

How Early Life Experiences Shape a Dog's Well-Being

Did your dog have a rough start in life - was he rescued, relinquished or did he come from a puppy mill? This study explores how early hardships can influence a dog's stress response later in life and their relationships with humans. Can early life adversity even have lasting physical effects?

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STORY AT-A-GLANCE

- A recently published study by researchers at the University of Nebraska at Omaha looked at the influence of negative early life experiences on the physiological and behavioral responses of dogs throughout their lives
- Specifically, the study co-authors evaluated the effects of early hardships on an adult dog's responses to stress, and whether those early experiences affected the dog's ability to find comfort in his or her owner
- In the study, dogs with adverse early life histories showed higher average levels of cortisol than dogs reared in healthier environments, suggesting an ongoing residual effect
- In a mild stress test, the same dogs responded fearfully to the presence of an approaching stranger and exhibited several behaviors suggesting they viewed their owner as a "safe haven" during the test
- The researchers suggest mitigation efforts to prevent early life adversity for dogs, including reducing overcrowded housing situations, implementing adequate human socialization, environmental enrichment, gradually weaning puppies from their mothers at a proper age, and providing quality medical care and nutrition

Generally speaking, the presence of a dog can have a beneficial effect on human stress levels, and the reverse is also true — dogs in stressful situations seem to draw comfort from human contact.¹

However, a recent study published in a special issue of the Journal of the Experimental Analysis of Behavior suggests that dogs who've faced adversity early in life may handle stress differently and have a different relationship with their humans than dogs raised less harshly.²

Are Dogs, Like Humans, Shaped by Early Life Events?

The study was conducted by researchers in the department of psychology at the University of Nebraska at Omaha and is one in a series of studies that have been ongoing for a decade. The purpose of the research is to examine how stressors, including those in early life, affect the physiological and behavioral responses of dogs throughout their lives.

Research suggests that events in early childhood shape personality and behavior later in life, based on the psychodynamic theories of Sigmund Freud, Erik Erickson, and Carl Jung. The ongoing series of studies at the University of Nebraska is showing that the theory also applies to and helps explain canine behavior.

*"The poetic expression of this hypothesis," writes Stanley Coren, PhD., DSc., FRSC, in Psychology Today, "is 'The child is father to the man' which was coined by William Wordsworth in his 1802 poem 'My Heart Leaps Up'."*³

Well-Bonded Dogs Find Comfort and Safety with Their Humans

Researchers use a variation of a technique developed to study attachment behavior in human children called the "Strange Situation." The experiment involves bringing a child to an unfamiliar location, among unfamiliar people, either alone or with a parent or caregiver.

A normal child with a healthy emotional attachment to the parent/caregiver, will view the adult as a "safe haven" in this anxiety-producing scenario. The child appears to feel more confident and secure with the caregiver nearby and is more willing to explore the room and check out the toys scattered about, even with strangers present.

A similar type of response has been observed in well-bonded dogs using a variation of this experiment, leading researchers to conclude that dogs feel a level of safety and comfort when their humans are close by.

Early Adversity Results in Higher Levels of Cortisol

The goal of the present study was to evaluate the effects of early hardships on an adult dog's **responses to stress**, and to determine if those early experiences affected the dog's ability to find comfort in his or her owner. A group of 23 dogs with adverse early life histories (e.g., being born and reared in a puppy mill) were compared with 22 normally raised dogs with no history of neglect, most of which came from diligent home- or farm-based breeders.

The researchers found that in general, the dogs with negative early life experiences showed higher average levels of the stress hormone cortisol than the dogs reared in a healthier environment. This suggests there might be an ongoing residual effect of the adversity those dogs endured at a young age.

The researchers used a combination of owner assessments of their dogs' behavior via the Canine Behavioral Assessment Research Questionnaire (C-BARQ), and direct observations of the dogs' behavior in a mild stress test.

The data collection showed that the dogs with adverse early life experiences:

- Were more fearful towards strangers in general
- Were more fearful in non-social situations (e.g., a **loud environment**)
- Were more clingy
- Had higher levels of attention seeking
- Had more separation-related anxiety
- Showed lower levels of trainability

Dogs' Behavior During a Mild Stress Test

For the stress test, each dog was brought to a room with a blanket on the floor; in the middle of the room was a low stool where a human (either the pet parent or a researcher) sat during the tests, which were video recorded. The person, who was instructed not to speak to or touch the dog, sat on the stool, and held the dog's leash to restrict him

or her from moving widely around the room.

Next, the mild stressor, in the form of a "threatening stranger," entered the room. This person was a female researcher who came in through a back door and scraped her foot against the floor to get the dog's attention. Then she looked directly into the dog's eyes (a hostile nonverbal signal in the canine world), and slowly moved toward the dog, upper body slightly bent, and hands behind her back.

The female researcher's approach from the door to the center of the room took approximately 30 seconds; however, her forward movement stopped if the dog showed reactivity, fear, or aggression in the form of cowering, barking, or growling.

The videos showed that most of the dogs subjected to adverse early life events responded fearfully, even when their owner was seated on the stool. The normally reared dogs, on the other hand, didn't seem to feel all that threatened by the "threatening stranger," evidenced by the fact that many of them showed a friendly response to her.

The dogs with difficult early lives exhibited several behaviors suggesting they viewed their owner as a safe haven during testing, including:

- Showing higher levels of physical contact with their owner, e.g., licking, touching, or leaning against them
- Engaging in more gaze alternation, meaning they looked at the stranger and then at their owner's face and eyes, perhaps to see if their owner felt the stranger was a threat

According to the researchers, these behaviors suggest that the dogs, feeling anxious at the stranger's approach, required emotional support in the form of attention from their owner.

The normally reared dogs also found support and stress reduction in their owner's presence, but in different ways, such as exploring more freely when their owner was in the room, and other behaviors.

Bad Puppyhoods Can Be a Detriment to Dogs in Later Life

The study co-authors concluded that:

"The findings from this study provide further insight into how early life histories influence biological systems that underlie the dogs' social behavior. From an applied perspective, studies like ours could inform on the care and rehabilitation of dogs removed from adverse environments due to neglect and call attention to the detrimental effects.

*Though isolating one specific contributor to the altered physiological and behavioral outcomes of dogs from adverse environments is nearly impossible, reducing overcrowded housing situations, implementing adequate human socialization, environmental enrichment, gradually weaning puppies from their mothers at a proper age, and providing quality medical care and nutrition could mitigate these effects."*⁴

Sources and References

^{1,3} [Stanley Coren PhD., DSc, FRSC, Psychology Today, May 30, 2023](#)

^{2,4} [Buttner, A. P. et al. Special Issue: Experimental Analysis of Canine Behavior and Cognition, Volume 120, Issue 1, July 2023, Pages 6-20](#)