

The Harmful Effects of Puppy Mills on Breeding Dogs and Their Puppies

Franklin D. McMillan, DVM, DACVIM

Best Friends Animal Society

5001 Angel Canyon Road

Kanab, UT 84741

dr.frank@bestfriends.org

The commercial dog breeding industry has its origins in the events of the early to middle 20th century. Food shortages during the first World War and through the Great Depression and World War II led the government to encourage people to start backyard rabbitries and raise rabbits to help feed themselves as well as the soldiers. When WWII ended and the years of hardship and shortages came to pass, other meats again became available and the demand for rabbit meat, which had peaked during WWII, declined substantially. Rabbit farmers were left with a large supply of vacant rabbit hutches and in dire need of an alternative crop to sustain themselves. In response, the federal Agriculture Department (now the USDA) encouraged struggling farmers to raise puppies as an alternative "crop." The growing supply of puppies met with the post-war growth in workers' income, and the result was a nationwide rise of retail pet stores as well as puppies being sold in the pet departments of retail giants like Sears Roebuck and Montgomery Ward. This marked the beginning of the business of mass puppy production.

Reference to the "farming" of puppies gave way to more business-like terminology, and the dog breeders began to refer to their operations by different names, such as 'professional breeding kennels,' 'high-volume breeders,' and 'large-scale breeders.' The mass production aspect of these operations at some point gave rise to the term 'puppy mill,' which has come to be defined by many as 'a commercial farming operation in which purebred dogs are raised in large numbers.' My definition of a *puppy mill* is: Any breeding operation in which the emotional and physical needs of the dogs and puppies are not adequately to provide all the animals in the facility with a relatively decent quality of life. For the purposes of this talk, high-volume puppy producing operations will be referred to as puppy mills or commercial breeding establishments (CBE).

In general, puppy mills are operated like agricultural enterprises in which the dogs are regarded as livestock. Conditions in puppy mills vary from modern, clean, and well-kept to squalid, noxious, and gravely detrimental to health. Common to virtually all puppy mills are the following: a large number of dogs, maximal efficiency of space by housing dogs in or near the minimum space permitted by law, the breeding dogs spending their entire breeding lives—in most cases, years—in their cages or runs, group and solitary housing, dogs rarely if ever permitted out of their primary enclosures for exercise or play, no toys or enrichment, minimal to no positive human interaction or companionship, and inadequate health care. Many of the dogs in these facilities vocalize loudly and jump up at the front of their enclosures whenever a human walks by—behavior consistent with that reported in kenneled dogs and presumed to be an effort to decrease human-animal distance and facilitate interaction. Commonly reported conditions present in many but not all puppy mills include cage flooring made of wire spaced too widely for dogs to walk on comfortably, accumulation of feces, strong ammonia odor, no windows and poor ventilation, inadequate protection from inclement weather and temperature extremes, contaminated water and spoiled food, serious untreated medical conditions (particularly, advanced dental disease), collars and chains growing into dogs' necks, extensive matting of hair, dogs showing compulsive behaviors, starvation, and deceased adult dogs and puppies. Some puppy mill operators

debark their own dogs, using crude instruments or hardware inserted in the dogs' throats to cause trauma to the vocal cords.

Our study: Mental Health of Dogs Formerly Used as “Breeding Stock” in Commercial Breeding Establishments (*Applied Animal Behavior Science* Vol 135:96-94, 2011)

Behavioral evaluations of the dogs were obtained from current owners/fosterers using the C-BARQ questionnaire, which rates either the intensity or frequency of the dog’s behaviors. A total of 1,169 former puppy mill dogs were included in the study. The dogs had been living in their adoptive homes for an average of 2 years when the C-BARQ was completed.

When compared with a control group of pet dogs, former puppy mill breeding dogs were reported as showing significantly higher rates of health problems (23.5% versus 16.6%). With respect to behavior, puppy mill dogs displayed significantly higher rates of fear (both social and nonsocial), house-soiling, and compulsive staring; and significantly lower rates of aggression (towards strangers and other dogs), trainability, chasing small animals, excitability, and energy. (Figure 1)

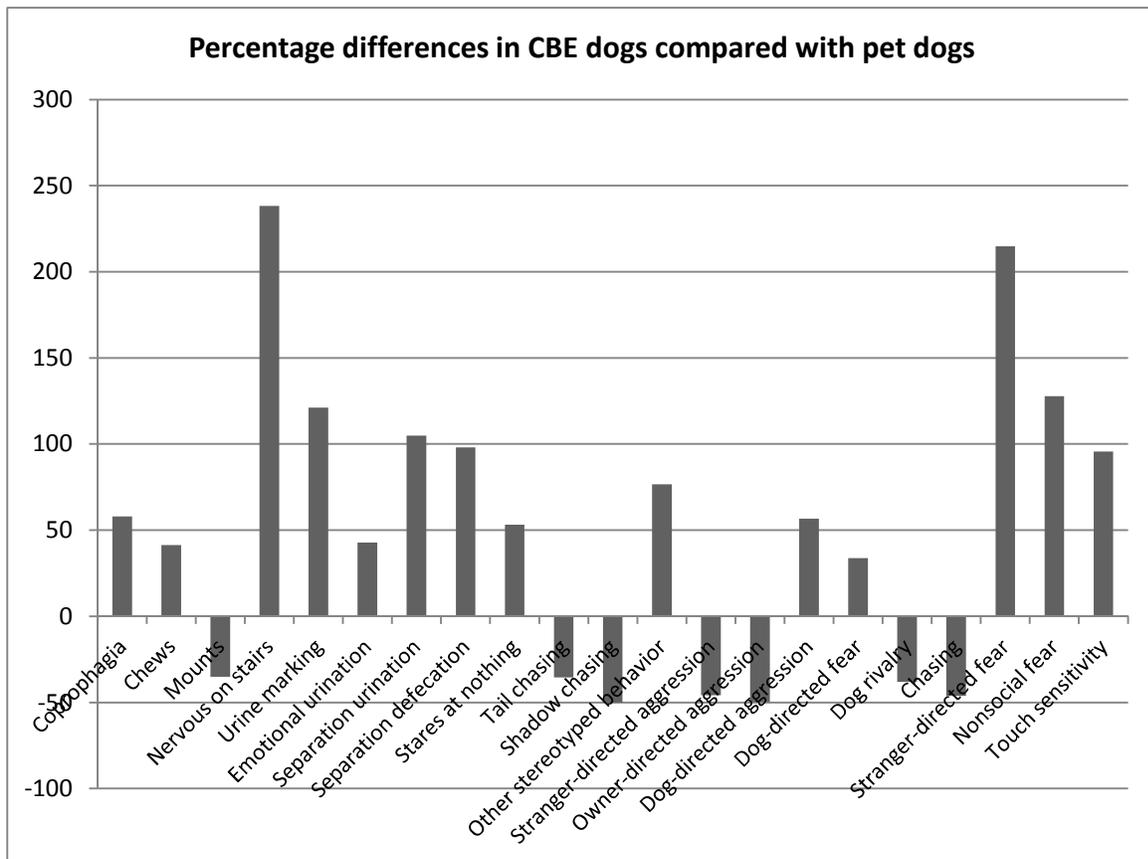


Figure 1. Factors with >30% difference between former puppy mill breeding dogs and pet dogs

Five questions in the C-BARQ permit the participant to freely describe their dog's behavior relative to the behavioral category of the question (e.g., General behavior/temperament problems; Situations where the dog is sometimes aggressive, is fearful or anxious, and sometimes becomes over-excited; and Miscellaneous behaviors). Regularly encountered language describing *fear and fear-related behaviors* included (some dogs are represented in more than one category): skittish (44); startles easily (10); always 'on alert,' 'on edge,' 'on guard,' and 'hyper-alert' (5); overly reactive, jumpy, or easily unnerved, frightened, scared, spooked, or panicked (27); frightened by sudden or quick movements or sounds (33); frightened of everything or almost everything (24); and frightened all the time under any circumstances (12).

Several behavioral descriptions could be categorized as related to *altered cognitive function*. These included one specific question concerning *Stares intently at nothing visible* (increased 53.2% over control group) as well as 22 written-in comments describing signs (Table 1).

- ◆ Stares intently at nothing visible (from specific item in questionnaire)
- ◆ Always seems like she is in another world (clueless to her environment)
- ◆ Will put his front feet on the wall at stare at the wall
- ◆ Slow to learn
- ◆ Attention span of a flea
- ◆ Not aggressive- not friendly- just there
- ◆ If he were human he would be autistic
- ◆ Can't focus
- ◆ At times she seems to regress into unknown fears and won't come to me or even runs away
- ◆ She acts like she is autistic - no eye contact, scratches at the wall
- ◆ Understanding discipline vs. punishment
- ◆ She has doggy dementia – gets disoriented
- ◆ She seldom shows any emotions at all – she is very stoic
- ◆ Cannot grasp commands
- ◆ She has unprovoked and unexplained temper tantrums
- ◆ Will pawscratch at furniture when there's nothing there
- ◆ Mild dementia/confusion/barks for no reason
- ◆ Best described by "lights on nobody home" – sort of autistic
- ◆ Intermittent confusion
- ◆ Dementia started recently
- ◆ Is becoming more and more irritable
- ◆ Autistic-like, doesn't show or accept affection
- ◆ I believe she is becoming senile

Table 1. Selected examples of written-in descriptions of other bizarre, strange, or repetitive behavior or behaviors

Compulsive behavior – defined as 'a sequence of movements usually derived from normal maintenance behaviors (grooming, eating, walking) that are performed out of context in a repetitive, exaggerated, ritualistic, and sustained manner – was frequently found in former puppy mill dogs. Most common compulsive behaviors include spinning; tail chasing; self-mutilation; hallucinating ("fly-biting"); circling; fence running; pica; pacing; vocalizing and shadow/light chasing.' Pacing and circling were the 2 most

frequently reported repetitive behaviors; 61 dogs showed 1 or both of these behaviors. Additional signs reported as “bizarre, strange, or repetitive behavior or behaviors” are presented in Table 2.

- ◆ Creates imaginary line that he won't cross
- ◆ Goes in and out the doggie door repetitively
- ◆ Sits on butt going around in circle snapping air
- ◆ Obsessively runs back and forth in yard until worn out
- ◆ Jumps and rolls on the floor and slams body on floor
- ◆ Moves forelegs in a stepping position while standing in the same spot
- ◆ Sometimes rips her own hair out
- ◆ Circling, has also thrown his body into walls
- ◆ Her toys *must* be in order, she will count them and pace if one is gone
- ◆ Self-mutilates
- ◆ Licks the air
- ◆ Licks other dogs repetitively
- ◆ Often sucks on cotton fabrics, towels, blankets at nighttime
- ◆ *Really* likes to hold onto my hand and lick

Table 2. Selected examples of written-in descriptions of “other bizarre, strange, or repetitive behavior or behaviors”

The psychological state that most obviously distinguishes former puppy mill breeding dogs from typical pet dogs is fear. As determined by their scores on most of the C-BARQ fear levels (fear of strangers, fear of stairs, nonsocial fears, and touch sensitivity), as well as written-in comments from their adopters, many of these dogs appear to experience regular and often persistent fear or anxiety, even after years in their adoptive households.

The abnormal behaviors observed in the former puppy mill breeding dogs in this study have multiple potential causes. However, the two explanations most consistent with the findings are stress-induced psychopathology and inadequate early socialization and/or lack of exposure to environmental stimuli normally found in the lives of typical pet dogs. Stress-induced psychopathology can be caused by many different types of stressful experience, many of which have been identified in dog kennel situations. Confinement, lack of enrichment, lack of play, inability to escape from cagemates, lack of positive human social interaction, excessive noise, noxious smells (e.g., ammonia odor from urine), temperature extremes, wire cage flooring, inadequate health care – all can be sources of psychological distress, suffering, and trauma. Inadequate socialization during the first few months of a puppy’s life leaves the social brain connections improperly configured for healthy and positive social relationships throughout the dog’s life. With rare exceptions, puppy mill breeding dogs are themselves conceived, born, and raised in puppy mills and live in throughout their sensitive periods for socialization. As a group, the puppy mill dogs in our study exhibit a variety of abnormal behaviors consistent with the effects of poor socialization and stimulus deprivation in early life. Other potential causes of the psychobehavioral differences in the former breeding dogs include maternal (pre-natal) stress, early life trauma, and genetics.

Conclusion: By demonstrating that dogs maintained in puppy mills were reported to have developed long-term fears and phobias, compulsive behaviors such as circling and pacing, possible learning deficits, and are often unable to cope fully with normal existence, this study provides the first scientific evidence

that dogs confined in puppy mills for breeding purposes demonstrate impaired mental health and, as a result, diminished welfare.

PET STORE PUPPIES

It's been a longstanding belief among much of the public as well as the veterinary profession that puppies that come from pet stores are highly prone to illness, congenital defects, and other problems. However, there has been almost no science to substantiate this belief.

WHERE DO PET STORE PUPPIES COME FROM?

The source of pet store puppies is shrouded in secrecy. Pet store owners—private or corporate—are often less than forthcoming when discussing the source of their puppies. Obtaining candid answers to this question is not currently possible for a number of reasons: (1) pet stores aren't required to tell the customer where the puppies come from, and (2) the terminology describing breeding operations is nonstandardized, thus allowing claims to be made that cannot be confirmed or disproved by any authoritative source. For example, a claim that "our puppies come from private breeders" may carry the general connotation of a person tending to and breeding a small number of dogs in the privacy of their own home, yet can mean virtually anything, including any size of breeding operation. Conversely, a pet store can, with impunity, deny that their puppies come from puppy mills, since there is no legal, official, or otherwise standard definition of 'puppy mill.'

One prominent view regarding retail puppy sales is that no reputable breeder will sell their puppies through a pet store. Such a claim cannot be conclusively confirmed; however, there appears to have yet been no reliable effort by retail sellers to disprove it on a large scale. There is in fact no evidence to refute the contention that the vast majority, if not all, of pet store puppies come from puppy mills.

WHAT HARM CAN OCCUR TO PUPPIES IN PUPPY MILLS?

The puppies are usually removed from their mothers and shipped to pet stores at around 7-8 weeks of age. To live in the puppy mill environment for only a few short weeks would at first glance appear to provide very little opportunity for psychological harm. Unfortunately, such is not the case.

Time periods where puppy mill puppies are vulnerable to psychological injury

- ❶ **PRECONCEPTION PERIOD**
- ❷ **PRENATAL (PREGNANCY)**
- ❸ **INFANCY**
- ❹ **PREMATURE WEANING**
- ❺ **TRANSPORT**
- ❻ **PET STORE**

❶ PRECONCEPTION PERIOD

GENETIC MAKEUP OF PARENTS

- ◆ No meaningful genetic screening when breeding – hips, eye diseases, demodectic mange, luxating patellas, hernias, deafness, epilepsy
- ◆ Inbreeding – concentration of undesirable traits
- ◆ Psychological traits with genetic basis
 - Aggression
 - Fearfulness/timidity
 - Nervousness

The puppy's psychological makeup has an enduring effect on his/her emotional well-being throughout life – it's how the dog's mind was constructed by the gene combination of his parents

- The dog *suffers*
- He can't escape it
- It can't be trained out – though may be modifiable

② PRENATAL (PREGNANCY)

Stress to the mother during her pregnancy—Studies show that prenatal maternal stress may induce long-lasting alterations in brain structures and functions of the offspring

In people

- High amounts of daily hassles and anxiety during pregnancy is associated with decreased mental development scores in infants
- Prenatal maternal stress, anxiety, and depression affects the development of the infant temperament and personality
- Stressful experiences during pregnancy can lead to increased chance for mental illness later in child's life

In animals

- Behavioral deficits and molecular changes in the offspring similar to those observed in schizophrenic humans
- Diminished the quality of the social interaction behavior
- Abnormally increased fearfulness
- Increased incidence of anxiety and depressive-like behavior
- Increased vulnerability to stress—impaired ability to cope with and adapt to stress, challenges, threats, and adversity throughout adult life

Prenatal psychological injury – What happens not to the puppy, but to his mother, in the very brief 9 weeks before he is born – at a time he isn't even conscious and has no memory of – can inflict psychological wounds that can rob him of the very ability to enjoy his life

③ INFANCY

SENSITIVE PERIOD FOR FEAR

- ◆ For minimizing fears throughout life
- ◆ Capable of instilling fears that can persist throughout life

PERMANENT PSYCHOLOGICAL SCARS

Trauma/stress in early life

- What's known in children: Scientific studies have identified childhood trauma and adversity as a major risk factor for many serious adult mental and physical health problems
- What's known in dogs: Innumerable studies have shown that trauma occurring during puppyhood can have detrimental emotional consequences for the dog's lifetime

④ PREMATURE WEANING

INADEQUATE SOCIALIZATION

Neurologically wired wrong – greatly impaired ability to experience and enjoy positive, healthy, relationships

⑤ TRANSPORT

Puppies are shipped by truck, van, and/or plane to broker. They remain there up to 48 hours. Puppies then shipped to pet stores. Overall trip spans hundreds to thousands of miles, taking 2-4 days.

HOW TRANSPORT CAUSES PSYCHOLOGICAL INJURY TO PUPPIES

All experiences occur during a very sensitive fear period in puppy development

- All experiences faced without their mothers' presence – extreme stress
- Transport by van, truck, or plane – stress from motion, unfamiliar surroundings, and disrupted sleep
- Stress from inadequate temperature regulation, heat and/or cold
- Fear from noise and smells of truck or plane, traffic, jet engines, air pressure changes
- Fear from noise and smells of other dogs
- Fear from human handling at puppy mill and broker's – extreme stress
- Overcrowding – stress
- Insufficient water – stress from thirst
- Insufficient food – stress from hunger
- Exposure to diseases – physical and psychological stress
- Ammonia smell from urine of all dogs – irritation and discomfort stress
- Physical contact with urine and excrement – physical and psychological stress

It would be hard to devise an experience that would cause more emotional distress and psychological injury

⑥ PET STORE

PSYCHOLOGICAL INJURY

- Psychological stress of unfamiliar and frightening people, animals, and surroundings

PHYSICAL HEALTH PROBLEMS

- Physical illnesses: parasitic (internal, external), infectious diseases (intestinal, respiratory), congenital disorders

STUDIES INVOLVING PET STORE PUPPIES

Jagoe (1994) 737 adult dogs

- **Part 1:** Looked at adult dogs who had illnesses when young – doesn't specify pet store origin, but potential relevance based on common occurrence of health problems in pet store puppies. Study compared the incidence of psychological and behavioral traits with those of adult dogs that were not ill as puppies. Results: when compared to puppies not seriously ill as puppies, adult dogs that were ill as puppies had higher incidence of dominance-type aggression, aggression toward strangers, fear of strangers, fear of children, and separation-related barking.
- **Part 2:** Looked at incidence of 40 different behavioral problems in adult dogs, broken down by the dog's source. Source categories were: Home bred, Found, Pet shop, Shelter, Friend/relative, and Breeder. Results: pet store dogs scored dramatically higher than all other sources on dominance-type aggression and social fears.

CONCLUSION

The harm experienced by adult breeding dogs and puppies sold through pet stores can be extensive and long-lasting. Many of the dogs go through the experience with little evidence of psychological harm, and many of those harmed can heal over time with patience and rehabilitation. However, many dogs carry severe psychological scars for years and sometimes for a lifetime.

References available from author on request