Investigation on how weight and height relate to the life expectancy of various dog breeds.

By Chelsea Turner

For my investigation I will be looking at the height, weight, and original breeding purposes of twenty-eight breeds of dogs, and whether this is related to the breeds average longevity. Using line graphs and column graphs to compare information on how the dogs breed may be affected by average weight and average height among the breeds.

Sample Space:

working, herding, hound, sporting, non-sporting, terrier, and toy

Working: Border Collie, German Shepard, Labrador, Golden Retriever,	Avrg: 13.5, 11, 11, 11, = 11. 6 y
Herding: Australian Shepard, Blue Heeler, Shetland Sheepdog, Briard,	Avrg: 14, 14, 12.5, 11, = 12.8 y
Hound: Beagle, Dachshund, Bloodhound, Greyhound,	Avrg: 13.5, 14, 11, 12, = 12.6 y
Sporting: Cocker Spaniel, Irish Setter, Brittany, English Pointer,	Avrg: 12, 13.5, 13.5, 14.5, = 13.4 y
Non-Sporting: Bulldog, Poodle, Chow Chow, Shiba Inu,	Avrg: 9, 13.5, 12, 13.5, = 12 y
Terrier: Bull Terrier, Scottish Terrier, Jack Russel Terrier, Yorkie,	Avrg: 12, 13.5, 14.5, 14.5, = 13.6 y
Toy: Chihuahua, Maltese, Pug, Bichon Frise,	Avrg: 16, 13.5, 13.5, 13.5, = 14.1 y

Above are all the breeds and which category they're in for my investigation. I decided to separate them into seven categories based on the original breeding purpose. I used four different dog breeds from each of the seven categories, having a sample space of twenty-eight different breeds in total. On the side is the average life expectancy

rounded to one decimal place of each breed as well as the overall category. I calculated this by adding all the averages from the breeds then dividing the total by the number of breeds, resulting in a general life expectancy. Below is the average weight overall as well as the average weight of males and females of the breed, again rounded to one decimal place. Looking at these statistics it can be assumed that the lighter the breed, the longer it will live despite their original breeding purposes placing the larger dogs as more 'helpful.'
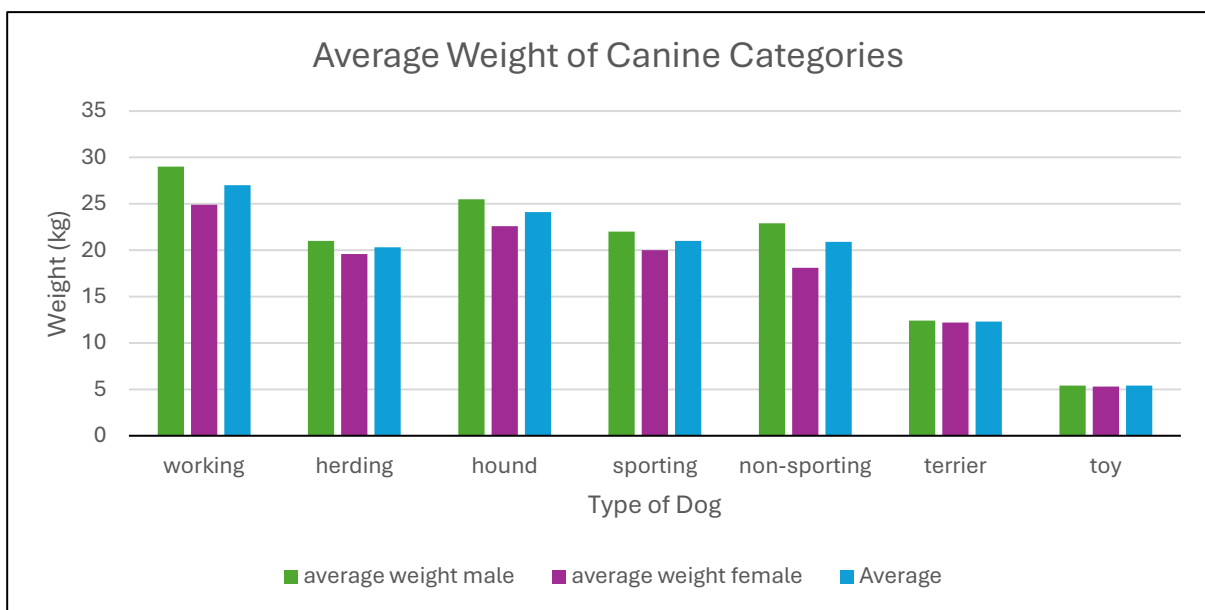
What is interesting to note is that the heavier dog categories are ones that are designed to be physically demanding, a great example being that the heaviest dog category is the working dogs, seconded to the hounds. The herding dogs coming in fifth to allow speed and agility. Comparing this to the terriers there is a considerable dip in weight classes as well as the males and females being almost exact weight to each other.

Average Height of Canine Categories
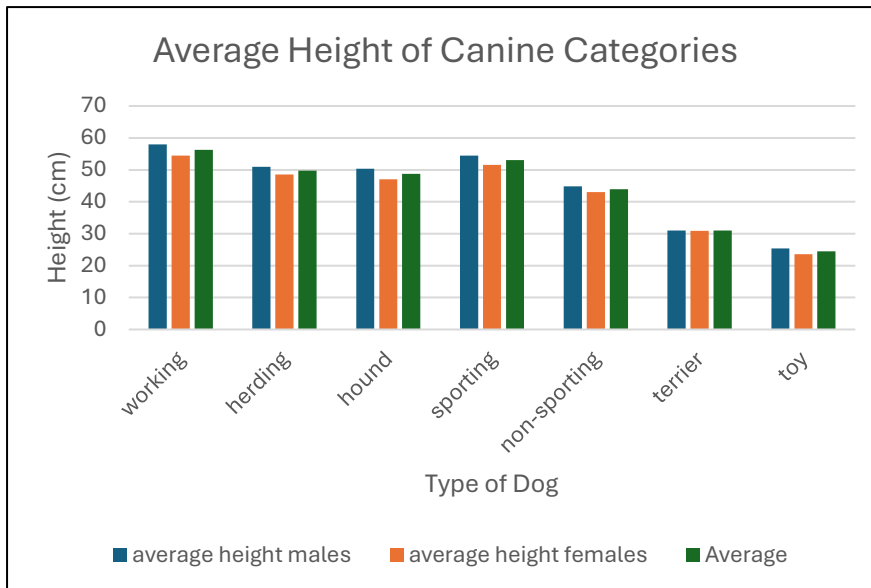
Going into height we can see that the heavier dogs are, as expected, the tallest, but surprisingly the weight doesn't seem to affect the fact that all the groups except terrier and toy are around the same height.

If you rank the dog categories in life expectancy, weight, and height it will give an accurate indication on whether the original theory is correct.

	Life Span	Weight	Height
Working	7	1	1
Herding	4	5	3
Hound	5	2	4
Sporting	3	4	2
Non-Sporting	6	3	5
Terrier	2	6	6
Toy	1	7	7

When you analyse the following data, you can observe that the smaller the dog the longer the life span, as clear when looking at the toy, terrier, and working class dogs. Though if you look at the herding, hound, sport, and non-sporting categories is when it gets slightly complicated. As you can see, the third rank in life span is sporting and is ranked tall and heavy, next is herding; which is also tall and heavy, then hounding; that is bred short and thin, and finally, non-sporting; presenting as short and thin. They all have a difference

of two in their ranks between weight and height, therefore it is reliant on environmental causes and not mathematically relevant.

In conclusion, weight and height may play a role, and even though the largest dog had the shortest life span, and the smallest had the longest life spans, the rest of the data proves it irrelevant.