

Dog Weight, Age, and Sex Relationship with Shelter Length-of-Availability at Pope Memorial Humane Society



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Background

- Pope Memorial Humane Society (PMHS) is a nonprofit shelter in Strafford County, New Hampshire
- Length-of-availability is the number of days that a dog is available for adoption
- Shorter shelter stays could save PMHS on labor costs and food, and allow more intakes
- Shorter stays decrease acute and chronic stress in shelter dogs (Epstein et al., 2021)

Objectives

- Investigate possible influences of dog characteristics on their length-of-availability at Pope Memorial Humane Society from 2022-2023
- PMHS can use the results to make informed decisions about intakes to minimize length-of-availabilities

Methods

- Data on the shelter stay for dogs at PMHS were stored on their database, *Shelterluv*
- Sex, weight, and age of dogs were collected on dogs that stayed at any point from January 1st, 2022 to December 31st, 2022
- Ages were organized by class
 - Puppy (<10 months), Adult (10 months – 8 years), Senior (>8 years)
- Length-of-availability included all days that dogs were available for adoption
- A linear regression was used to analyze the length-of-availability and weight for adult and senior dogs
- Box plots were used to analyze age and sex relationships

Figures

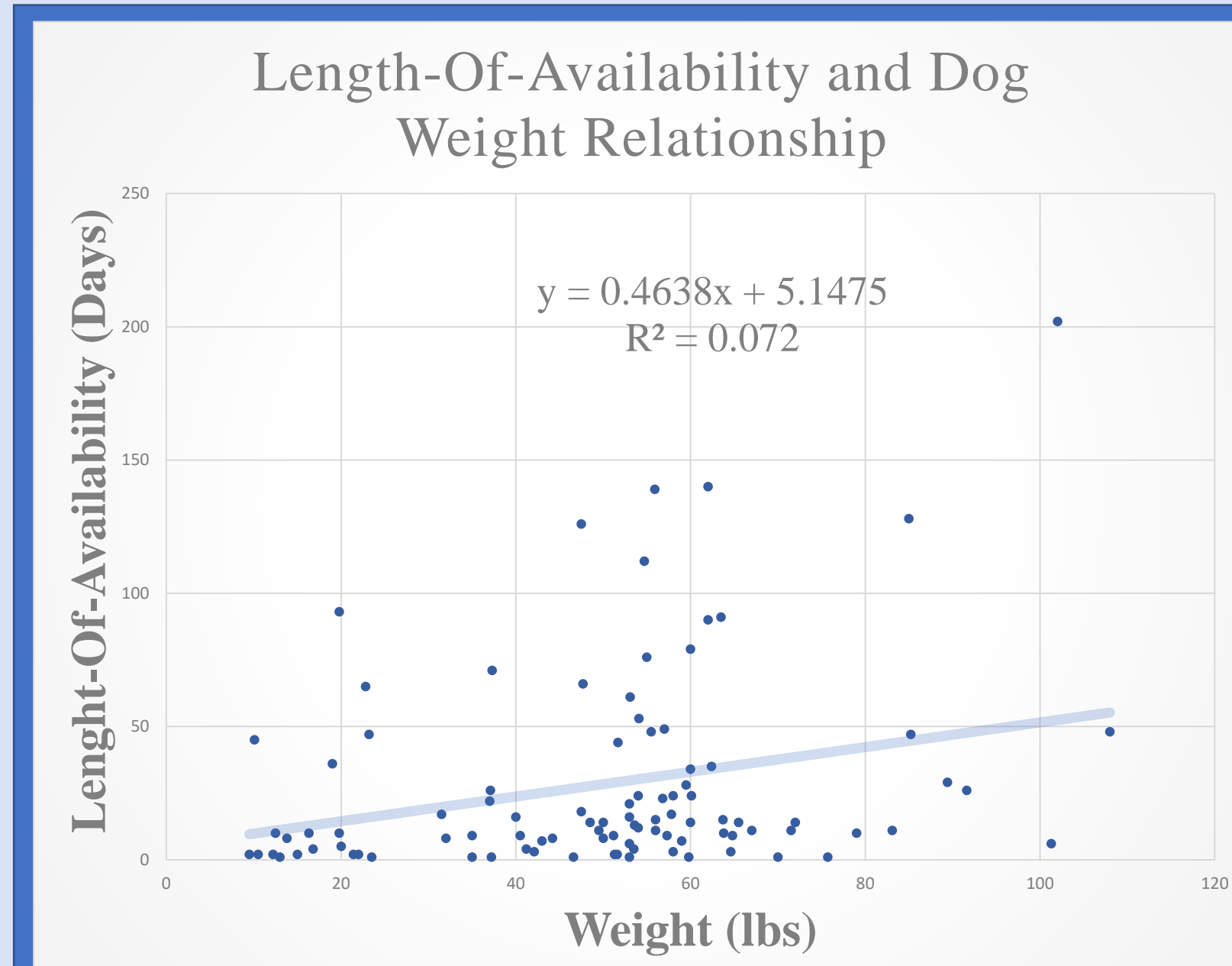


Figure 1: Scatterplot and linear regression of dog weight and their shelter length-of-availability

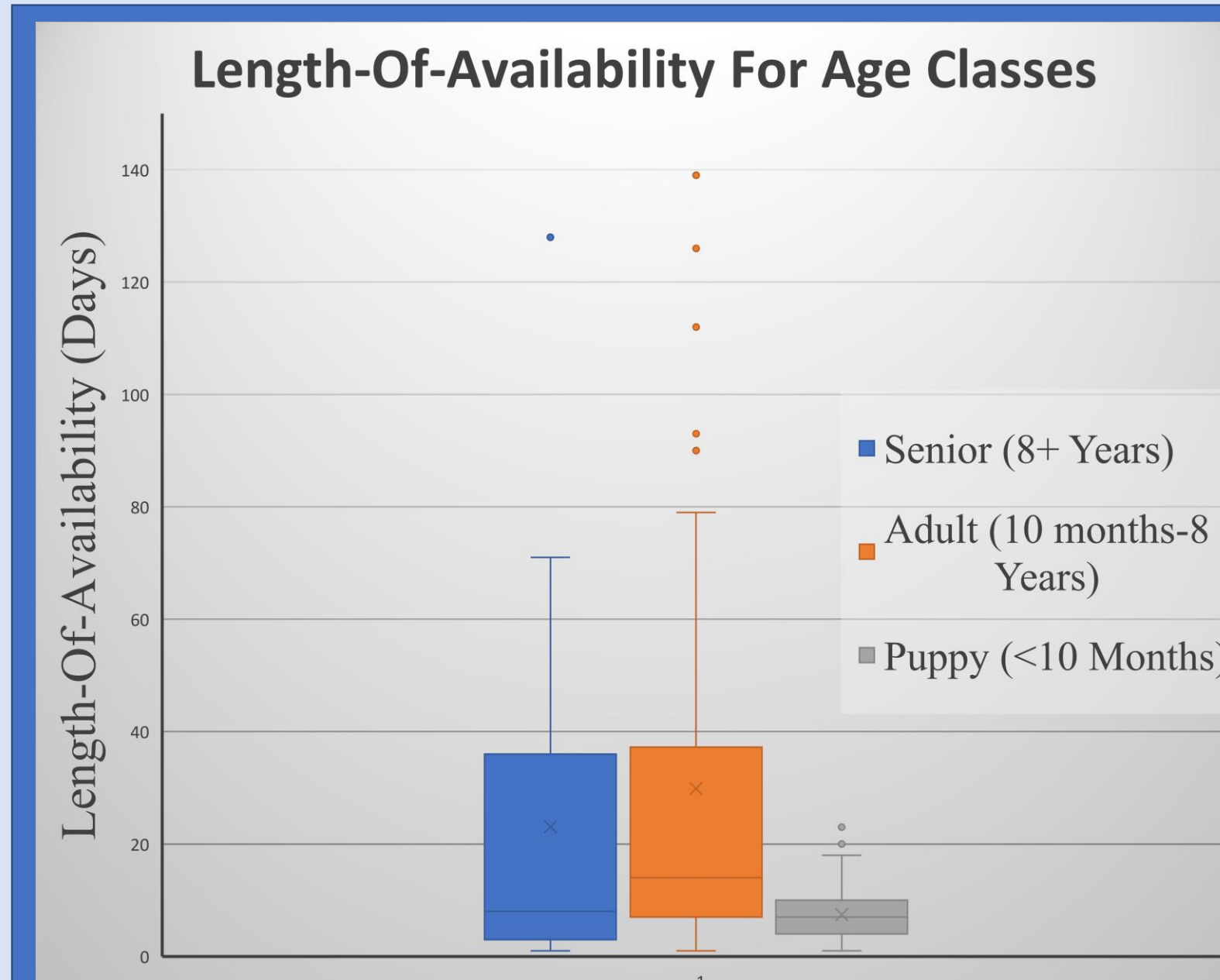


Figure 2: Box plot of the length-of-availabilities for dog age classes

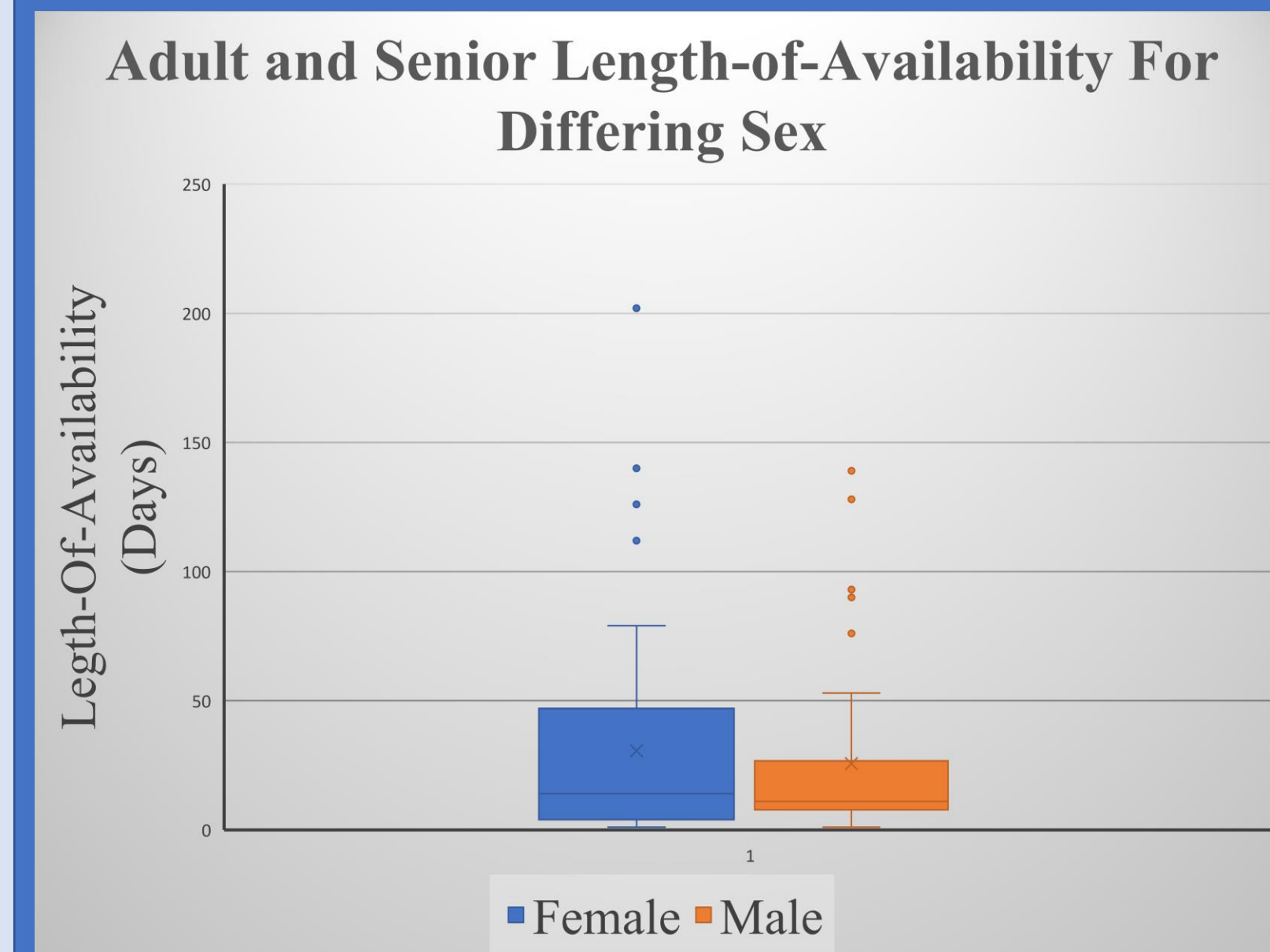


Figure 3: Box plot of combined adult and senior dog sex and length-of-availability

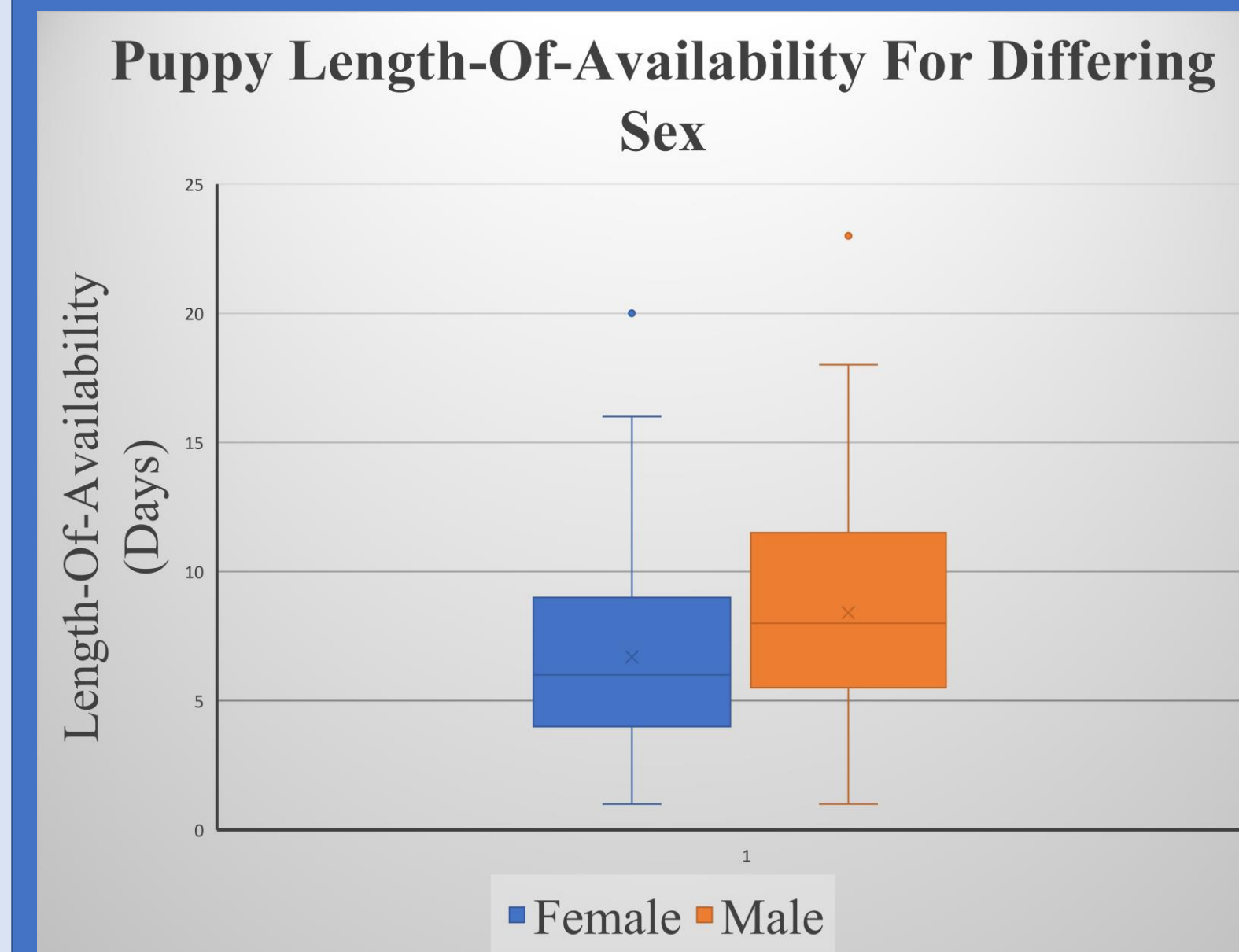


Figure 4: Box plot of length-of-availability for female and male puppies under 10 months old.

Results

- Data was analyzed for 96 puppies, 74 adult dogs, and 23 senior dogs
- The relationship between the 97 adult and senior dogs' length-of-availability and weight had a positive slope of 0.46 and a Pearson correlation coefficient of 0.072 (Figure 1)
- Adult and senior dogs had positive skew box plots and tended to have longer length-of-availability than puppies (Figure 2)
- Adult and senior dogs combined relationship between sex and length-of-availability had positive box plot skews for male and female categories with a more concentrated interquartile range for female dogs (Figure 3)
- The length-of-availability for male and female puppies had overlapping box plots with slight positive skews (Figure 4)

Conclusion

- There was no significant differences between age classes and length-of-stays despite trends of puppies having the shortest stays
 - 94% of puppies were adopted in under two weeks, compared to 19% of the adults and seniors
- There were not significant differences between length-of-availability and sex at any age class
- PMHS can accept transfers and relinquishments of all ages, sizes, and sexes and expect those factors to not significantly influence their length-of-stays

Further Research

- Impact of dog breed on length-of-availability
- Specific appearances impact on length-of-availability, such as coat colors and head shapes
- Impact of advertising strategies on length-of-availability

Limitations

- Results cannot be extrapolated to other shelters
- Adoption prices change with age, so cost could be an additional variable
- A larger sample size over a longer time period could be more representative of trends

References

Epstein, J., S. Dolwing-Guyer, E. McCobb, C. Glotzer, & N. Dodman. (2021). Addressing stress in dogs in shelters through a novel visual and auditory enrichment device. *Applied Animal Behaviour Science*, 236. <https://doi.org/10.1016/j.applanim.2021.105215>