



LONGEVITY

WHY SOME BREEDS AND OWNERS LIVE LONGER

by Dr. Carmen L. Battaglia

Not everyone who wants to be healthy and live longer will actually be able to do it. Recent studies show that those who own a dog and follow a few lifestyle recommendations have the best chances. According to research findings, scientists are racing to collect information and document how. Five factors have been identified that make the difference, and—when taken together—they confirm that doing the right things contributes to a longer and healthier life for both owners and their dogs.

Information recently collected confirms that the “absolute limit” of the human lifespan is between 100 and 150 years. This was based on the research and analysis of 70,000 participants up to age 85 and their ability to fight disease, risk of heart conditions, and cognitive impairment. Scientists now believe the future looks promising and that the secret to longevity centers around the improvements made in medicine, the environment and technology. Each plays a role and contributes to lengthening an expected lifespan for both dogs and humans.

For example, it is now known that the aging process is influenced by a powerful “biological clock,” represented by the telomere/telomerase system which repeats sequences of non-coding DNA located at the terminal ends of chromosomes. These sequences play a major role in maintaining chromosome stability including the protection of genetic material from degradation during cell division. A number of studies show that chronic social isolation results in elevated levels of hormones that consequently affects the cellular mechanisms of aging, and shortens the telomere lengths (Boonekamp et al., 2017).

Many researchers have noted that the human body is made up of about 30 trillion cells constantly dying and being replaced by new cells. Within the cell body there are chromosomes and DNA with the codes written for humans. At the end of a DNA strand is a microscopic bundle of important material that gets snipped off when the cell divides. The average cell divides itself about 50 times before it loses its ability to replicate, and as more and more

cells become ineffective and die, the signs of aging start to show in gray hair, weaker bones and vision loss. For example, Puhlmann et al. (2019), reported that telomere shortening is associated with the development of several of aging-associated diseases and structural changes in various regions of the brain. His results show that in order to extend the human life span, a combination of factors must be considered that link together lifestyle, diet and exercise:

DOG OWNERSHIP AND CALORIES

Extending your dog’s lifespan by as much as three years can now be achieved by paying attention to their body condition, weight and intake of calories. This finding was reported by scientists at the Purina Farms research facility who found that owners who fed less had healthier dogs. It works for all breeds and sizes of dogs. Overweight and obese puppies and dogs have two things in common—they will have more health problems and most will have shorter lives. Researchers at several other institutions also agree that the thinner dogs who remain active are healthier and live longer.

DOG OWNERSHIP, PLAY AND EXERCISE

Humans, on the other hand, are more complex in their requirements to live longer. Two studies published in *Circulation*, a journal published by the American Heart Association, found that human mortality rates decreased by as much as 24% for those who owned a dog. This study was conducted over a period of 70 years and involved more than 4 million people. The World Health Organization reported that heart attacks and strokes continue to be the two greatest causes of death across the globe. Dr. Caroline Kramer, the lead author of this study, noted that people who lived with a dog and had already suffered such a serious health event had a 31% reduced risk of dying from cardiovascular disease. The gap widened even more for people who lived alone. Kramer found that heart attack suffers

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who lived alone and owned a dog had a 33% lower risk of death as compared to those who did not own a dog. Similar results were found for those who suffered a stroke and lived alone. They had a 24% lower risk of death if they owned a dog. One of the best indicators of longevity was the stress associated with loneliness.

Researchers concluded that dog owners that stay mentally and physically active, live with a dog and use play sessions (throwing a ball, taking hikes etc.) have an advantage. They reported that 30 minutes of exercise three days a week reduces the growth and division of cancer cells and stimulates cancer cell death. (Stegall). These owner-play sessions, and Micro Workouts—or short “movement snacks” like brisk walks with their dog falls into the category of prevention. Additionally, dog-owners when tested who were active with their dogs were found to have improved cardiovascular functions.

DOG OWNERSHIP AND SLEEP

The second factor affecting longevity is sleep. According to Dr. Kien Vuu, assistant clinical professor of medicine at UCLA and author of *Thrive State*, stated that sleep is the “important foundation of health”. Getting at least seven hours of sleep each night helps the body repair itself. The opposite is also true. The lack of sleep has been linked to inflammation and obesity and a higher risk of developing type 2 diabetes and other health conditions. Contrary to those who believe they only need a few hours of sleep, the experts say that during the state of quiet sleep, the brain remains active carrying out many important functions which makes sleep essential for the body’s ability to affect our physical and mental functions, our ability to fight disease and develop immunity, and reduce the risk of chronic disease. During deep sleep, the body works to repair muscles, organs, and other cells and strengthens the immune system. There are seven known benefits of sleep:

- Boosts the Immune System
- Helps Prevent Weight Gain
- Strengthens the Heart’s Functions
- Improves Mood
- Increases Productivity
- Increases Performance
- Improves Memory

In the Mayo Clinic sleep study of 40 humans who allowed their dogs in their bedrooms at night, Mayo researchers measured sleep efficiency—the actual time spent asleep. Owners with dogs in their bedroom had a sleep efficiency score of 85 percent (9) which was higher than those without a dog in the bedroom. Sleeping with dogs on and off the bed was not measured; however, Mayo did find that



people who slept with their dogs had lower levels of depression (5) and increased levels of Oxytocin, the love chemical. (6)

OXYTOCIN (OT)

The third factor affecting longevity is a body chemical called

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Oxytocin (OT). In humans it is known to spike in babies and their mothers during the first hour after giving birth during nursing. It has also been found to spike during periods of courtship when individuals report they are falling in love. Similar results were found by researchers at the Johns Hopkins Medicine Center who reported that cuddling close to another person and cuddling with your dog lowers cortisone levels, a hormone associated with stress. Cuddling releases OT which promotes the lowering of cortisone levels.

COFFEE

The fourth factor impacting longevity was coffee, and there was no shortage of research studies attesting to the benefits of 2-3 cups every day. Some of the benefits include a reduction of risk for: Parkinson’s disease, Type 2 diabetes, heart disease, prostate cancer, melanoma, depression and suicide, cirrhosis of the liver, Liver cancer (1). The newest study in the *Annals of Internal Medicine* was based on 170,000 people in the United Kingdom, ages 37-73. Their finding was that the coffee drinkers were 16-21% less likely to die from the diseases listed above. In another study published in the *Journal of Circulation* that tracked 200,000 people for 30 years, found that the coffee drinkers (2-5 cups per day) were 15% less likely to die from the diseases listed above.

Many studies show that coffee contains many beneficial com-

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pounds for health, including caffeine, diterpenes, and chlorogenic acid and that coffee consumption has been linked to the prevention of chronic and degenerative conditions, including cancer, cardiovascular disorders, diabetes, and Parkinson's disease.

A new and impressive study published in the *British Journal of Sports Medicine* reported that balancing on one leg may serve to predict longevity according to this peer-reviewed study. Scientists studied 11,702 participants and found they were twice as likely to die in the next decade if they were unable to balance on one foot for 10 or more seconds. It is still too early to know how useful this test will be and what role a person's ability to balance plays in life expectancy across age ranges. More work is needed to test the issue of balance and whether it is better than aerobic fitness, flexibility and muscle strength.

The takeaway from all of these studies is the finding that there is an association between dog ownership, dogs in the bedroom, daily consumption of coffee, sleep and oxytocin. All are known to play a role in living longer or dying young (20).

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Carmen L. Battaglia holds a Ph.D. and Master's Degree from Florida State University. He is an author of many articles, several books, an AKC Director, judge and researcher. He is a well-known lecturer and leader in the promotion of breeding better dogs.

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