nonhuman Tokens to Find Hidden Food." *Journal of Comparative Psychology* 122, no. 1 (2008): 84–93. <https://doi.org/10.1037/0735-7036.122.1.84>.
- Ursillo, Jen. "NJ Hires the First K-9 Officer Team to Patrol Schools Full-Time." New Jersey 101.5, March 25, 2019. <https://nj1015.com/new-jersey-has-hired-the-first-k-9-officer-team-to-patrol-a-high-school/>.
- Vonholdt, Bridgett M., and Carlos A. Driscoll. "Origins of the Dog: Genetic Insights in Dog Domestication." In *The Domestic Dog: Its Evolution, Behavior and Interactions with People*, 2nd edition, edited by James Serpell, 22–41. Cambridge, UK: Cambridge University Press, 2017. www.cambridge.org/9781107699342.
- Vossekuil, Bryan, Robert A. Fein, Marisa Reddy, Randy Borum, and William Modzeleski. *The Final Report and Findings of the Safe School Initiative: Implications for the Prevention of School Attacks in the United States*. Washington, DC: United States Secret Service, May 2002. https://www.secretservice.gov/data/protection/ntac/ssi_final_report.pdf.
- Vredegoor, Doris W., Ton Willemse, Martin D. Chapman, Dick J.J. Heederik, and Esmeralda J.M. Krop. "Can F 1 Levels in Hair and Homes of Different Dog Breeds: Lack of Evidence to Describe Any Dog Breed as Hypoallergenic." *Journal of Allergy and Clinical Immunology* 130, no. 4 (October 2012): 904–909.e7. <https://doi.org/10.1016/j.jaci.2012.05.013>.

- Walby, Kevin, Alex Luscombe, and Randy K. Lippert. "Going to the Dogs? Police, Donations, and K9s." *Policing: An International Journal* 41, no. 6 (December 3, 2018): 798–812. <https://doi.org/10.1108/PIJPSM-05-2017-0066>.
- Walthall, Joshua T. "The Dog Days in American Public Schools: Observations and Suggestions Regarding the Laws, Challenges and Amazing Benefits of Allowing Service Animals to Accompany Children with Special Needs to School." *Campbell Law Review* 35 (2012): 25. <https://scholarship.law.campbell.edu/cgi/viewcontent.cgi?article=1565&context=clr>.
- Warren, Cat. *What the Dog Knows: Scent, Science, and the Amazing Ways Dogs Perceive the World*. New York, NY: Touchstone, 2013.
- Watts, Hayley. "Oroville PD Getting Drug-Sniffing K9 for Schools." KHSL News, September 28, 2018. <https://www.actionnewsnow.com/content/news/Oroville-PD-to-Get-New-K9-Member-492591901.html>.
- West, Rebecca E., and Robert J. Young. "Do Domestic Dogs Show Any Evidence of Being Able to Count?" *Animal Cognition* 5, no. 3 (September 2002): 183–86. <https://doi.org/10.1007/s10071-002-0140-0>.
- Yurkew, Danielle. "After This School Launched New York City's First Comfort Dog Program, Others Joined the Pack." *Chalkbeat* (blog), October 29, 2018. <https://www.chalkbeat.org/posts/ny/2018/10/29/after-this-school-launched-new-york-citys-first-comfort-dog-program-others-joined-the-pack/>.
- Zahradnik, Eva, and Monika Raulf. "Animal Allergens and Their Presence in the Environment." *Frontiers in Immunology* 5 (2014). <https://doi.org/10.3389/fimmu.2014.00076>.
- Zalaznick, Matt. "Best (Practices) in Show: Therapy Dogs in Schools." District Administration, April 8, 2019. <https://districtadministration.com/best-practices-show-therapy-dogs-in-schools/>.
- Zentall, Thomas R., and Kristina F. Pattison. "Now You See it, Now You Don't." *Current Directions in Psychological Science* 25, no. 5 (2016): 357–62.
- Zents, Courtney E., Amy K. Fisk, and Cris W. Lauback. "Paws for Intervention: Perceptions about the Use of Dogs in Schools." *Journal of Creativity in Mental Health* 12, no. 1 (January 2, 2017): 82–98. <https://doi.org/10.1080/15401383.2016.1189371>.
- Zhang, Gary. "The Effects of a School Policing Program on Crime, Discipline, and Disorder: A Quasi-Experimental Evaluation." *American Journal of Criminal Justice* 44, no. 1 (February 2019): 45–62. <https://doi.org/10.1007/s12103-018-9440-z>.

Zorn, Alex. “‘Bull’ the Drug Dog Set to Guard Coal Ridge High School.” *Citizen Telegram*, December 6, 2018. <https://www.postindependent.com/rifle/bull-the-drug-dog-set-to-guard-coal-ridge-high-school/>.

INITIAL DISTRIBUTION LIST

1. Defense Technical Information Center
Ft. Belvoir, Virginia
2. Dudley Knox Library
Naval Postgraduate School
Monterey, California