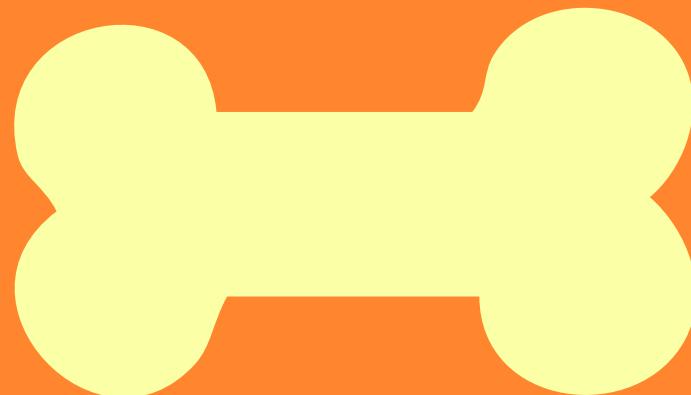


Who let the dogs out?

...



A data analysis by Enrique, Genni, Jordyn & Sam

...

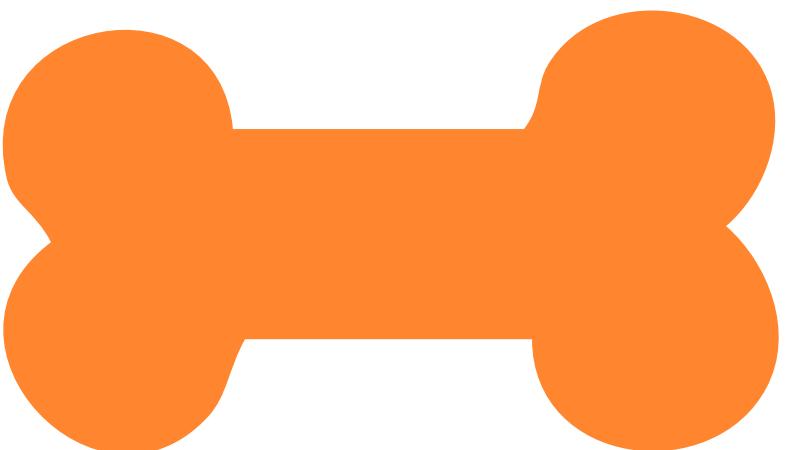
Data used

<https://tmfilho.github.io/akcdata/>

- "Information about 277 dog breeds extracted from the American Kennel Club website using Beautiful Soup."
Maintained by tmfilho on github.

<https://api-ninjas.com/api/dogs>

- "The Dogs API provides detailed, qualitative information on over 200 different breeds of dogs."

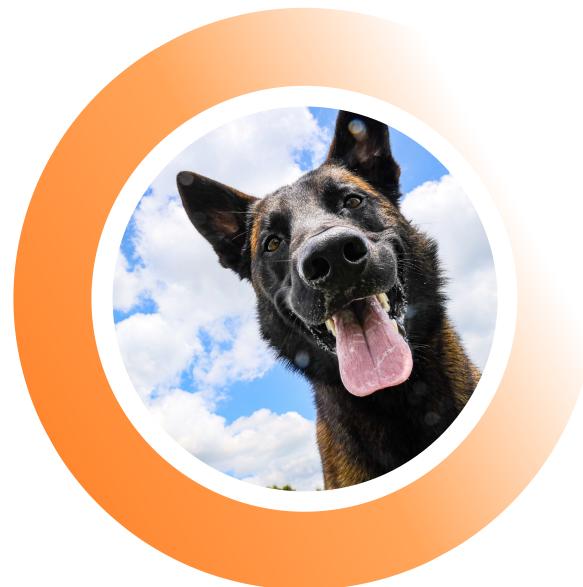


Some definitions from the data set

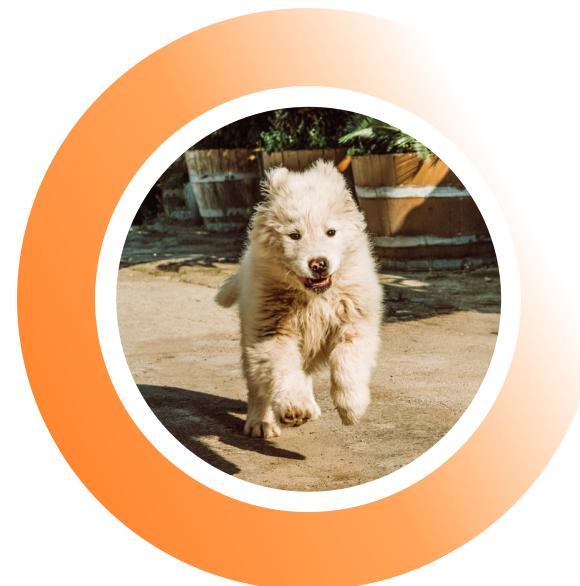
- **Barking** - How vocal the breed is. Possible values: 0, 1, 2, 3, 4, 5, where 0 indicates minimal barking and 5 indicates maximum barking
- **Energy** - How much energy the breed has. Possible values: 0, 1, 2, 3, 4, 5, where 0 indicates low energy and 5 indicates high energy
- **Protectiveness** - How likely the breed is to alert strangers. Possible values: 0, 1, 2, 3, 4, 5, where 0 indicates minimal alerting and 5 indicates maximum alerting.
- **Trainability** - How easy it is to train the breed. Possible values: 0, 1, 2, 3, 4, 5, where 0 indicates the breed is very difficult to train and 5 indicates the breed is very easy to train.
- **Weight** is presented in pounds and **height** in inches

Our three questions we asked of the data:

...



Do smaller dogs bark more?



What are the life expectancies of different sized dogs?



Is there a correlation between a dog's height and weight?



How we cleaned our data

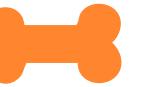
- Data from CSV was missing from API, run a try/except
- Cleaned out duplicates using pandas
- Relabeled and merged columns (male and female weights and heights by averages)
- Grouped dogs by weight*



*Source: <https://citydogslife.com/small-medium-large-dog-size-guide/jas.com/api/dogs>

SIZE GROUPINGS

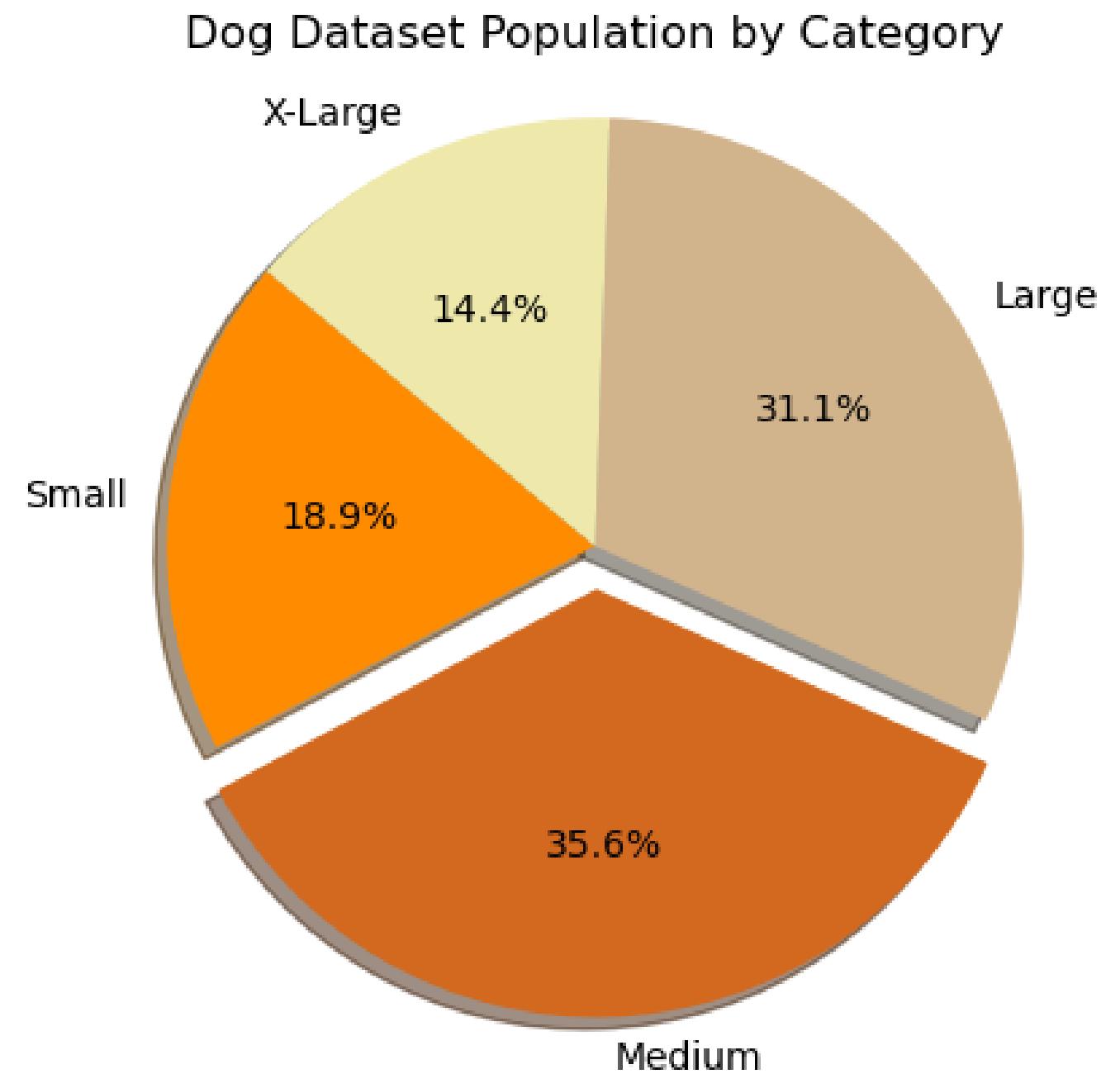
- Small dogs - 2 to 22 pounds
- Medium dogs - 24 to 57 pounds
- Large dogs - 59 to 99 pounds
- Extra Large dogs - 100 or more pounds



...

BREAKDOWN OF DOGS BY SIZE

...

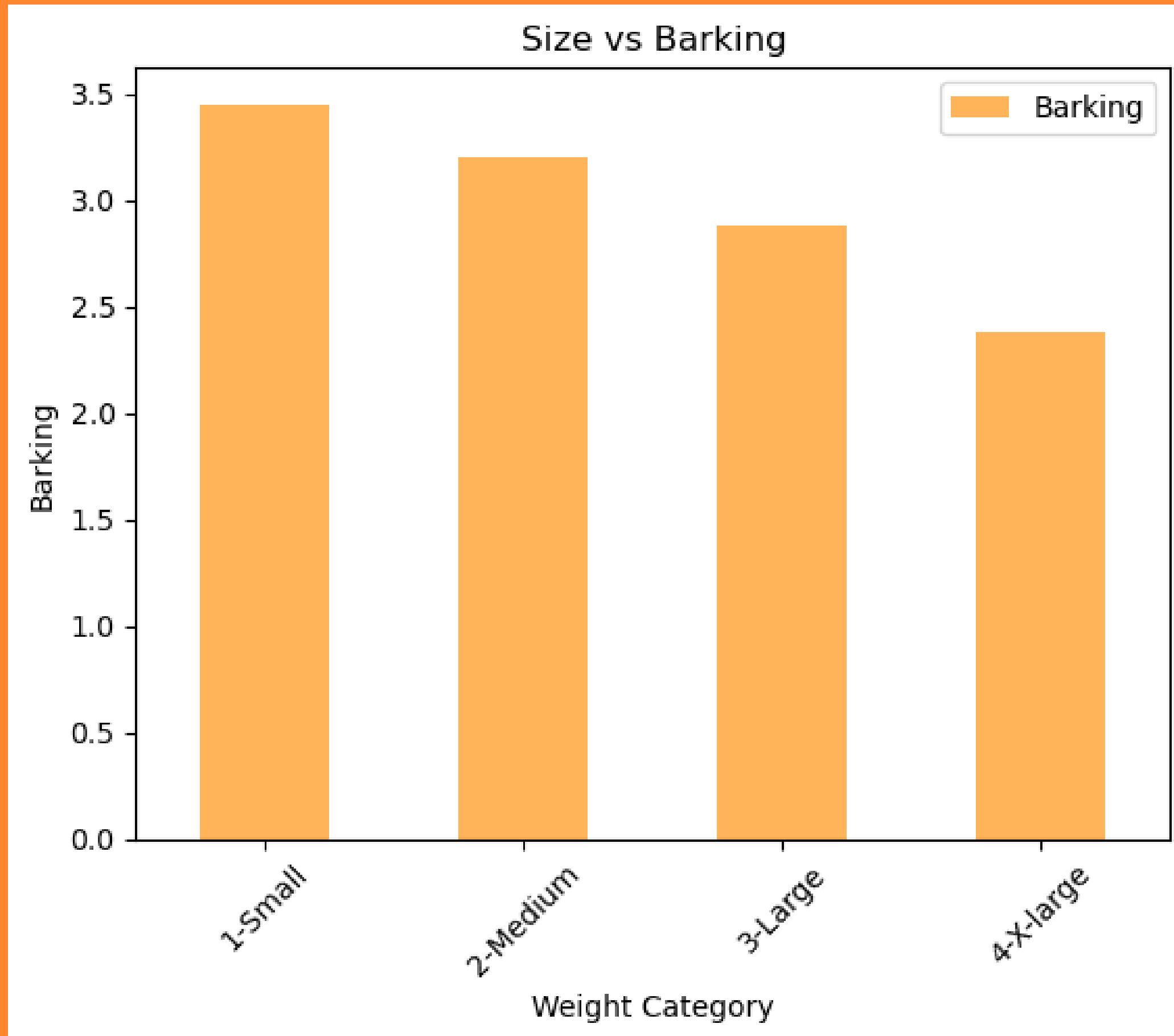


A controversial yet informative pie graph

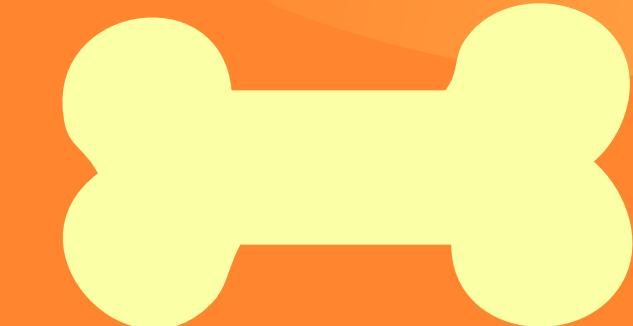
Do smaller dogs bark
more?



...



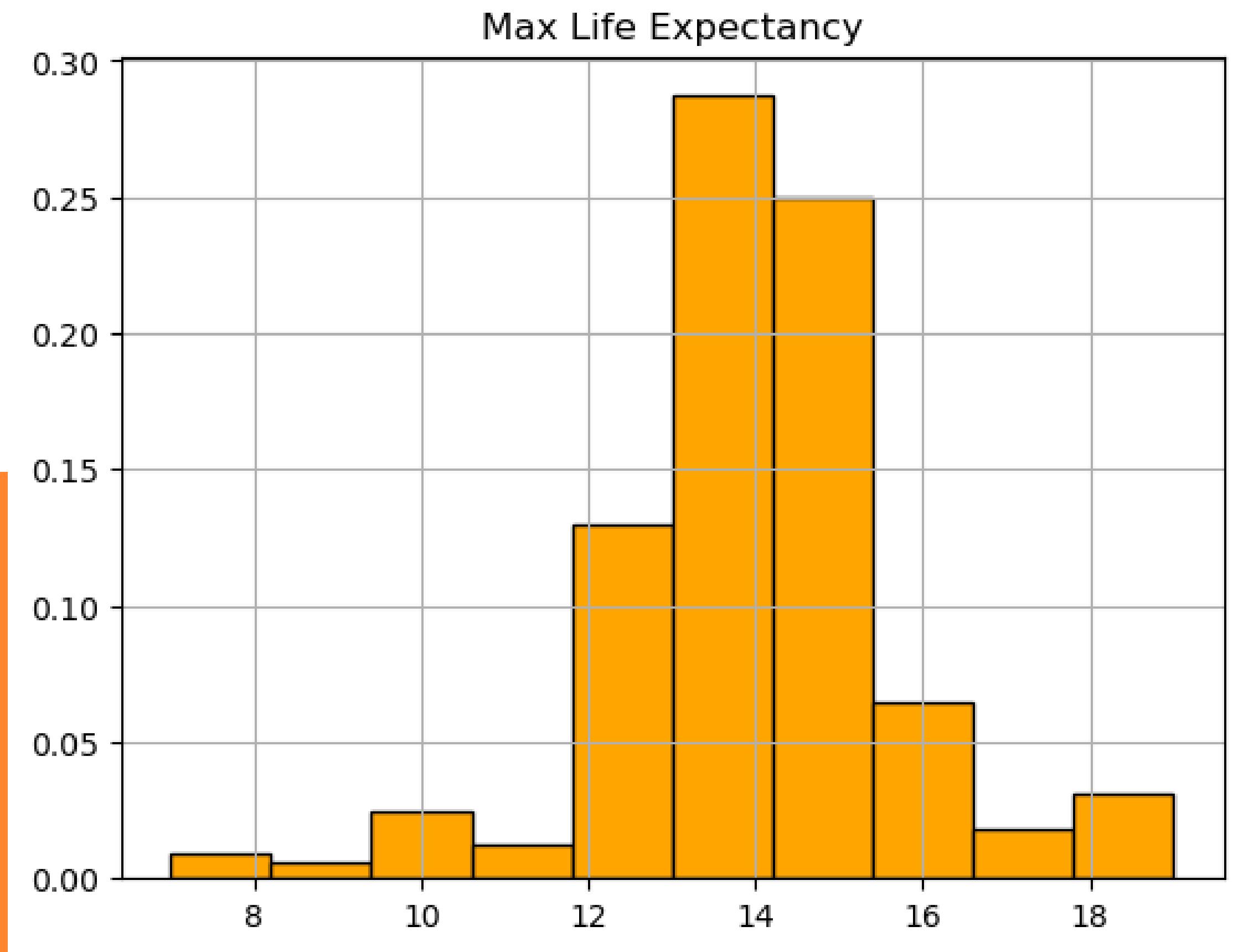
Our data suggests
that the smaller
the dog, the more
they bark.



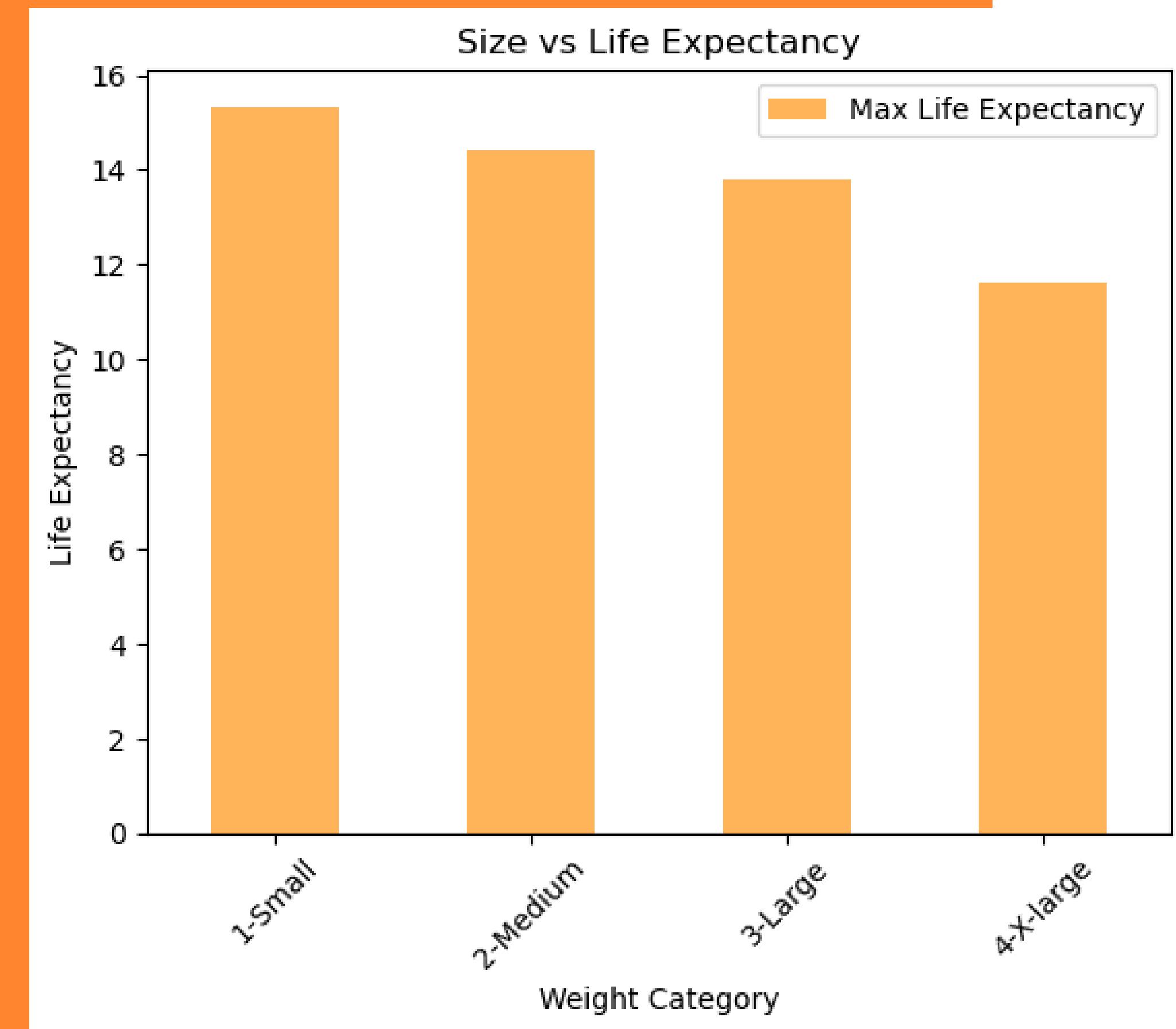
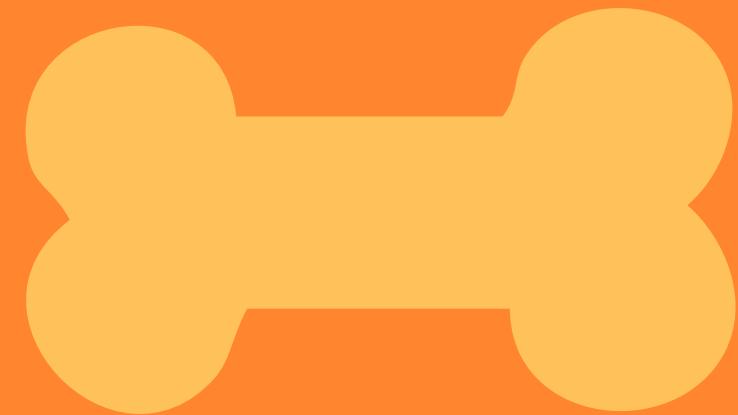
What are the life expectancies of different sized dogs?



ANALYSIS OF THE DATA SHOWS
THAT ~64% OF ALL DOGS LIVE
BETWEEN 12 AND 15 YEARS

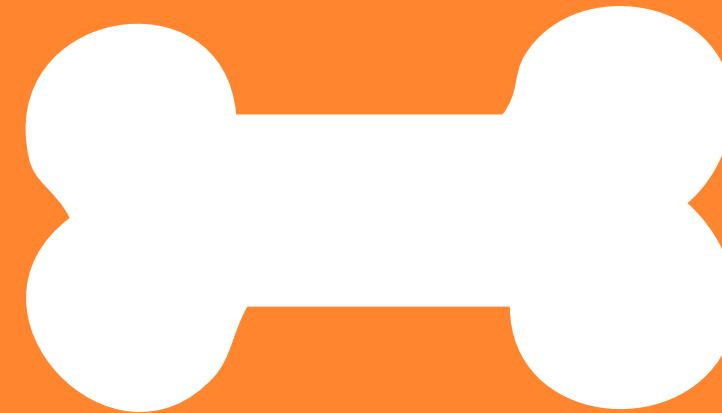


Sorting the data by dog size tells us that small and medium dogs have longer life spans than those of large and extra large.

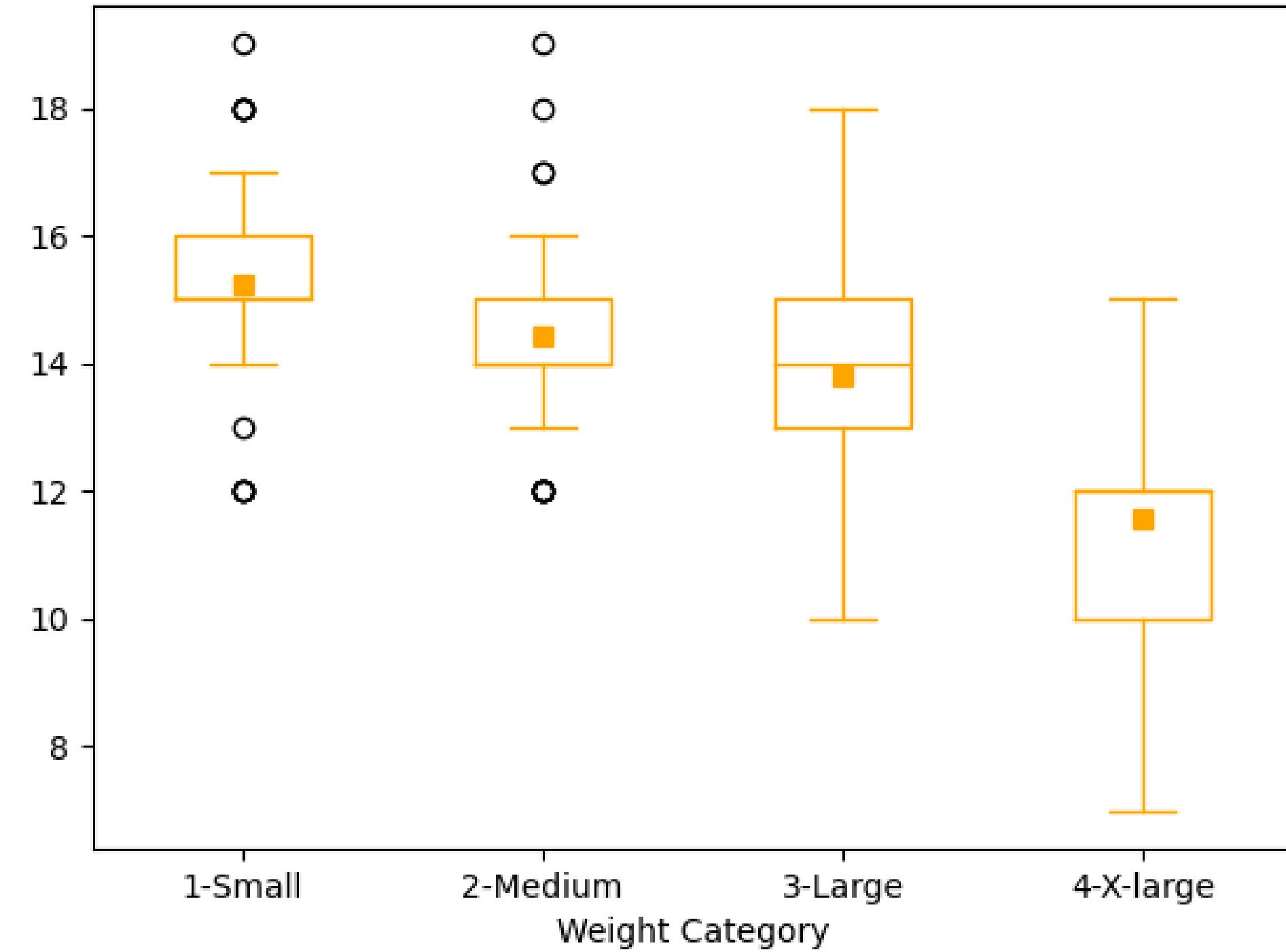


Our data has more outliers in the small and medium dog category when looking at quartiles.

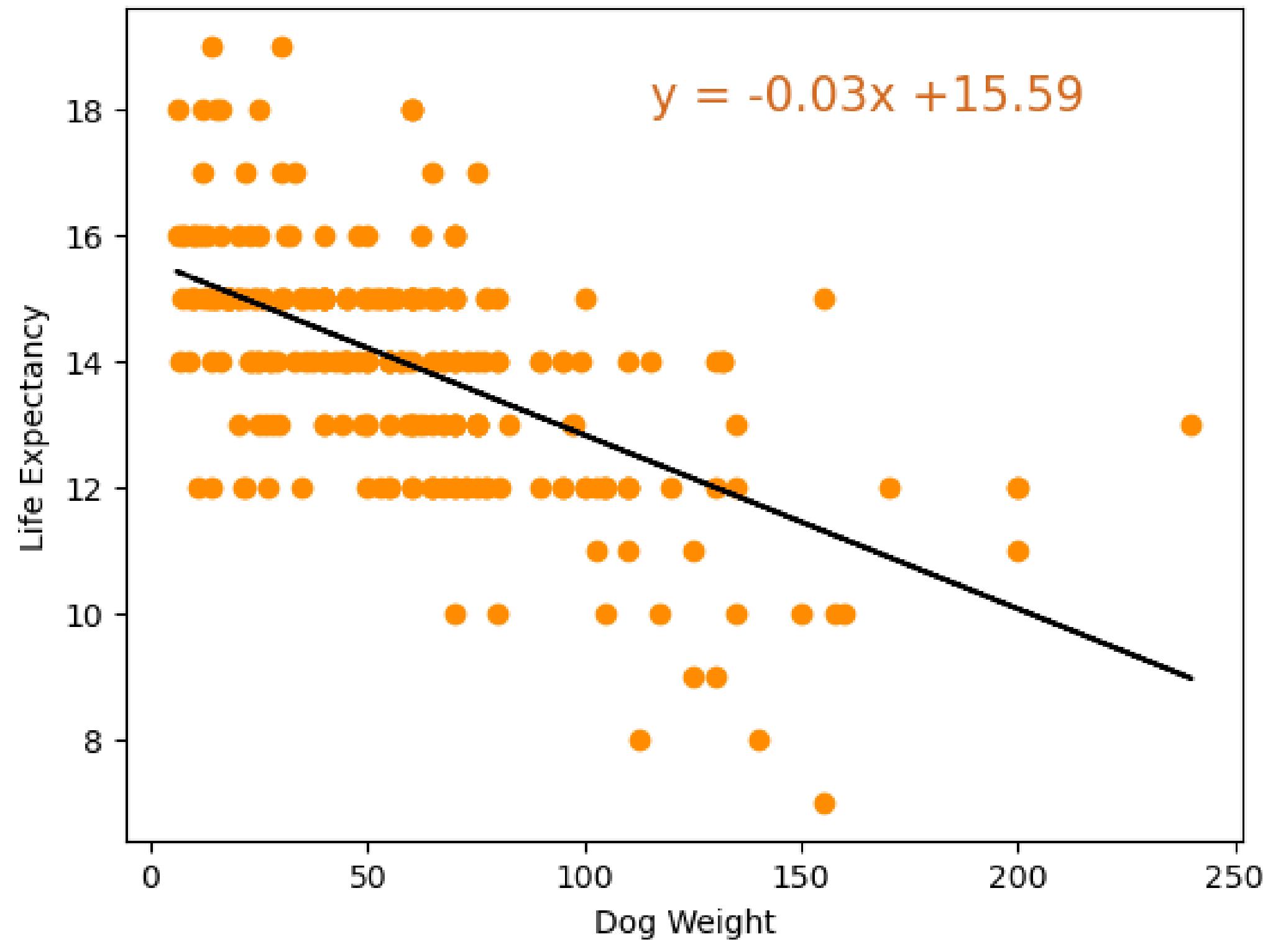
This could be explained as there are more small and medium size dogs in the data compared to large and extra large.



Boxplot grouped by Weight Category
Max Life Expectancy



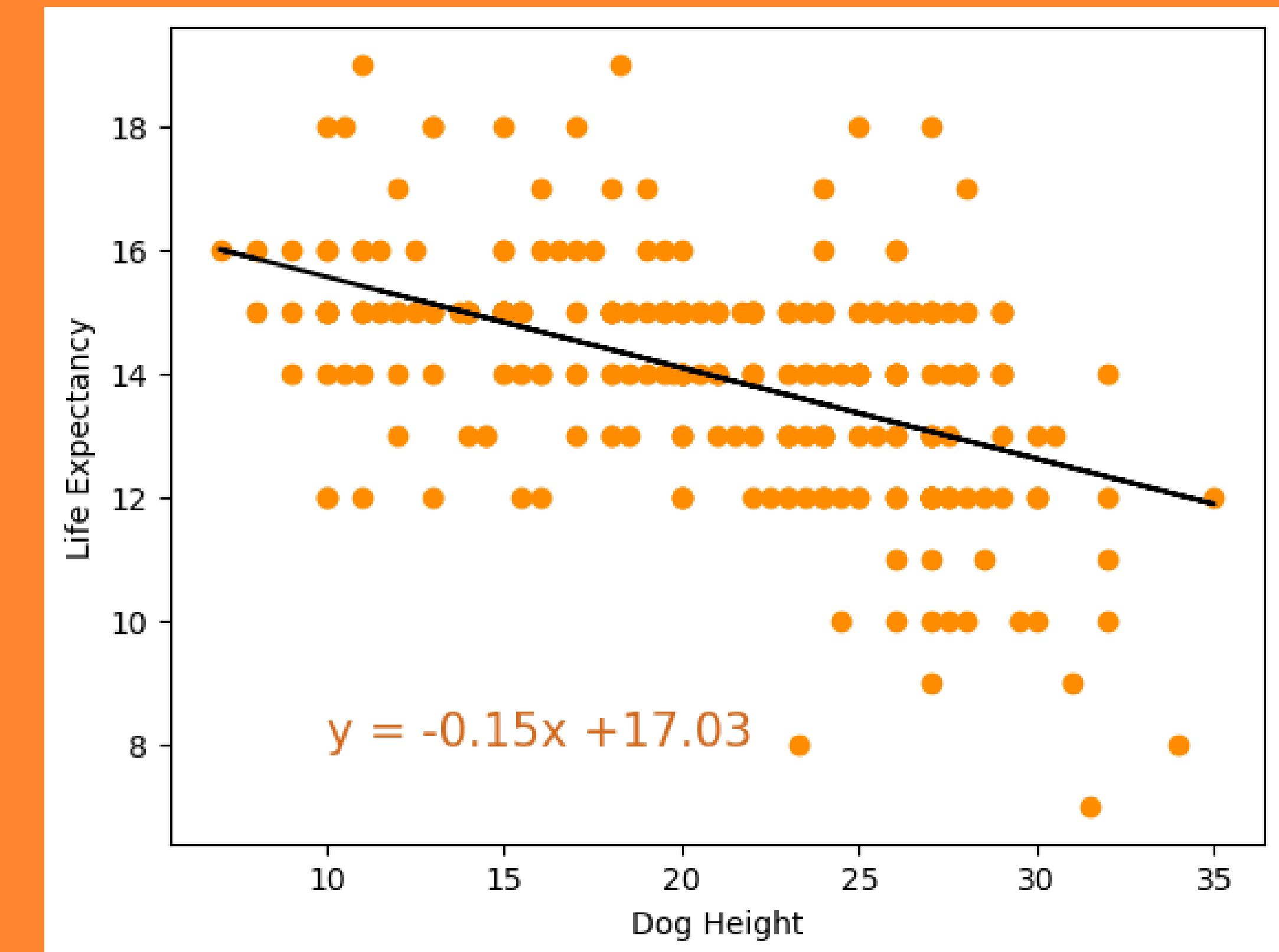
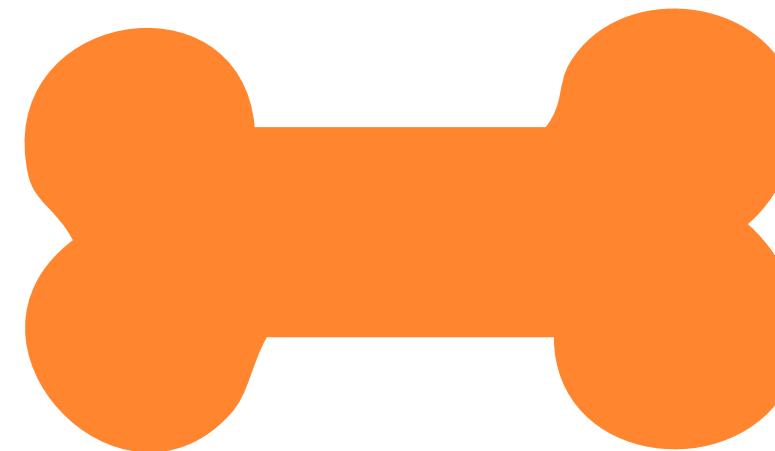
THERE IS A NEGATIVE CORRELATION BETWEEN DOG WEIGHT AND LIFE EXPECTANCY. THAT IS TO SAY THAT THE HEAVIER THE DOG, THE SHORTER THE LIFE SPAN. HOWEVER, OUR MODEL HAS A MODERATE FIT SO IT CANNOT BE USED AS A GREAT PREDICTOR.



The r-value is: -0.5861574035667956

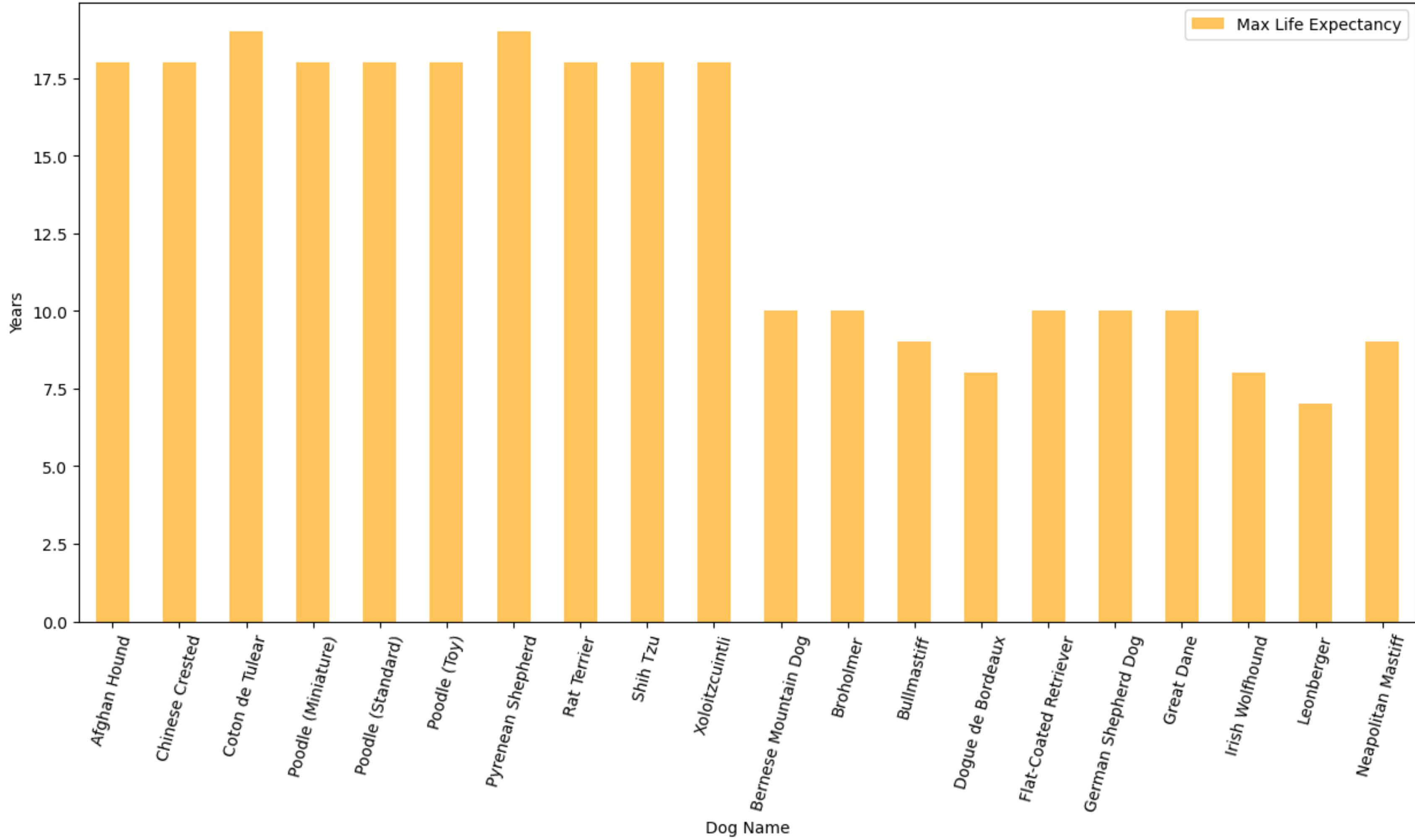
The r-value squared is: 0.3435805017561673

THERE IS A NEGATIVE CORRELATION BETWEEN DOG HEIGHT AND LIFE EXPECTANCY, HOWEVER OUR MODEL HAS A POOR FIT AND IS NOT A GOOD PREDICTOR.



The r-value is: -0.49738498123836933
The r-value squared is: 0.247391819561493

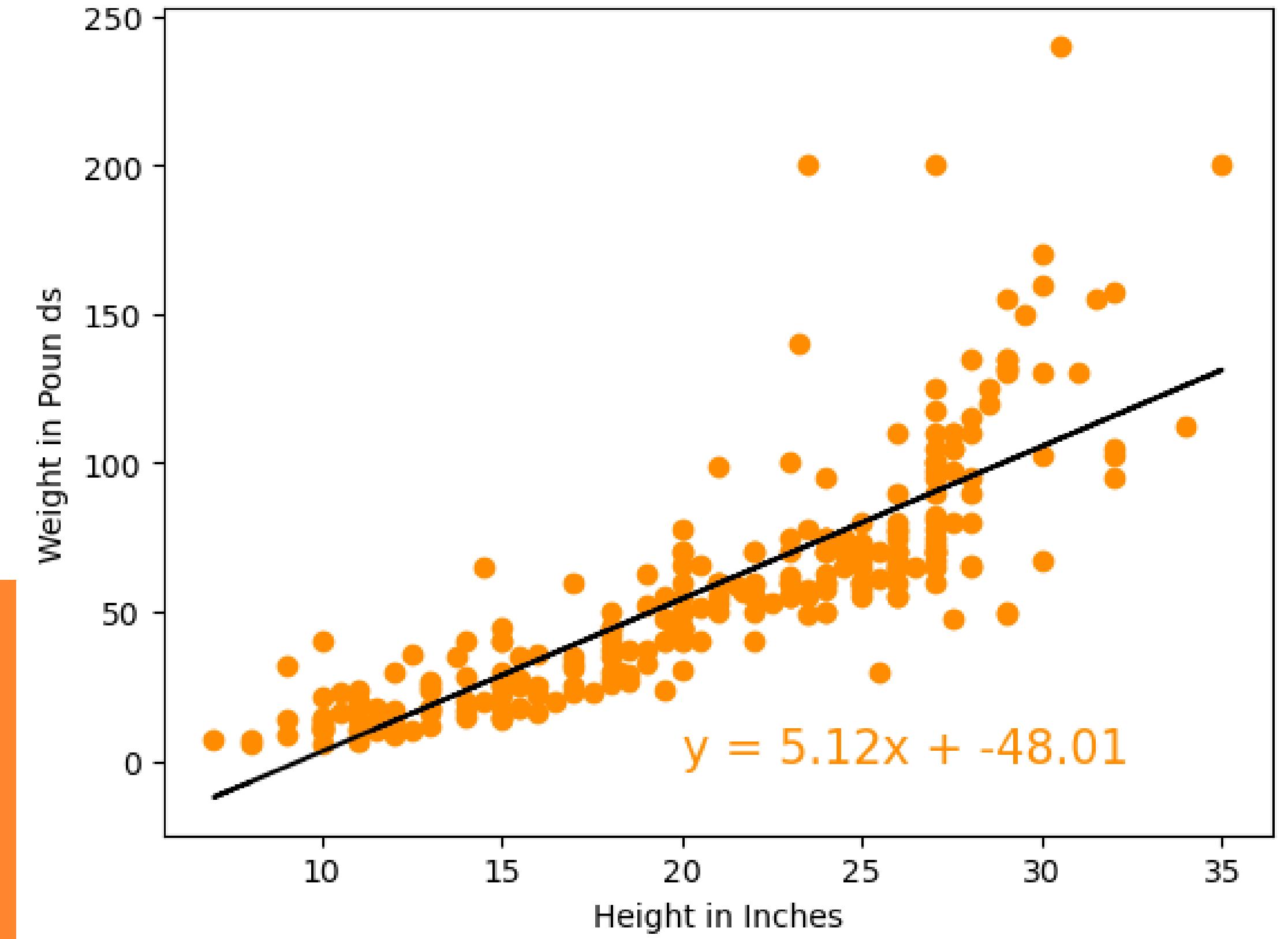
Dogs with longest and shorter life expectancies



Is there a correlation
between a dog's height
and weight?



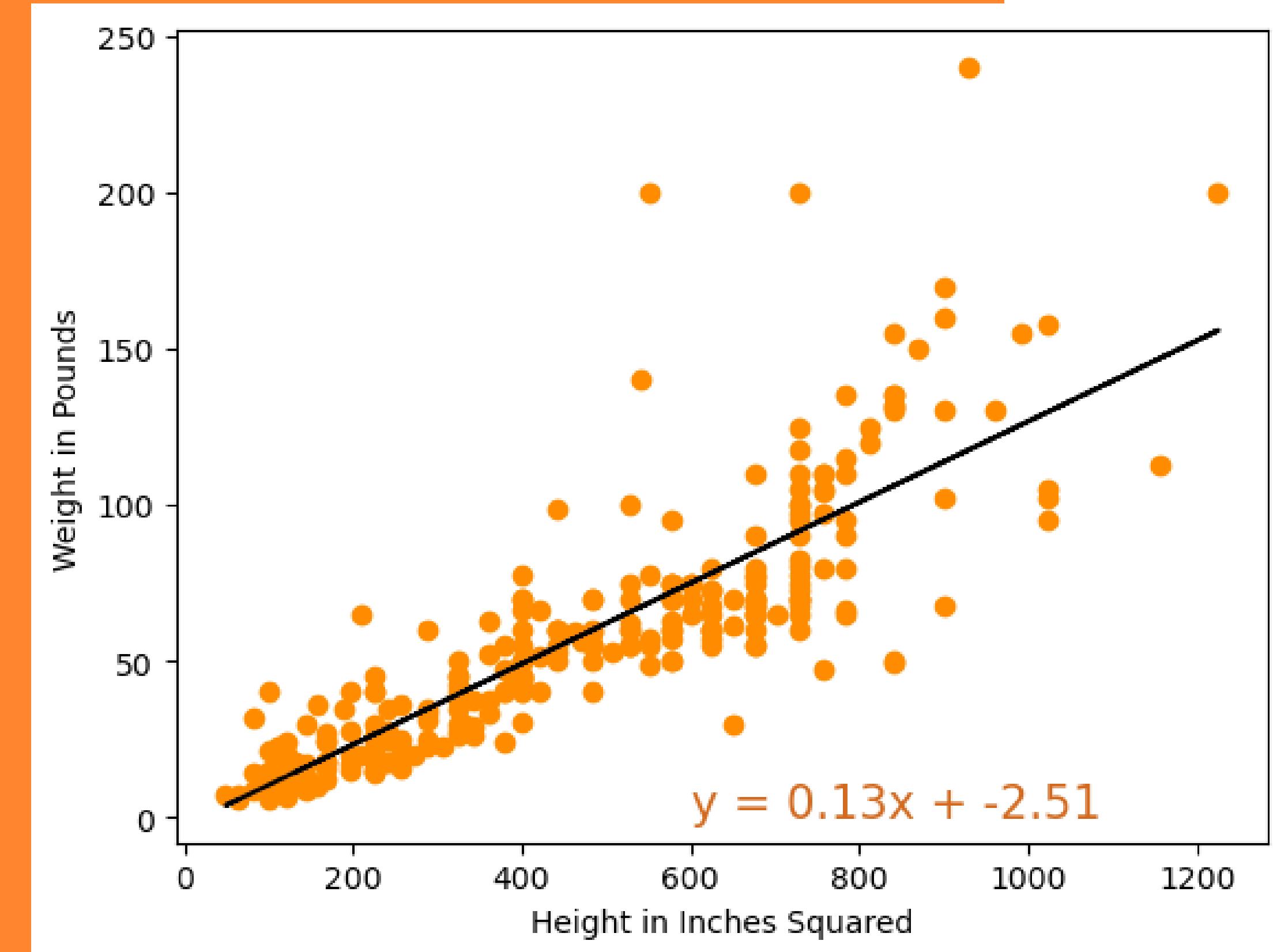
There is a positive correlation between height and weight. Our model has a moderate fit. There is however a way to make our model even better...



The r-value is: 0.8150818624265854
The r-value squared is: 0.6643584424567911

By squaring the height
of the dog, our model
becomes even stronger.

Which means, to more
accurately predict the
weight of a dog, you
would use the height
squared.



The r-value is: 0.8354898909812514

The r-value squared is: 0.6980433579318633

...

DATA SET LIMITATIONS

- Scales for each of the traits are arbitrary with no true meaning or scientific research
- All numbers provided are whole, round numbers which skews the data and shows decreased variation
- Other dog breeds exist that are not recognized by the American Kennel Club (360 per the Fédération Cynologique Internationale (FCI)*



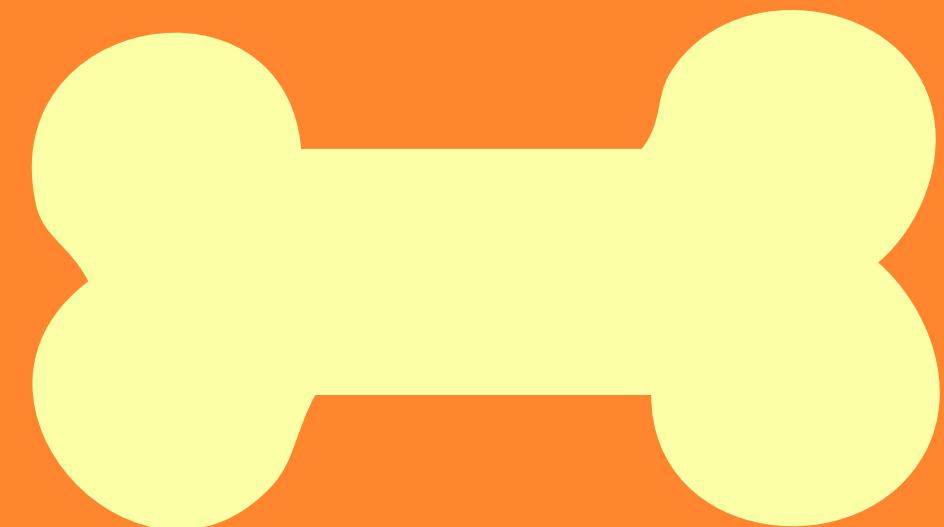
*SOURCE: [HTTPS://A-Z-ANIMALS.COM/BLOG/HOW-MANY-DOGS-ARE-IN-THE-WORLD/](https://A-Z-ANIMALS.COM/BLOG/HOW-MANY-DOGS-ARE-IN-THE-WORLD/)

Summary



...

They're all good dogs.



Summary

...

DO SMALLER DOGS
BARK MORE?

From the data provided, smaller dogs do bark more.

WHAT ARE THE LIFE EXPECTANCIES OF DIFFERENT SIZED DOGS?

X-large and large dogs tend to have shorter lives than smaller and medium sized dogs.

IS THERE A CORRELATION BETWEEN A DOG'S HEIGHT AND WEIGHT?

There is a positive correlation between dog height and weight



MEET OUR DOGS

...



Berta

Age: 12 (soon to be 13! 12/23)

Color: Black and white

Weight: 28 lbs

Breed: 50% American Staffordshire Terrier (Pitbull), 25%
Miniature Poodle, 25% Mixed Terrier



Zeke

Age: 2

Color: Gray and white

Weight: 30 lbs

Breed: Poodle, Cocker Spaniel, Golden Retriever

Sources

(n.d.). akcdata. github. <https://tmfilho.github.io/akcdata/>

(2022). How many dogs are in the world? A-Z Animals. <https://a-z-animals.com/blog/how-many-dogs-are-in-the-world/>

(2021). Dogs Api. API Ninjas. <https://api-ninjas.com/api/dogs>

(2022). How to Know If My Dog is a Small, Medium or Large Breed (A Size Guide). CityDogLife. <https://citydogslife.com/small-medium-large-dog-size-guide/>



Questions?

