

THE SECRET TO PET NATION

The Human-Animal Bond

Fads come and go. Whatever happened to pet rocks, Cabbage Patch Dolls, and Beanie Babies? Some trends disappear or fade into historical footnotes, while others gain traction and become a part of daily life. Few people wear bell-bottom jeans anymore, but organic food, once considered trendy, is now ubiquitous. Are pets a fad whose cachet will wane, or did something deeper and more profound take hold over the past few decades, a benign but incurable addiction? I would argue the latter, for the simple reason that pets make people healthier, feel better, and help them successfully navigate life's challenges—from day-to-day problems to life-threatening situations—with less stress and more joy.

The deep appeal of a pet is more than the fuzzy sensation you experience when your Siamese kitten stretches from head to tail, then glides onto your shoulder while you're reading a book in bed. Scientists call our unique relationship with pets the human-animal bond, a subject supported by enough research to fill twenty-nine thousand entries at the Human Animal Bond Research Institute

(HABRI) at Purdue University. They define the human-animal bond as “a mutually beneficial and dynamic relationship between people and animals that is influenced by behaviors essential to the health and well-being of both.” However, this definition is too clinical to capture the emotional contours of this phenomenon, which is almost primal. Pet Nation happened because many Americans came to understand and enjoy the medical, psychological, and social power of pets. It was a question that research scientists have been studying since the 1960s—do pets enrich the lives of people, families, and communities? Ultimately, they proved that it does, and once people understood that the human-animal bond wasn’t merely instinct or folklore, the implications exploded onto the front page of American culture. It turned out that pets may be the best (and most affordable) medicine we have, but we didn’t realize it.

The transit to Pet Nation and the universal embrace of the human-animal bond was long, roundabout, and bumpy. To become an equal partner in the bond construct, animals (pets) needed several things, which took years to materialize:

1. **Protection:** relief from physical abuse at all levels of society, at work, on farms, in the street, and even in medical schools where they were dissected for research, sometimes with minimal sedation.
2. **A point of view:** their own vantage point, for people to consider daily life through their eyes; only then could people understand both their plight and the

potential benefits to man and animal if their lot were reversed.

3. **Philosophy:** a theoretical framework underlying the dynamics of their interactions with people.
4. **Value-added work:** pets helping people see, hear, and combat illness—a range of medical benefits—demonstrating their sensitivity to people and the power of that affinity.



The Human-Animal Bond: Milestones

1822: The United Kingdom passes the first serious animal-welfare law.

1866: Henry Bergh founds the American Society for the Prevention of Cruelty to Animals (ASPCA), America's first animal-protection organization.

1949: Konrad Lorenz writes *Man Meets Dog* and creates the discipline of anthrozoology, with his analysis of animal imprinting.

1960–1975: Boris Levinson develops the theory and foundation for the use of pets to treat psychological and physical disorders.

1977: Delta Foundation created, now the national leader in animal-assisted therapy, as Pet Partners, www.petpartners.org.

1980: Friedman study on coronary heart disease survival with pet intervention.

1981: The American Veterinary Medical Association (AVMA) creates task force on the human-animal bond (USA), www.avma.org.

1987: The National Institutes of Health (NIH) holds a conference on "The Health Benefits of Pets."

1990: The Americans with Disabilities Act requires hotels, restaurants, and other businesses to admit service animals.

1983: Leo Bustad is credited with the first use of the term “human-animal bond” recorded in an academic setting at a conference celebrating Lorenz’s eightieth birthday.

2011: HABRI is founded.

2013: Lackland Air Force Base unveils the US Military Working Dog Teams National Monument to honor the service of canine soldiers.

Without these psychological, emotional, and scientific advances, a therapy organization like Pet Partners, formerly the Delta Foundation, could never perform three million annual visits in America today, with thirteen thousand registered animal therapy teams “helping patients in recovery, people with intellectual disabilities, seniors living with Alzheimer’s, students, veterans with PTSD, and those approaching end of life.” Absent scientific validation, the American public would not have the information and trust to make informed decisions about the health benefits of pets.

Until recently, such a program would have been dismissed by critics. Reinforced by the second-class status of animals (and centuries of neglect), skeptics challenged the notion that people experience anything beyond emotional pleasure (nothing to sniff at) from engagement with cats or dogs. When animal scientists began to publish studies that showed the deeper, positive effects of the human-animal bond, scholars questioned the methodology of the science. A good example is an article by Harold Herzog titled “The Impact of Pets on Human Health and

Psychological Well-Being: Fact, Fiction, or Hypothesis?” published in *Current Directions in Psychological Science* in 2011. Herzog maintained that human-animal bond research lacked rigor and adequate sample sizes. He argued that research conclusions can reflect experimental bias, the unconscious desire to prove a point, without acknowledging a range of possible explanations or causes beyond human-animal bond factors.

Such critiques are common in academia, and perfectly valid. It is part of the scientific method to question data and sample sizes, or to wonder if a prior relationship between owners and pets undermines the objectivity of the study. Eventually, such arguments must be weighed against a body of evidence. Herzog’s arguments would be more persuasive if the human-animal bond claims rested on a handful of studies. However, the quantity and diversity of research programs with similar outcomes overwhelmingly supports the hypothesis that the human-animal bond is real, positive, and profound. Let’s explore.

How does one prove that the human-animal bond exists? And how do you conduct scientific, medical, and psychological studies of such a relationship? In the 1970s, Leo Bustad, the former dean of the Washington State University College of Veterinary Medicine and the founder of the People-Pet Partnership, tackled the challenge with his research into animal behavior. Using a multidisciplinary approach, he worked to “develop new and creative ways to realize the potential inherent in people/animal/environmental interactions properly studied and utilized.” It was Bustad who coined the phrase

“human-animal bond” at a 1983 conference, where he credited Konrad Lorenz, the author of the 1949 book *Man Meets Dog* and the founder of modern ethology (the study of animal behavior), with the birth of the movement. Yet even with the stamp of Lorenz, a Nobel laureate, Bustad’s theories about the human-animal bond were slow to take hold, and over decades pigeonholed as “folk wisdom,” like your grandmother’s homemade flu remedy.



RESEARCH

Today, three organizations lead the way in continuing Bustad’s research and raising awareness in the United States and around the world: the IAHAIO (International Association of Human Animal Interaction Organizations); WALTHAM Petcare Science Institute (Mars Petcare’s research center); and HABRI (Human Animal Bond Research Institute). IAHAIO is an umbrella organization for groups around the world (primarily Europe and the United States) studying and/or developing programs related to the human-animal bond. It was established because scientists saw promise in the outcomes of engagement between humans and animals, and needed a platform to share plans, data, and discoveries. IAHAIO’s insistence on strict scientific protocols and peer review informed the academic and medical communities that human-animal interaction was a fertile field of research, not a topical “filler” for the evening news.

I've worked with Dr. Sandra McCune, human-animal interaction scientific leader at the WALTHAM Centre for Pet Nutrition outside London. WALTHAM has earned an international reputation for advanced studies in nutrition for pets of all kinds, and its support for human-animal bond research. Few people know that Mars, Incorporated, the company that brings us Snickers candy bars and M&M's, is also the world's leading pet food and veterinary provider. WALTHAM is part of Mars. It is meaningful when an organization like Mars recognizes the legitimacy of scientific research in the human-animal bond. With funding from Mars, the National Institutes of Health created a federal research program to study human-animal interaction. Operated through the National Institute of Child Health and Human Development, the program offers scientists research grants to study the impact of animals on child development, in physical and psychological therapeutic treatments, and the effect of animals on public health, including their ability to reduce or to prevent disease.

HABRI is a Washington, DC-based nonprofit organization with an ambitious profile. Its mission involves:

1. Funding academic research into the human-animal bond, to study the scientific foundation of the subject.
2. Gathering all the studies and articles in the world concerning the human-animal bond in one archive, the Purdue University College of Veterinary Medicine. The current count is twenty-nine thousand entries and

growing. Through its online database, HABRI enables skeptics and advocates alike to access information, evaluate research, and stay abreast of current treatment discoveries.

3. Expanding practical, real-world applications of human-animal bond research in areas of public policy, veterinary practices, education, human medicine, and consumer awareness. The research is developed for public use, not academic discourse, including the funding of research projects, such as a 2015 AAT (animal-assisted therapy) study of breast cancer patients during counseling, which recorded:
 - a. Increasing calm and feelings of anticipation of cancer patients toward participation in counseling.
 - b. Increasing disclosure of information and engagement by patients with therapists.
 - c. Increasing communication with health professionals.
 - d. Cancer patients undergoing chemotherapy who had a weekly, hour-long session of therapy with a dog rated their symptoms of depression and anxiety at half the level of those who did not.

Steven Feldman, the executive director of HABRI and a prolific author and animal advocate, is an evangelist for the physical- and mental-health benefits of animals. “HABRI believes,” he has written, “that everyone living with a mental illness should have access to care, services, and

support that would benefit their mental health, including positive interaction with companion animals.”

Each of these three organizations has focused their research on two key areas:

1. Measuring human behavior or outcomes *with* and *without* the presence of companion animals, particularly with people in challenging situations, such as autism and senior isolation.
2. Scientific analysis of chemical or physiological reactions with humans after engagement with pets, producing either a decrease in cortisol (the primary stress hormone), or an increase in oxytocin (the beneficial “love hormone”).

Establishing a link between these two areas of research helps researchers and clinicians determine how chemical or physiological changes in the body and brain correlate with positive behavioral or physical outcomes. When engaged with a dog or cat or horse, does something happen in the human brain that explains improved health or pleasure factors, or a stress reduction? If the answer is verifiably yes, then it removes much of the mystery surrounding the effects of pet contact with human beings. Here is some of the evidence to date.

Autism

No field of human-animal bond research draws greater interest than the study of an animal's impact on autistic children and their families. Sophie Hall, a pioneer in this field at the University of Leicester Medical College in the United Kingdom, has focused on the long-term benefits of autism-assistance dogs for both the individual with autism and the surrounding family and caregivers. Her research has found that these dogs can increase child safety and promote outdoor access, communication, and independence, while improving sensory perception and reducing parental stress. The pet effectively lowers the burden on the parents serving as the sole focus, since it provides an alternative object of attachment for the child. The research is ongoing, though it is complicated by the inconsistency of regulations and standards regarding autism-assistance dogs.

Yet more evidence is provided by a 2015 study published in *Anthrozoos* that found that frequent contact with dogs helps improve the social skills of autistic children. Dogs navigate their surroundings and social interactions in an unfiltered, sensory-based way, constantly making pattern-based associations, like adults and children on the autism spectrum do. Consequently, dogs invite positive social interactions for these children, verbally and nonverbally, lowering stress levels.

Dogs are not the only animal helping autistic children today. A 2012 NPR story by Julie Rovner describes the work of the Northern Virginia Therapeutic Riding Program in Clifton, Virginia. "The beauty of the horse is that it can be therapeutic in so many different ways," says Breeanna Bornhorst, executive director of the center. "Some of our

riders might benefit from the connection and the relationship—building with the horse and with their environment. Other riders maybe will benefit physically, from the movements, and build that core strength, and body awareness and muscle memory.” Rovner recounts speech therapist Cathy Coleman, an instructor in the program, working with nine-year-old Ryan Shank-Rowe, who has autism, and a pony named Happy. During the session, Ryan takes Happy through his paces, riding bareback, while talking with Coleman. According to Coleman, the equine therapy has improved Ryan’s speech, language, and personal engagement; Ryan’s mother has seen progress in core life issues with her son, such as dressing, following directions, and staying safe, thanks to the horseback riding.

Children with autism often experience extreme stress in new or unknown situations, considered an “anxiogenic stimulus.” Research shows that a pet’s presence can distract the child, triggering an attention shift, which reduces their anxiety. The child can settle into or address new environments more easily. Thus, a family pet can improve an autistic child’s ability to focus, to concentrate, and to learn.

Therapy and Pet Dogs in Hospitals

For centuries, the idea of bringing a dog into a sterile hospital environment was anathema, but, increasingly, nurses and doctors are welcoming dogs into hospitals to relieve patient stress and to improve the overall outcomes

for patients and their families. There are myriad examples of this change in attitude, and in practice, throughout the medical world.

The Royal College of Nursing in the United Kingdom has published a universal protocol, setting out guidelines that any health-care facility can follow when working with dogs. They invite professionals and laymen to “expert teas” to “meet one of our four-legged friends and learn about how pets can enhance health and well-being.” It took time for New York State—which had always banned dogs from hospitals—to see the wisdom of this approach. But now, through the work of the Good Dog Foundation and others, New York allows therapy dogs into hospitals to work with cancer patients.

The Mayo Clinic’s Caring Canines Program, a formal, animal-assisted initiative, was launched in 2011. Registered dogs and their owners make “meet and greet” visits in hospital and clinic waiting areas. Before deployment, dogs are tested and registered by the nationwide therapy group Pet Partners. The Mayo Clinic program utilizes therapy dogs in several situations at their campuses in Phoenix and Scottsdale, such as dental procedures with children and radiation treatments for cancer treatments. They have found that therapy dogs are helpful for residents of long-term-care facilities, particularly people suffering from dementia, cardiovascular disease, PTSD, and anxiety.

Doctors at both Mass General (Boston) and Johns Hopkins (Baltimore) bring therapy dogs into their intensive-care units to cheer up patients, humanizing and softening the

ICU experience. Research confirms that dogs lower the stress of family members in waiting rooms, a universal challenge. Some animals-in-hospital programs have expanded to allow people to bring family pets into a child patient's room, since a personal pet can have more impact than a trained therapy dog. A study in Barcelona, Spain, found that animal-assisted therapy can lower stress levels in schizophrenia patients within a conventional rehabilitation setting.

Therapy dogs play a role in hospital emergency departments, reducing a patient's general anxiety level and their desire for pain medication, no small achievement in an America ravaged by opioid addiction. Sometimes, both the animal and the health-care professional profit from the interaction. Danielle Geronimo, a paramedic in Richmond, Virginia, had an idea: Why not pair shelter dogs who need loving homes with paramedics during their shifts, when they need to relax and be calm? Paramedic work in cities is mentally taxing and, at times, physically dangerous. Paramedics are exposed to serious injury and crime each day. So the Richmond SPCA established a program called Pets for Paramedics to improve the lives of both the paramedics and dogs in need. The SPCA brings pets to the Richmond Ambulance Authority headquarters each month so that staff can interact with shelter dogs who need homes. The paramedics get a break, return to work refreshed, and the dogs often find new homes.

The evidence is compelling and documented: animal-assisted therapy with dogs produces objective health changes in people of all ages, from children to seniors, with reductions in measures of cardiovascular stress,

improvements in neurophysiological stress markers (e.g., cortisol), increases in endorphins and oxytocin, and the enhancement of immune factors.

Keeping Allergies at Bay

A 2017 Canadian study at the University of Alberta explored the benefits of placing cats and dogs in a household to expose children to a wider range of microbes and bacteria than they normally encounter. The practice results in fewer cases of pediatric allergies. What's the science? "It used to be that we were exposed to lots of dust and feces . . . and 'good friend' bacteria," says Kim Kelly, a postdoctoral fellow at the University of Arizona's Human-Animal Interaction Research Initiative. "As we evolved to living indoors, we became underexposed to [microbes], and we hypothesize that predisposes us to a host of health issues." Pets come in contact with some rough stuff, to put it bluntly, so kids exposed to pets are better armed to respond to allergies.

Seniors Need to Eat Better

In 1996, a Colorado State University study discovered a positive correlation between a senior interacting with a pet and the pet's need to eat on a regular schedule. This pet-feeding interaction stimulates the senior to eat, too. It's logical: The instinct to feed the cat or dog, or, in this study, fish, prompted the senior herself to eat. Linsey Knerl

reported on this phenomenon when writing for *Delaware News Online*, in March 2019, observing: “Older adults can struggle with maintaining weight and keeping interest in food. That’s why many senior living centers and communities have incorporated fish tanks and aquariums into their dining room décor.” As we explore in chapter eight, an element of fish keeping is the simple pleasure of watching their movements back and forth in an aquarium. By watching fish, seniors have been recorded as eating more food and having better weight-gain outcomes than those who don’t have access to these aquatic beauties. Studies with a variety of pets demonstrate that individuals with limited capacity or interest in interaction with other humans will respond positively to engagement with pets who need regular feeding.

Dogs and Diabetes

According to the Centers for Disease Control and Prevention, more than one hundred million Americans are living with either diabetes or prediabetes, a condition which, if untreated, can become full-blown diabetes within five years. More than thirty million Americans have diabetes and eighty-four million have prediabetes. Which leads to an article by Maria Cohut, a writer for *Medical News Today*, who documented a 2018 study from the University of Bristol in Great Britain that was published in the journal *PLOS One*. It showed that therapy dogs can be trained to detect sudden drops in the blood glucose level of a diabetic patient:

a hypoglycemia episode. With their heightened sense of smell, dogs smell the patient's breath and register the onset of the episode, a kind of early warning system. These dogs had an accuracy rating of 83 percent in alerting the diabetic patient to a pending hypoglycemic episode—in time to administer life-saving glucose tablets, fruit, or fruit juice with the needed carbohydrates. This research highlights a dog's ability to recognize the medical need of a person in their household, and the potential of such a therapy to address broader medical problems.

The litany of pet-assisted disease-detection programs continues. A 2004 study, published in the *British Journal of Medicine*, followed six dogs trained to detect bladder cancer in patient urine samples. While their 41 percent success rate wasn't perfect, it exceeded the 14 percent “coincidence rate” of human researchers. Dogs can now spot cancers, including skin, prostate, lung, breast, and colorectal cancers. Researchers at the Pine Street Foundation in California trained dogs to sniff out both breast and lung cancer from breath samples from the patients. They achieved an 88 percent success rate with breast cancer and a 97 percent rate with lung cancer. In 2011, at Kyushu University in Japan, dogs detected colorectal cancer by sniffing breath samples, with 98 percent accuracy, which surpassed results from traditional diagnostic tests.

Less Cortisol, More Oxytocin

In the past decade, medical research has confirmed a chemical foundation for the human-animal bond: engagement with pets decreases the release of cortisol and increases the release of oxytocin in children. This reduces stress for children in both day-to-day and behaviorally challenging situations. By increasing a child's ability to manage anxiety and new environments, it promotes social interaction. Physician Kristen Fuller from the Center for Discovery explains, "Hugging a dog or cat releases oxytocin and dopamine, hormones that reduce stress, lower blood pressure and heart rates, and increase happiness. . . . Touch can inhibit certain regions of the brain from responding to threat cues that would normally produce fear." Rebecca Johnson is a nurse who heads the Research Center on Human/Animal Interaction at the University of Missouri College of Veterinary Medicine. She states that oxytocin has value beyond stress reduction: "Oxytocin has some powerful effects for us in the body's ability to be in a state of readiness to heal, and also to grow new cells, so it predisposes us to an environment in our own bodies where we can be healthier."

Veterans with PTSD and Service Dogs

In 2018, Dr. Maggie O'Haire at Purdue University conducted innovative research on the link between service dogs and combat veterans suffering from PTSD. She found that veterans with service dogs have lower cortisol levels in the morning than those on the waiting list without service dogs. As they wake each day (often reliving their memories of

war), veterans with PTSD typically experience rising cortisol levels. O'Haire's research has revealed that a service dog will lower a veteran's level of anger and anxiety and help them sleep better. "It's not a cure, because we can't expect to get a dog and cure autism or PTSD," O'Haire said. "But for some people, it is helping in a way that is unique. We have data that shows it can make a difference. A common thing I hear from veterans with service dogs is, 'I can actually leave my house now,'" a major step for housebound veterans whose reentry into civilian life is often traumatic. CNN journalist Elizabeth Landau tells the story of Valor, a half Labrador half Great Dane, helping retired sergeant Charles Hernandez in the Bronx, New York, manage seizures and anxiety attacks, and avoid day-to-day conflicts, with her sustained and supportive physical presence. As Sergeant Hernandez says, "I'm alive again. What keeps me going is my dog." A testament to both the power of the human-animal bond and the redeeming value of service pets.

Pets in the Classroom

HABRI released the *Pets in the Classroom Study*, conducted by the American Humane research team and funded jointly by HABRI and the Pet Care Trust. The manuscript has been published online in the *Human-Animal Interaction Bulletin*, a publication of the American Psychological Association. The study assessed social, behavioral, and academic effects of the presence of small classroom animals, such as gerbils,

hamsters, turtles, and more, for 591 third- and fourth-grade students across the United States over the 2016–2017 school year. The research indicates that pets in the classroom may help improve academic performance and social skills in children:

- Significantly greater increases in overall social skills (including communication, cooperation, assertion, responsibility, empathy, engagement, and self-control).
- Improved social skills and academic reading competence.
- Significant decreases in internalizing behaviors (e.g., withdrawal) and hyperactivity/inattention among their students.
- Clear increases in pro-social behaviors among their children compared to parents with children in classrooms without pets.

Presurgical Stress Relief to Reduce Sedation Levels

One promising HABRI-funded study considers the effect of animal-assisted intervention on preoperative anxiety and sedation dosage of children. The University of Tennessee College of Veterinary Medicine is learning that interaction with a therapy dog before surgery—placing a child’s pet in the hospital room for a few hours before the child enters the operating room—can significantly reduce their anxiety

level, allowing them a lower dose of sedation medication for surgery.

How Do Doctors View the Human-Animal Bond?

A 2014 HABRI survey of doctors, with a sample size of one thousand, found that 69 percent have worked with pets in a hospital, medical center, or a medical practice to improve patient therapy or treatment. The data is telling—witness the percentage of doctors reporting animal-assisted patient improvement in the following areas:

- Physical condition (88 percent)
- Mental health condition (97 percent)
- Mood or outlook during treatment (98 percent)
- Relationships with medical staff during treatment (76 percent)

Fully 97 percent of the doctors believe that owning a pet delivers quantifiable health benefits, and 60 percent of them have recommended pet ownership to their patients. The psychiatric and chemical foundations of the human-animal bond are becoming part of American medical protocols.

The human-animal bond isn't only saving people's health, it's also saving health-care dollars. A study by George Mason University's Terry Clower and Tonya Neaves conservatively estimates that pet ownership produces \$11 billion in savings for the health-care system. Savings

primarily come from fewer visits to the doctor due to improved health, and cardiovascular gains from weight loss by exercising with a dog.

Before considering the “consequences” of the human-animal bond, we should dispel the myth that cats cannot bond with owners like dogs do. Many dog connoisseurs believe this is true, because of behavioral differences between the two species, but, in 2019, three researchers put this canard to rest. Kristyn Vitale, Alexandra Behnke, and Monique Udell published their findings in *Current Biology*, “Attachment bonds between domestic cats and humans.”

While researched more often than cats, dogs apparently form attachments like cats. In this study, kittens and cats were recruited to go through a secure base test, which measures the bond between dogs or other animals and their caregivers. Cats and their owners were put in unfamiliar environments together for two minutes. The owners exited the area for two minutes, then rejoined their pets. After they returned, the cats’ actions were measured and sorted into attachments. Attachments were described as “secure” or “insecure” and were determined if the cat saw their owner as a calming stimulus. If secure, the cat would greet their owner and then continue to explore, while insecure cats would clutch their owners.

“This idea that cats don’t really care about people or respond to them isn’t holding up,” Dr. Vitale said. Roughly 35 percent of cats in the study displayed insecure attachments. This matches the numbers when the same experiment is performed with dogs, or infants. After these tests, the researchers took half the kittens and enrolled them

in socialization courses. After this training, they were tested again, and the results remained constant. This suggests that cats develop their bond-forming capabilities in infancy, and could be tied to their relationship with their parents, as it is with babies. Cat and dog behaviors in these studies were nearly identical.



SOCIAL CAPITAL OF PETS

The social capital of pets is the human-animal bond writ large. Let's be clear, the community-building quality of pets doesn't flow directly from the wellness that individual pet owners experience with their dog or cat. Social capital is not the sum of the goodwill of one hundred pet owners holding hands around a public square, singing songs from *Beauty and the Beast*. As we discussed in the previous chapter, pets—particularly dogs—take us into public spaces and create a new and different social environment in which people who would never otherwise meet, or make the effort to meet, do so, regularly and predictably, if only for a few minutes. That's social capital, and it raises the power quotient of Pet Nation dramatically. We've learned this from studies of three large American cities: San Diego; Nashville; and Portland, Oregon; though the seminal study came a decade earlier, in 2002, from Perth, on the western edge of Australia.

Let's start with the definition of "social capital," best explained in an article presenting the American study of San Diego, Nashville, and Portland previously mentioned:

“Putnam’s (2001) definition of social capital is one of the most widely used, defining it as the ‘*connections among individuals, social networks* and the norms of reciprocity and trustworthiness that arise from them’ . . . the ‘*glue*’ that holds society together (Lang & Hornburg, 1998) or the *raw material of civil society* that is created from everyday interactions between people (Onyx & Bullen, 1997)” (emphasis added).

Social capital is what makes a neighborhood, town, or city *work*. These are the places where people want to live, the cities and towns they return to after college, where they choose to raise families and to spend their lives. For example, Philadelphia brownstones have front stoops where people linger at the end of the day, chatting with neighbors, watching children play or dog walkers wander by. Over time, this architectural feature unites a neighborhood, block by block, which builds social capital.

The Perth study of 339 randomly chosen residents of three suburbs compared pet owners and non-pet owners, studying these factors: individual health, mental wellness, community involvement, and emotional outlook. It represents a comprehensive look at the social dimensions of pet ownership, the largest study of its kind to date, addressing the question of whether pet ownership improves community engagement and satisfaction among neighbors.

The results were clear: pet ownership makes a meaningful difference in the social life of any town or city—not in every category, perhaps, but in key areas of daily life. Since 1980, considerable study had been applied to the individual dimensions of human-animal-bond research,

yet few academics had considered the social capital of pets. In 2007, I was fortunate to meet with Lisa Wood, the lead Perth researcher from the University of Western Australia's School of Population and Global Health. A Mars team visited with her a few years after her publication, and the collective response from our American colleagues was "stunned." My meeting with Lisa Wood prompted a professional epiphany. It was at that moment, sitting at a conference table in Portland, Oregon, that the emergence of a pet-driven culture, the essence of Pet Nation, began to make sense to me. Pets weren't merely fun or entertaining; they changed lives, they improved people and transformed the neighborhoods they lived in. Not in small ways, but exponentially. Here are key findings from the Perth study:

- Pet ownership at 59 percent of households resembled the United States, and pet owners were significantly more likely than non-pet owners to report that they were in "good" or "very good" health.
- Significantly fewer pet owners reported being lonely than non-pet owners.
- 74.5 percent of pet owners reported "rarely" or "never" finding it hard to get to know people, compared with 62.6 percent of non-pet owners.
- 89.5 percent of pet owners felt that people generally said hello when walking in the neighborhood versus 79.1 percent of non-pet owners.
- After adjusting for age, sex, education, and children, pet owners were 57 percent more likely to be civically engaged than non-pet owners.

- Among dog owners, more than half of them had met people within their suburb as a result of their dog, and more than 80 percent had talked to other dog owners when walking their dog.

In a country like the United States, with a 50 percent divorce rate, where twenty-year-olds go online to try to meet people, these are persuasive statistics. Lonely? Depressed? Want to meet people? Why not adopt a mutt from your local shelter?

What happened when the study was replicated in balmy San Diego, culturally hip Portland, and the rising star of the Bible Belt, Nashville? In each city, the results replicated the original Perth research (as well as a resurvey of Perth residents) on several factors, while making an even stronger case for the social capital of pets. This research added the dimension of comparing pet owners who walk their dog with: (1) other pet owners; (2) dog owners who don't walk their pet; and (3) non-pet owners. It isn't surprising that the highest awareness of social capital came from people who walk their dogs, and this was true in all four cities (including Perth). Yet, in each city, there was a marked difference between pet owners (walkers or not) and people who don't have pets.

The American study (including researchers Lisa Wood and Sandra McCune of WALTHAM) also explored four theories about why pet owners exhibit greater social capital than non-pet owners:

- In studies, pets of all kinds have been shown to create, or are linked to, *trust*. The presence of pets enhances the

perception of trustworthiness in others, which is central to building community capital.

- The hormone oxytocin boosts people's trust of others, and interaction with pets increases the production of oxytocin in people.
- Pets are icebreakers, curbing social inhibitions among strangers. Picture two people pausing to talk about their dogs as they walk along a city sidewalk. This rarely, if ever, happens when people walk alone, avoiding eye contact with strangers.
- Dog walkers have enhanced the perception of safety in neighborhoods, for all residents, especially women and the elderly. Safety is a premium value in building social capital or trust.

Has any single study definitively established the validity of all these points? No, but the growing volume of research, and the congruence between the studies, supports the conclusion that pets make people and communities better, a lesson for city planners and job seekers alike, considering the movement of Americans from one city to another.



HOW SHOULD PET NATION HARVEST THIS EVIDENCE OF GOODWILL AND BETTER HEALTH?

Is it enough to enjoy the science, and for 65 percent of Americans to congratulate themselves on having the good

sense to enjoy cats and dogs? Or should we explore what Pet Nation could mean for government policies designed to improve human health, lower the cost of medical care, and strengthen the social fabric of towns and cities throughout the United States? I'm involved in pet politics around the country daily, so let's dig in.

The benefits are difficult to ignore. It's a fact that pets make individuals and communities better. You could say that drugs or alcohol make people feel better, too. But those are only temporary. Pets don't come with side effects, hangovers, bad trips, driving accidents, broken homes, or addictions. It's true that pets do carry some negative consequences: dog bites (a statistically insignificant and declining number of bites annually, as a percentage of the population); furniture damage; or waste on public sidewalks. But these conditions are all manageable (often the fault of distracted or careless pet owners) and carry no serious social or long-term costs. I think it's safe to say that pets do many good things at little cost. Now, what are the implications of that statement?

Get ready: we need more people to have pets, and more people who already have pets should own more pets. Why stop at 65 percent of households with pets in America? Why not 100 percent? Why stop at 185 million cats and dogs for 325 million people? Why not 325 million cats and dogs, or more? Consider the evidence, or look around you, and ask yourself if any other societal change can make so many people happy and so many communities better places to live in the United States than the increased presence of pets? If I'm right, then we should develop governmental, social, and

business priorities to maximize the ownership and care of pets. I challenge any reader to tell me what alternative would accomplish more, at less cost, than encouraging—in every possible way—all Americans to enjoy the human-animal bond.

That changes things, doesn't it? Let's consider the mosaic of Pet Nation and turn Herbert Hoover's 1928 "a chicken in every pot" into "a pet in every house and apartment," with every adult in our country. I'm not suggesting that we pass a law requiring people to own a dog or cat, but we could have policies that encourage ownership, so that every community and household enjoys what pet owners know to be true: Pets make things better.

If Pet Nation is real and sustainable, then it has gravitas, consequences, and monumental potential. Why, it's bigger than *Sgt. Pepper's*, Air Jordans, and Italian gelato on the first hot day of summer combined, with the power to change the world in a small but meaningful way. All it takes is four paws, a tail (most of the time), or wings, and a loving home. I've lobbied politicians and decision-makers for many years on pet issues. Fifteen years ago, congressmen and legislators would nod and agree that pets are fun, and then show me a picture of their dog or cat. But they didn't, or couldn't, see the consequences. They didn't understand that pets have real-world benefits. That was before Pet Nation took hold, and studies were completed, research published, and the news and social media discovered that no story attracts more readers than a pet story. It doesn't matter what topic, just show a picture and tell a story about something that a cat or dog did for someone

in the community, and readers can't get enough. It's not a temporary buzz, it's a tonic for the entire country, at a time when we could use one.

What kind of government policies could we enact?

1. Cities and counties should legislate that all apartments be pet-friendly, meaning that a tenant can have at least one pet, along with rules and safeguards to keep life comfortable for other tenants. This is a struggle we'll discuss in chapter six, but it is possible, and evidence proves that pet owners are willing to pay more for this privilege and will stay in their apartments longer. Apartment developers shouldn't object, and they can always keep sections of a residential complex pet-free, satisfying everyone.
2. American employers, take notice that your employees or team members love pets and you'll keep them longer, at higher levels of productivity, if they can bring their pets to work some of the time, or work from home one day a week. If you want to hire and keep millennials and Generation Zs happy, this is the best decision you'll ever make.
3. Securing federal recognition of pet ownership as a wellness program might seem daunting, at first glance—but it is feasible. Our federal government encourages a variety of behaviors to promote human wellness and better health: It creates anti-smoking initiatives and exercise programs, encourages annual

checkups, good nutrition, less junk food and soda. It educates people about the risks of driving drunk or using drugs, among many examples. These are all good ideas, which benefit from direct federal funding, tax credits, or tax deductions (alongside human health-care expenses). So why not add pet ownership and veterinary care to the list? Is there any reason not to do this, other than that it's never been done? We could provide Americans with a tax credit for acquiring a pet, and a deduction or other health insurance credit for basic veterinary care. If pets promote good health and can help prevent costly surgery by improving daily wellness, as the evidence shows, then more pets *could* reduce the nation's health-care bill.

4. Motivate communities to build more dog parks. Make it easy for Americans to walk to a dog park. Pet owners will likely pitch in to help pay for it, perhaps even volunteer to build the park and fences to keep dogs inside.
5. Encourage stores and retail centers to welcome pets and to provide amenities, to make it frictionless for pets and shoppers to cohabit. It's all about making things comfortable.
6. Find every possible way to bring pets into the classroom. Kids love them, we know from studies that they learn better, are less stressed, and behave better

around pets. What teacher or parent wouldn't appreciate those improvements?

7. Adopt travel (airline) policies that are fair, practical, uniform, and enforceable so that pets and traveling families aren't separated any longer than necessary, and non-pet owners aren't subjected to canine overload and emotional-support abuse. We've made some progress toward that goal, but it is still far simpler to travel with pets on Amtrak than on any American airline.
8. Institute a pet registry, state by state, as I discuss in our final chapter. Besides providing an instant communication tool regarding diseases, vaccines, and public health, registries in Europe have allowed people to know precisely how many pets, and types of pets, they have at any given time.
9. Strategically, the government (federal, state, and local) should make it easy to say yes to pets and hard to say no.

All of these ideas can be achieved with less money than our government wastes in a single day. Would community life across America be different? Definitely. Better? I would say so.

Come on, you might say: Is this truly a science, or simply a scheme to promote pet ownership? Granted, the human-animal-bond construct has commercial value for the pet

industry. However, the high number of high-quality, peer-reviewed studies in multiple medical and psychological fields from leading scientific institutions like Johns Hopkins offers overwhelming—many would say irrefutable—proof that the human-animal bond is mutually beneficial to pets and people, and of substantial value to society. With the American health-care system in a state of perpetual turmoil and financial strain, pets could be a small but dependable part of a solution. And a whole lot more fun than property taxes.