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Hal Herzog, Ph.D., *Animals and Us*, *Psychology Today*

Do Purebreds (But Not Mutts) Reduce Dog Owner Death Rates?

New study finds that only owners of purebred dogs have lower mortality rates.

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Source: Photos by ftoahagodka/123RF and Eric Isslee/123RF

Researchers in Sweden recently examined mortality rates among 350,000 individuals who had suffered a heart attack or stroke. They found that owning a dog was strongly associated with lower death rates.

With headlines like, "[You Could Live 24% Longer Thanks To Your Dog.](#)" the study attracted worldwide media attention. But the headlines ignored several other fascinating results of the study.

Why, for example, were associations between lower death rates and dog ownership only found among people who

lived with purebred dogs? And are there national differences in the impact of dogs on human health?

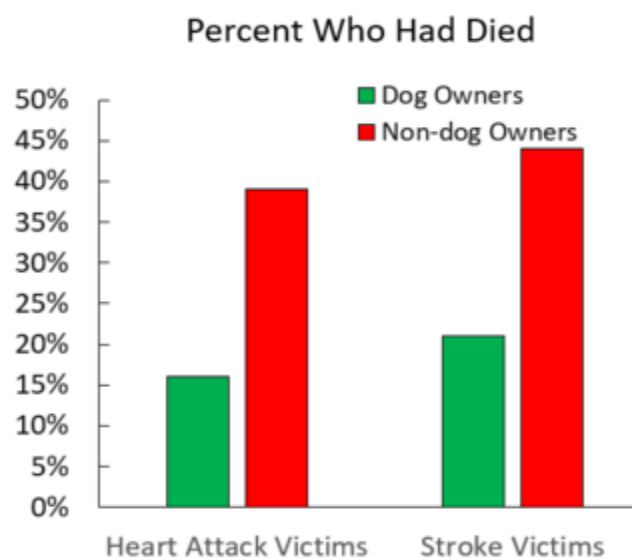
[Published in the journal *Circulation*](#), the study was conducted by a highly regarded research group headed by Dr. Tove Fall, a molecular epidemiologist at the University of Upsala. Their study was based on several large databases. These included the Swedish National Patient Register which keeps records on hospital patients in Sweden and the Cause of Death Register which contains information on every death. In addition, all dogs in the country are, by law, registered with the Swedish Board of Agriculture and purebreds with the Swedish Kennel Club.

The data used in the study included 181,696 individuals who had a heart attack between 2001 and 2012 and 154,617 who had suffered a stroke. Nearly 18,000 of these individuals owned a dog.

Using this information, the researchers were able to calculate differences in the likelihood of dying for the dog owners and non-owners. And they were also able to analyze the mortality rates of owners of different breeds of dogs.

The Results

About 70,000 of the heart attack victims and 67,000 of the stroke victims died over the 12-year period.



Source: Graph by Hal Herzog

As shown in this graph, the dog owners had about half the death rates of non-dog owners. The problem is that these lower death rates may have been due to factors unrelated to having pets.

For instance, the dog owners in the study were younger and wealthier than those who did not have a dog. Further, more of the dog owners were women, married, and lived with children in their homes.

To examine the impact of dogs independently of factors like sex, age, and medical history, the researchers used a statistic called “adjusted hazard ratios.” Using this technique, they found that the lower mortality rates among dog owners remained even after they eliminated differences attributable to age, sex, income, marital status, having kids at home, region of birth, population density, and even previous medical conditions. Indeed, owning a dog was associated with an impressive 21 percent lower risk of death among the heart attack victims and an 18 percent lower risk of death among victims of a stroke.

Further, among heart attack victims who lived alone, having a dog reduced the risk of death by 33 percent compared to a 15 percent reduction in risk for people who lived with a partner or with children.

The same pattern was true of stroke victims. In these cases, dog ownership was associated with a 27 percent decline in the risk of death in people who lived by themselves compared to a 12 percent decrease in people who lived with others.

The Swedish study is important for several reasons. The sheer number of subjects reduces the possibility that the major findings were statistical flukes. And the

researchers went to great lengths to control for non-pet factors related to death rates. Further, the size of the relationships between dog ownership and mortality rates was impressive.

The Bad News: No Impact of Mixed Breed Dogs on Death Rates

The benefits of living with dogs, however, depended on their breed. Owning a retriever, for example, was associated with a 40 percent decrease in mortality rates among the heart attack victims. And stroke victims who lived with scent hounds were 32 percent less likely to die.

In contrast, owning a dog in the “companion and toy” category did not reduce death rates at all. (This group included “lap dog” breeds like Boston Terriers, Cavalier King Charles Spaniels, Chihuahuas, French Bulldogs, Lhasa Apsos, Pugs, Pekingese, and Shih Tzus.)

But perhaps the most surprising result was that living with a mixed breed dog was not associated with any reduction in mortality. And, this was true for both the heart attack and stroke victims. That’s right. The medical benefits of living with a dog only accrued to the owners of purebreds.

At first, I was tempted to attribute the purebred versus mixed-breed difference to the vagaries of random chance. But for a couple of reasons, I think the purebred effect might be real.

First, the lack of a link between mortality rates and owning a mixed-breed dog was found in two different groups — the heart attack victims and the stroke victims. Second, there were reasonably large numbers of mixed-breed dog owners in the study, including 1,692 heart attack victims and 1,255 stroke victims. Finally, [in a separate study](#) published in 2017, the same research team also found that owning mixed-breed dogs did not have any impact on mortality rates among 3.5 million Swedes.

In an e-mail to me, Dr. Fall suggested that some death rate differences between breeds could be due to the lifestyles of the types of people who choose to own different types of dogs. Active, healthy people may be more attracted to energetic breeds like German Pointers that like to go for long hikes in the woods. Couch potatoes, on the other hand, might opt for low energy pets like, say, English Bulldogs that would provide less incentive for exercise. This makes sense.

But she confessed to being mystified by mixed-breed versus purebred differences. She wrote, “There is something with the mixed-breed owners in all our studies that I cannot understand. I think it is something in these owners apart from income that is reflecting social class.”

National Differences in “The Pet Effect?” on Mortality Rates?

Another intriguing finding of the study relates to national differences in the impact of dogs on human health. Large epidemiological studies on the “pet effect” in different countries have produced different results. Take, for example, [a 2018 study](#) that examined the relationship between dog ownership and mortality rates among 60,000 British adults. Like the Swedish study, the researchers analyzed their data using hazard ratios, and they also controlled for a slew of demographic and lifestyle variables. But in this case, there was no connection between owning a dog and either “all caused deaths” or deaths associated with cardiovascular disease.

Given the large sample sizes in both studies, it seems unlikely that the differences in the impact of owning a dog in England and Sweden on death rates were due to a statistical fluke. A clue to this difference, however, might lie in the rates of dog ownership in different countries.

About 6 percent of participants in the Swedish study owned a dog compared to 29 percent of the subjects in England. Indeed, as Tove pointed out, Sweden has the second-lowest rate of dog ownership among European Union countries (about 13 percent). It's likely that the even lower rate of dog ownership in the study reflected the age of the participants (71 for heart attack victims and 73 for stroke victims).

The generally low rate of dog ownership in Sweden might be due to their strict dog welfare regulations. The Swedish Department of Agriculture specifies that dogs should not be kept indoors alone for long periods of time, and they must be taken for a walk at least every six hours during the day.

As a result of rules like this, owning a dog in Sweden can be expensive. For example, people who work full-time often need to sign their pet up for daily doggie daycare which in Sweden costs more than child daycare. (My Swedish friend Kia tells me that canine daycare costs twice as much as she pays for her son's daycare.)

As Tove wrote to me, “The high threshold to get a dog in Sweden may affect our results — meaning that dog owners are different than in other countries.”

Cause or Effect?

The Swedish study provides some of the best evidence of a link between dog ownership mortality rates. But do these findings mean that people who have had a heart or stroke should acquire a dog — but not a mixed-breed or lap dog — as part of their therapy?

No. These types of epidemiological studies are correlational. Thus, they cannot distinguish between whether having a dog improves human health or if healthier people

are more likely to have the energy to get a dog. As the researchers wrote, "Although our models are adjusted for many potential confounders, there are also unmeasured confounders such as smoking that prevent us from drawing conclusions regarding a possible causal effect."

But I am still fascinated by why people with purebred dogs had lower death rates than the owners of mutts. For example, would the same difference be found among dog owners in the United States?

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