

# DATA36 HOUSE COMPETITION FLYBALL COMPETITION ANALYSIS

BERNADETT HORVATH

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# WILD RUNNERS FLYBALL TEAM ANALYSIS OF THE 2023 COMPETITION SEASON

- Definition of analysis metrics
- Plotting trends
- Correlation search between metrics and external/internal factors of the competition
- Optimizing team composition



# QUESTIONS WE ARE LOOKING FOR ANSWERS TO:

- Looking back at the 2023 season: how did the season go?
- How do we characterize good FlyBall competing teams?
- Does the weather matter, which track they run on, who the dogs switch to?
- To what extent do the characteristics of the dogs (age, breed) influence the performance?
- What should we take into account when assembling the teams?



# WILDRUNNERS FLYBALL TEAM

Numbers for the 2023 season:

- 50 dogs
- 7 relays / race
- 10 competitions
- 1128 runs



6

8

6





# METRICS:

Number of dogs

team

Relay positions

WIN

Speedster

relay

Speed

Accuracy

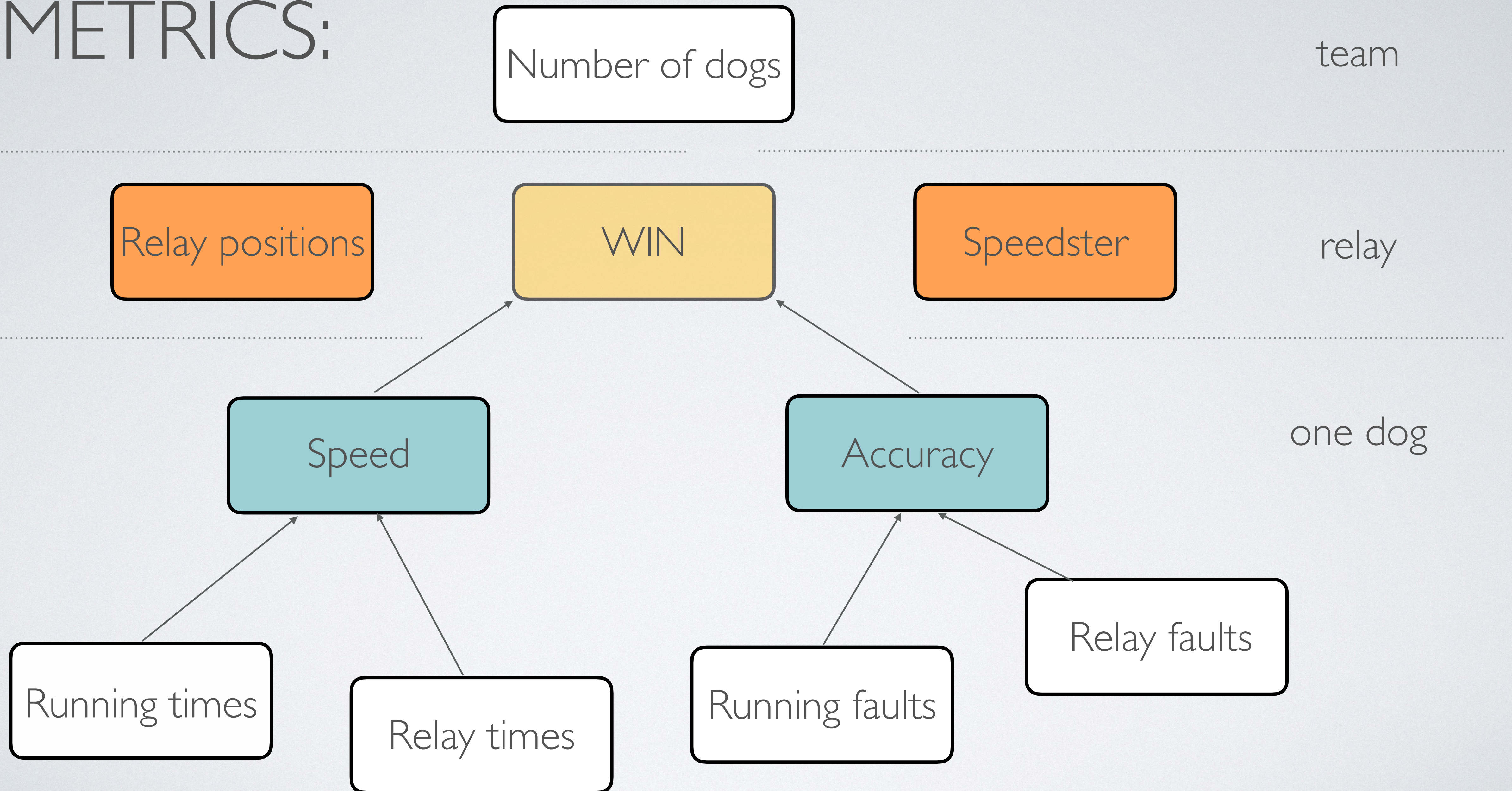
one dog

Running times

Relay times

Running faults

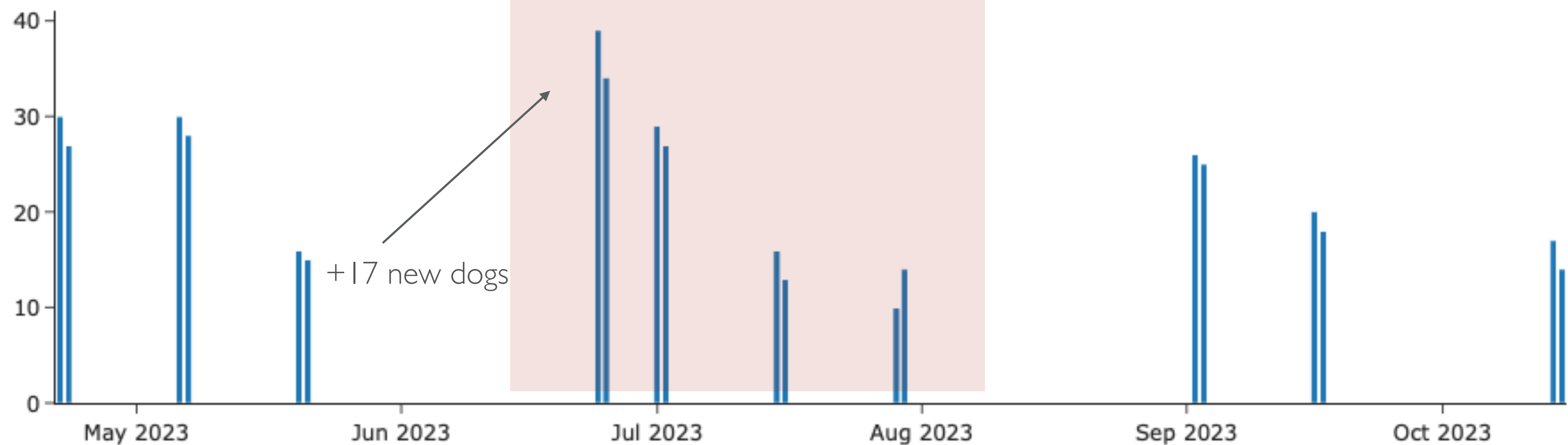
Relay faults





# CHANGE OF METRICS FROM RACE TO RACE:

Number of dogs



+17 new dogs

EFC July 29-30:  
Tápiószentmárton

spring preparation

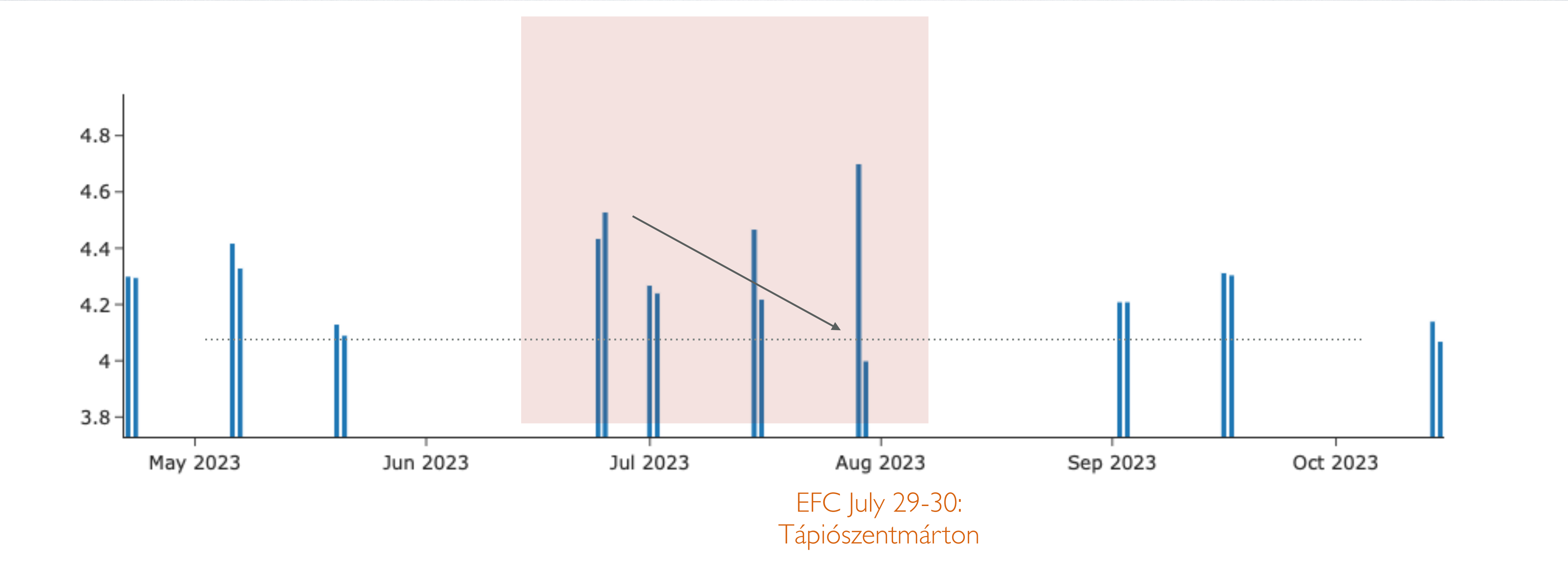
selection for the EFC

autumn



# CHANGE OF METRICS FROM RACE TO RACE:

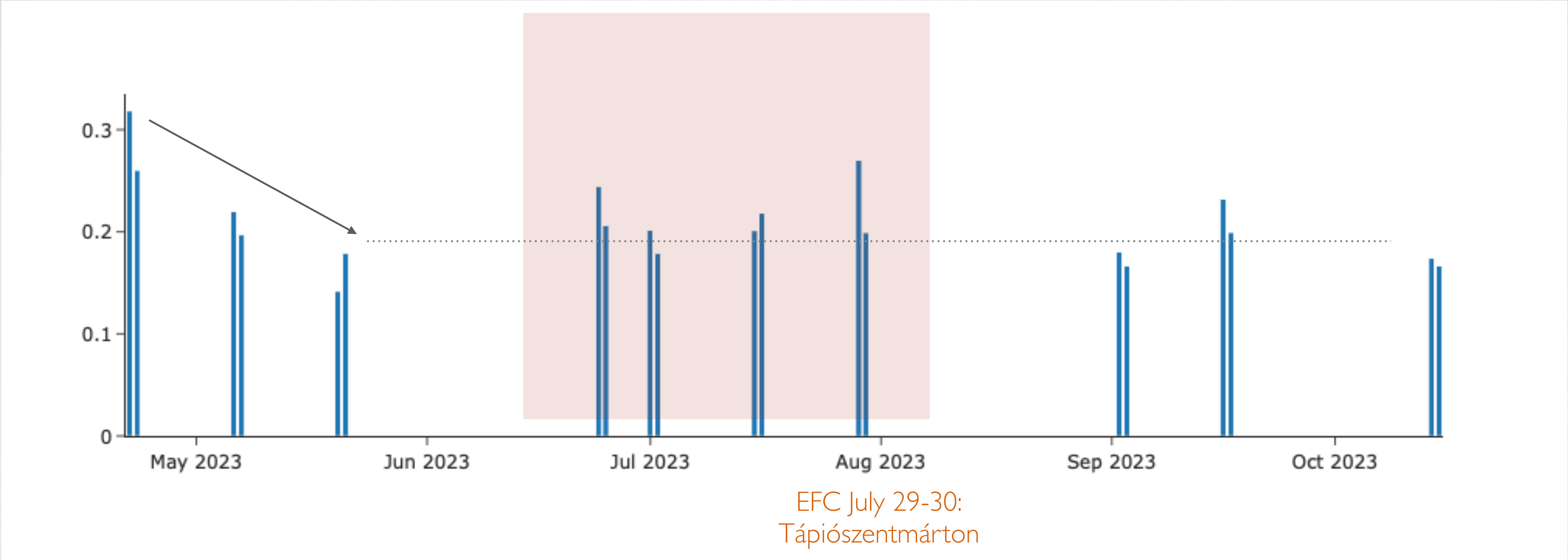
Running times





# CHANGE OF METRICS FROM RACE TO RACE:

Relay times

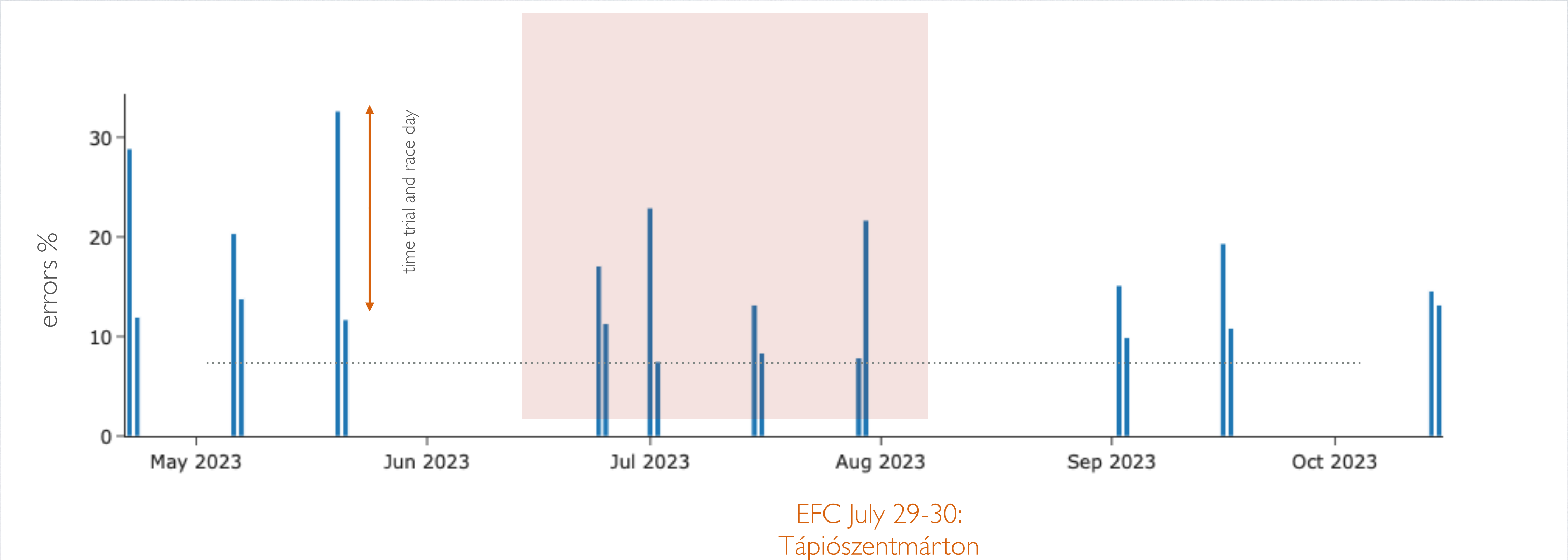




# CHANGE OF METRICS FROM RACE TO RACE:

Relay errors

Running errors





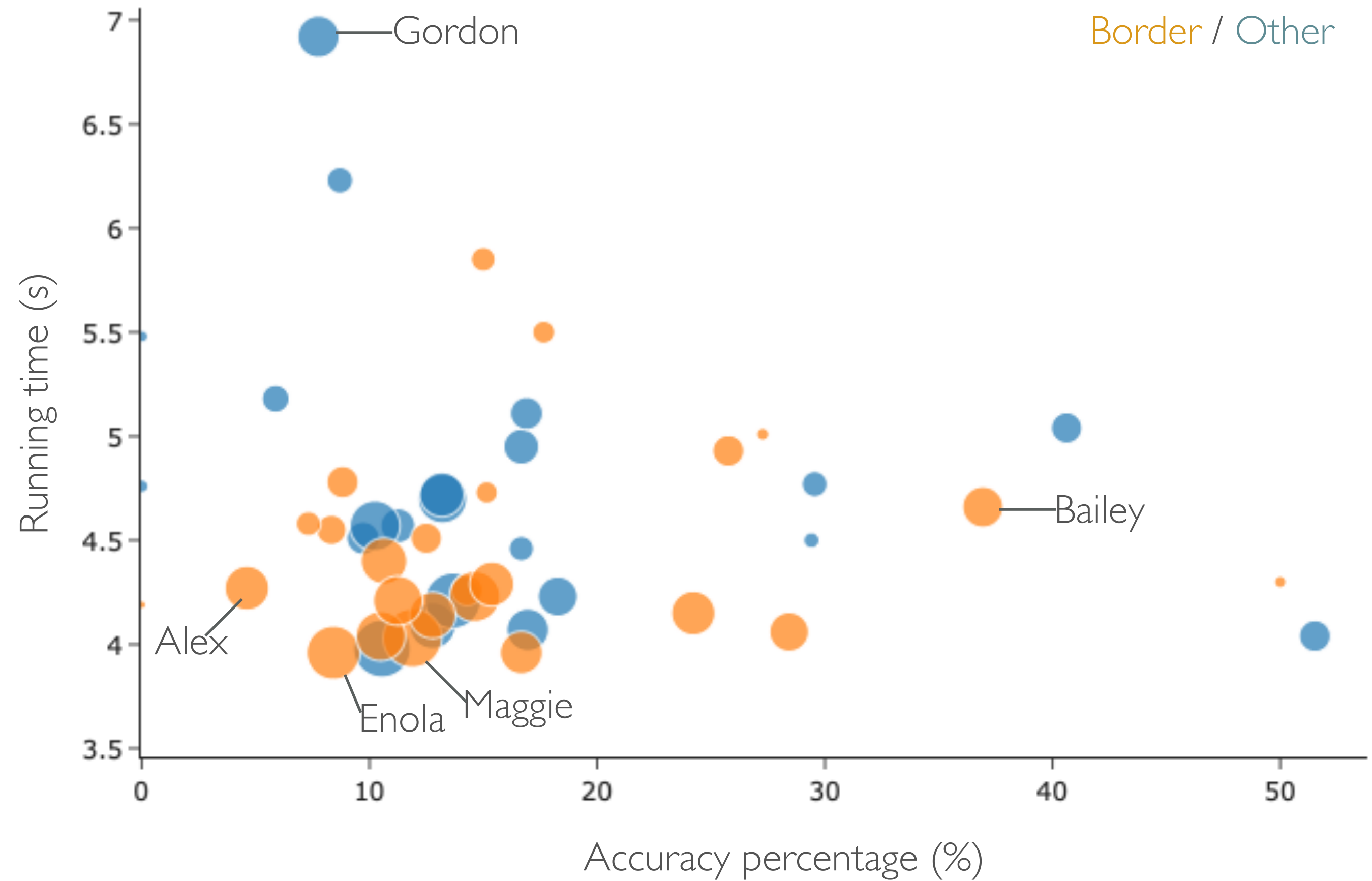
# WHERE ARE THE FAST AND ACCURATE DOGS?

Cross-checking metrics:

Running times

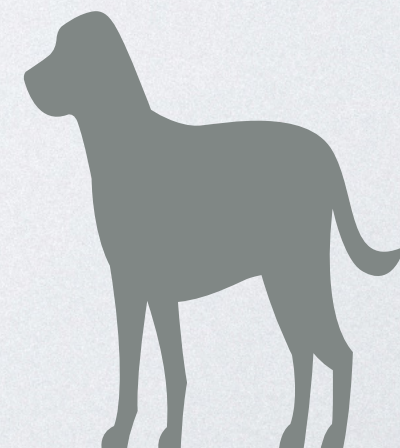
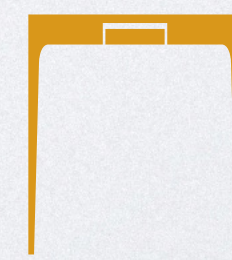
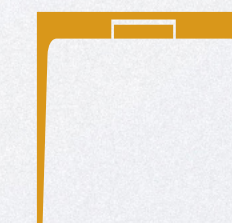
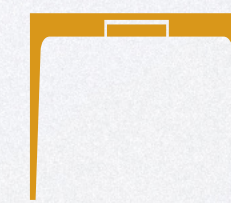
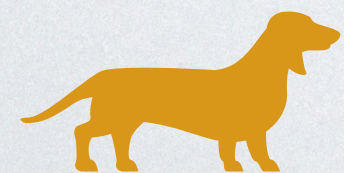
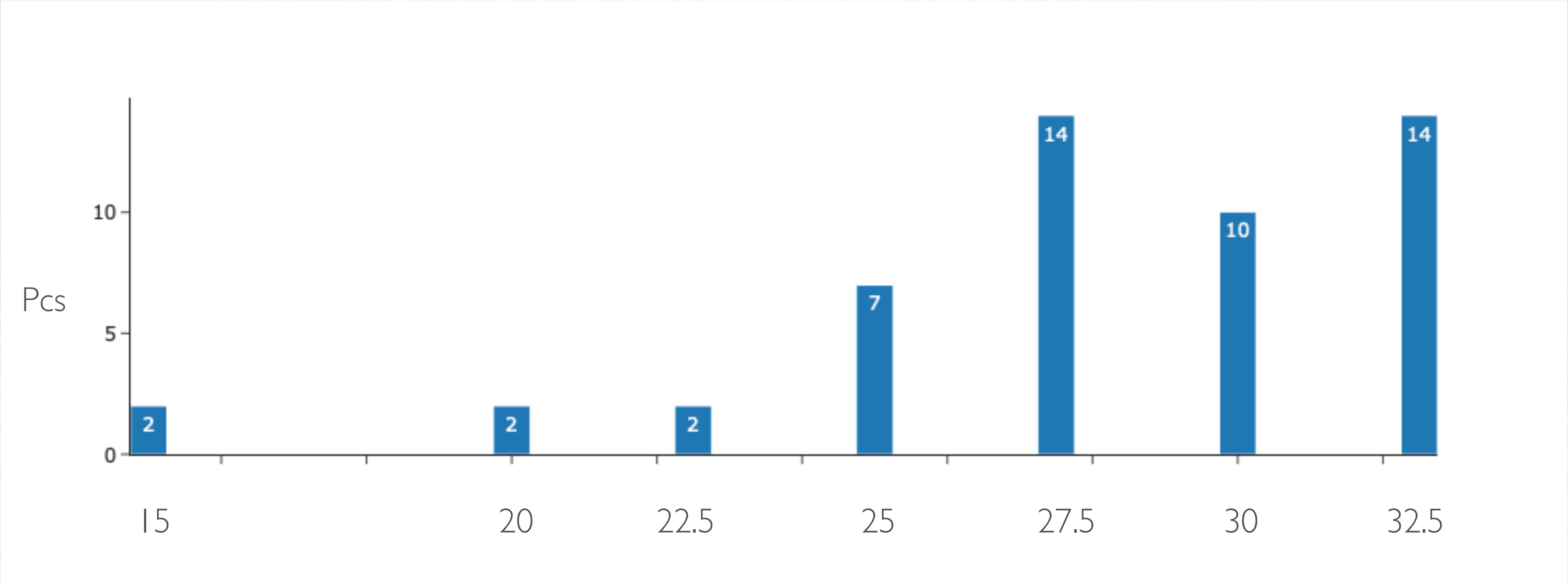
vs.

Relay errors  
Running errors



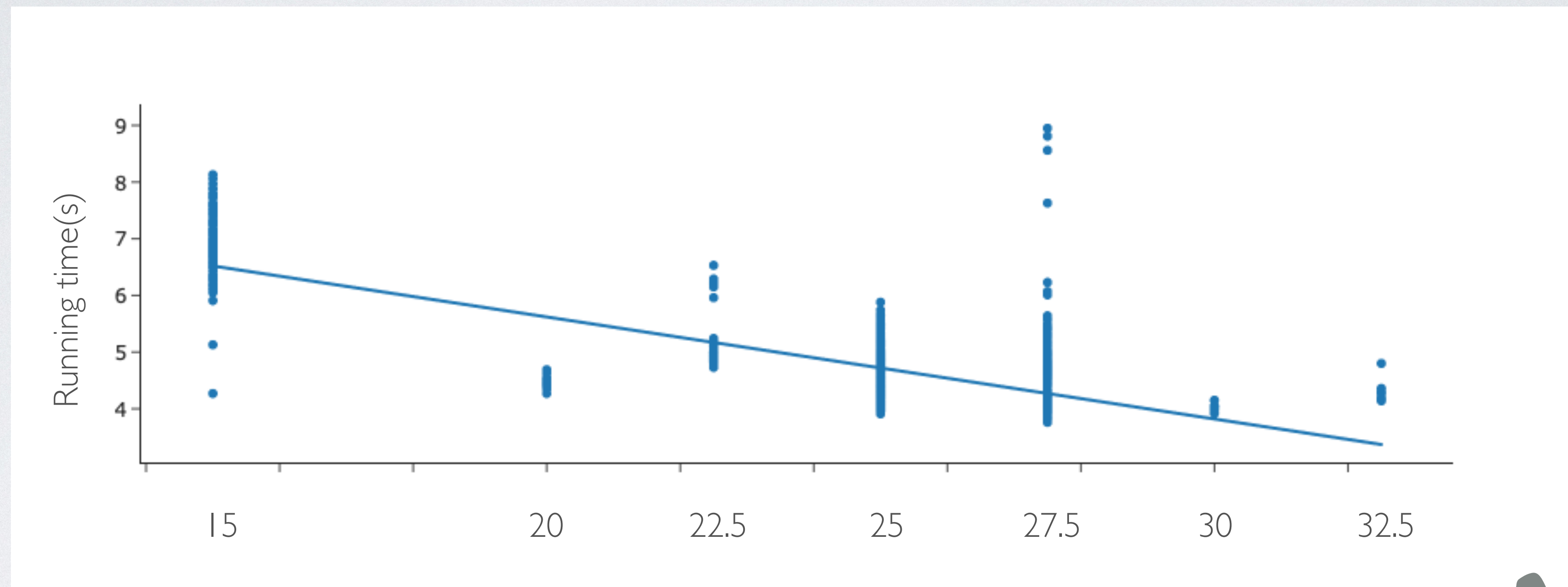


# DISTRIBUTION OF WILDRUNNERS DOGS BASED ON THEIR THEORETICAL BARRIER HEIGHT

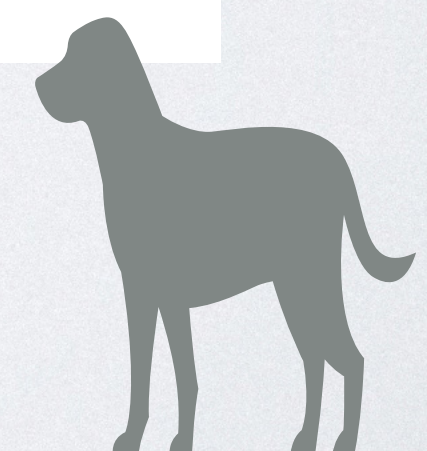
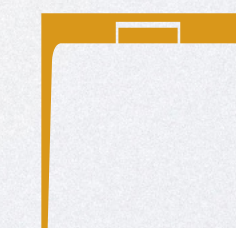
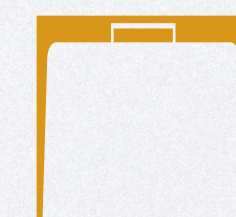
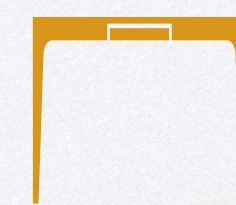
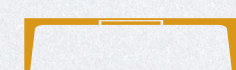




# SPEED OF WILDRUNNERS DOGS AT THEIR THEORETICAL BARRIER HEIGHT



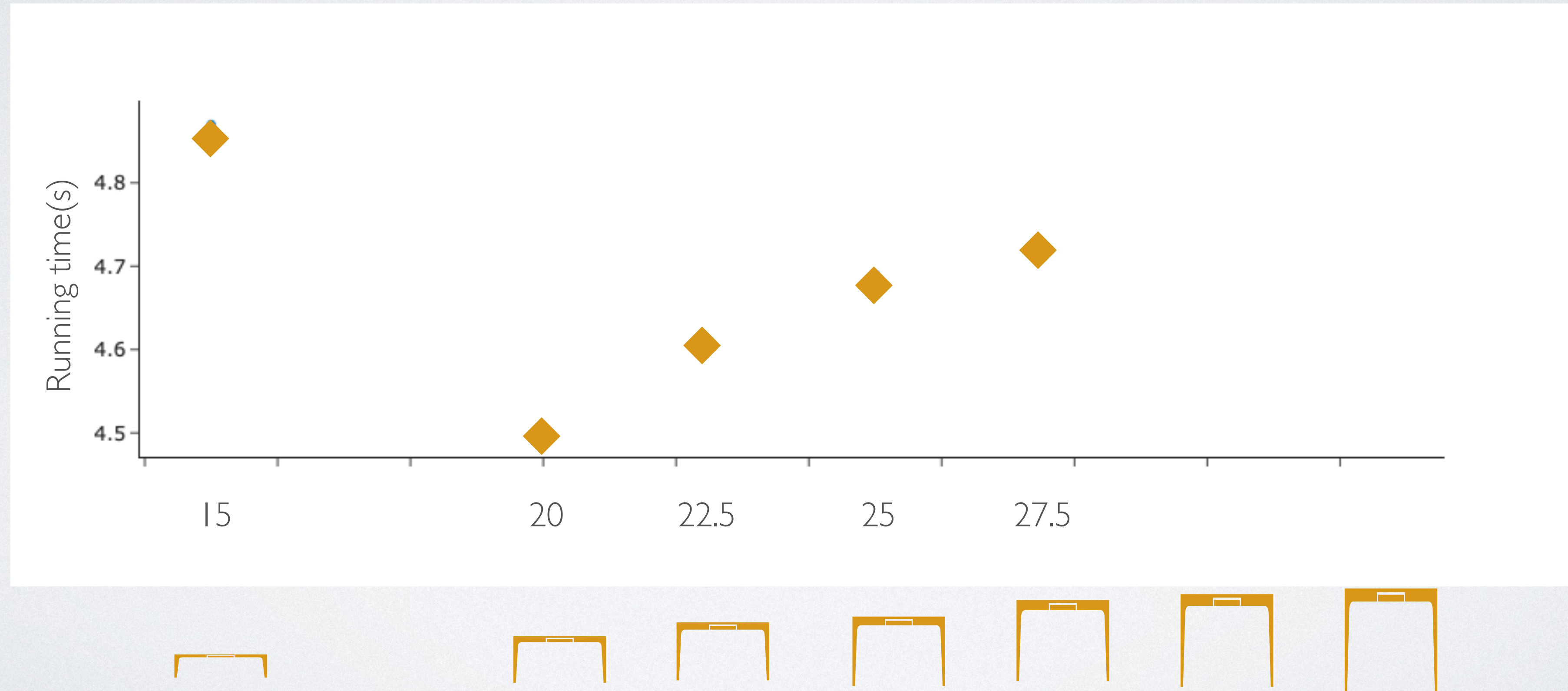
Korr:- 51%





# A GIVEN DOG RUNS SLOWER ON EVER HIGHER DAMS

like Bailey



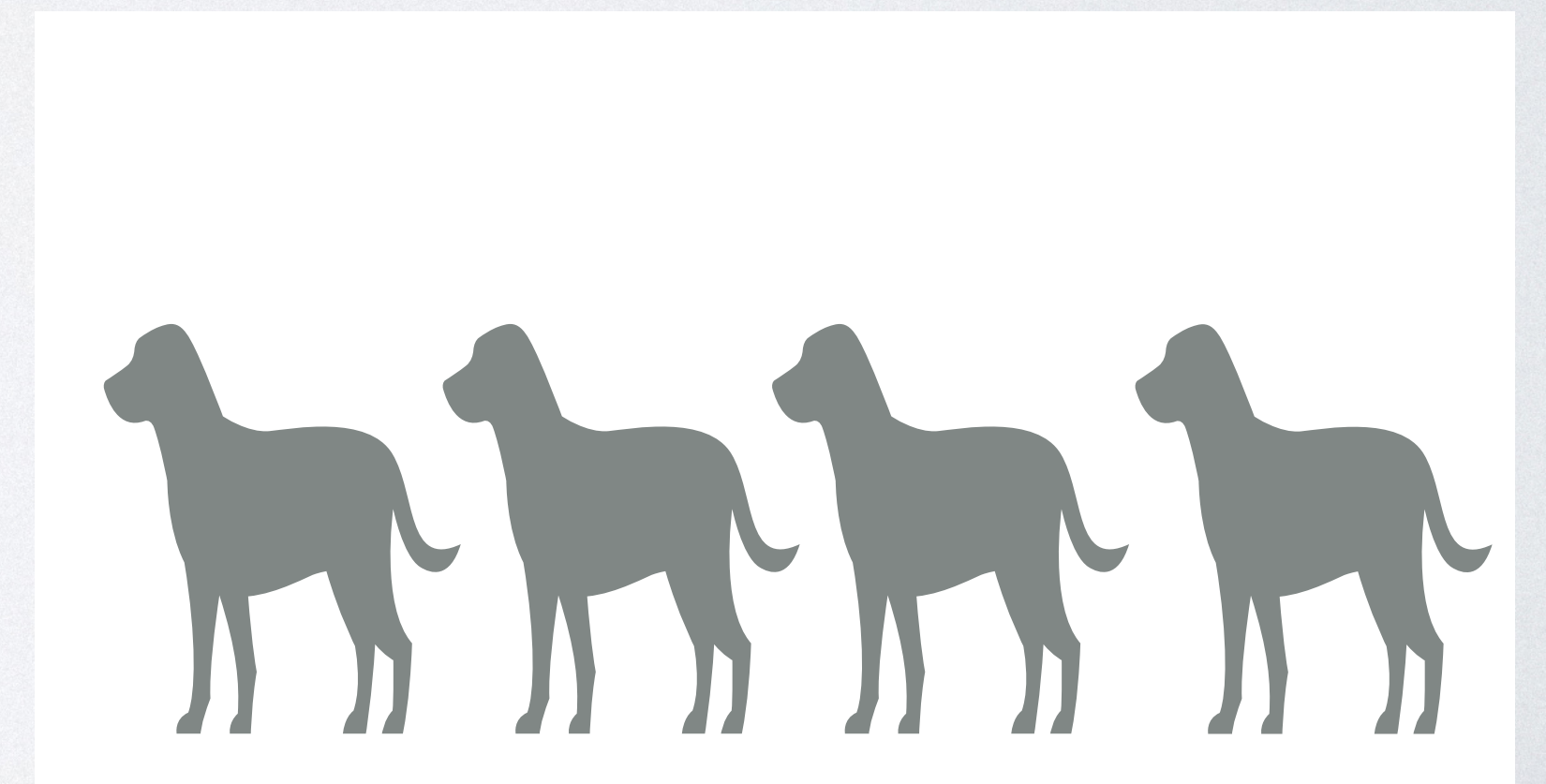
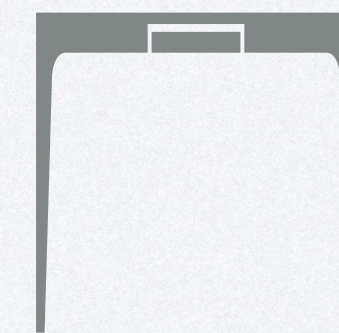
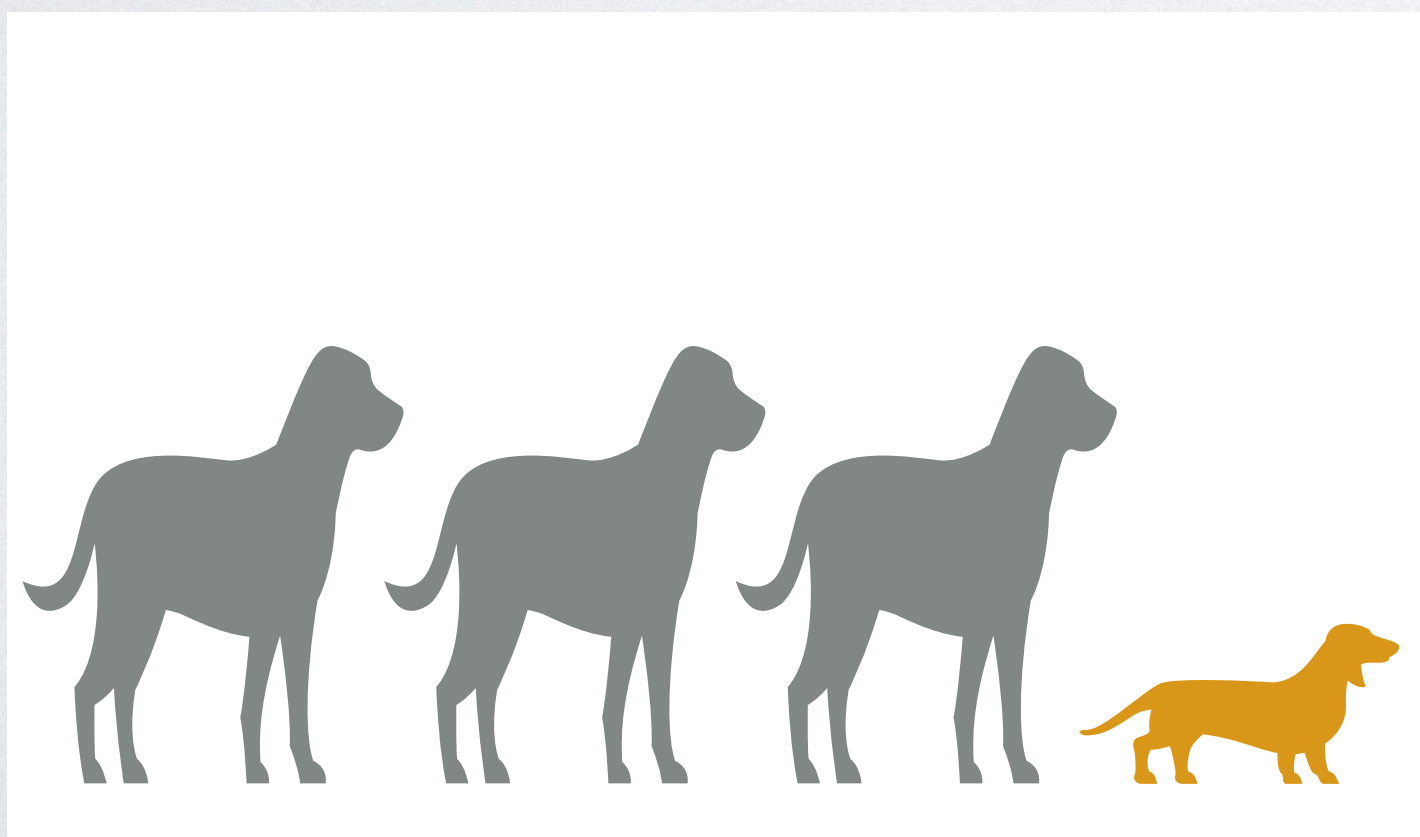
Corr: + 49%



# MEASURING DOG TEAM COMPOSITION WITH A NEW METRIC

speedster

- discrete metric
- how different are the jumping heights of the dogs in the relay teams
- the sum of the differences between the jump height of the smallest dog
- Values:  $50 > \text{speedster} > 0$



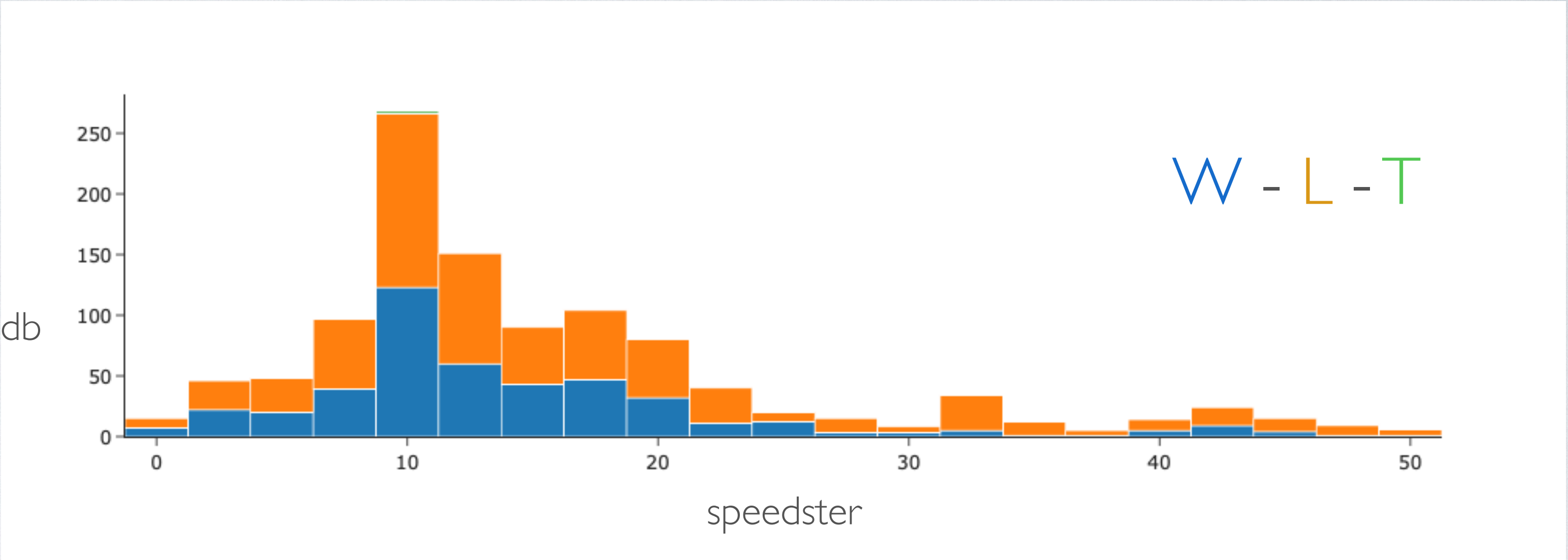


# HISTOGRAM

speedster



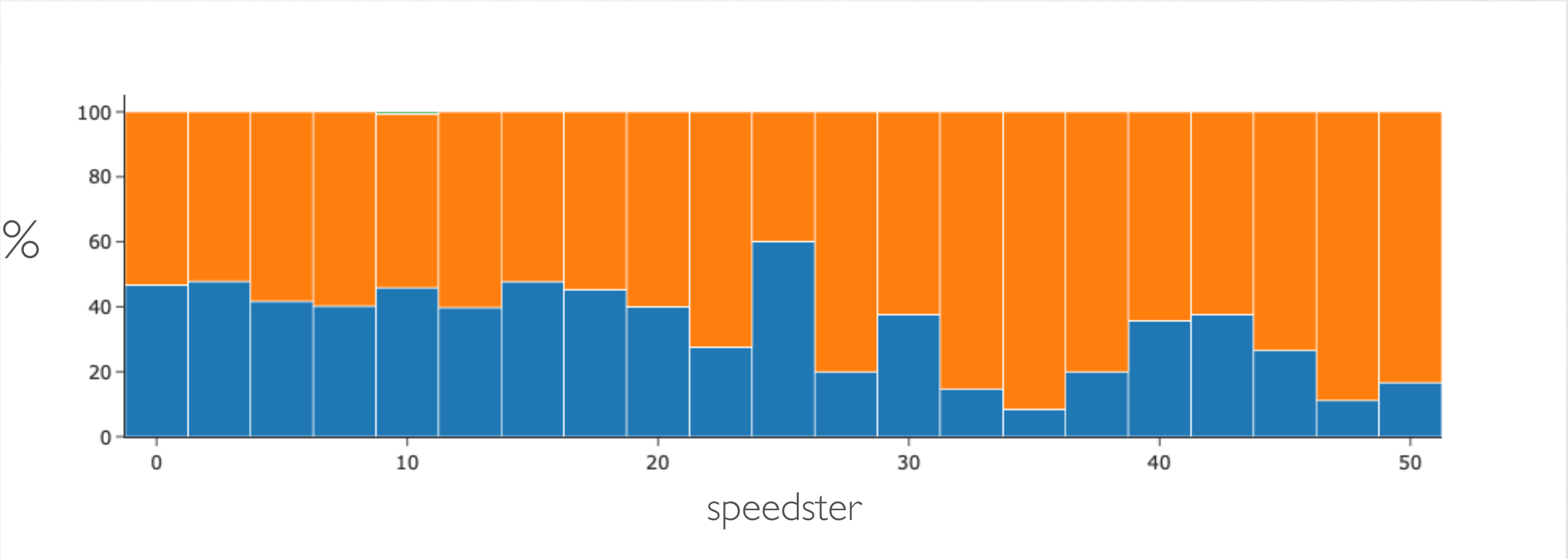
Gordon 15  
Henry 20  
Easy 20  
Dusty 22.5  
Kesha 22.5



22.5

20

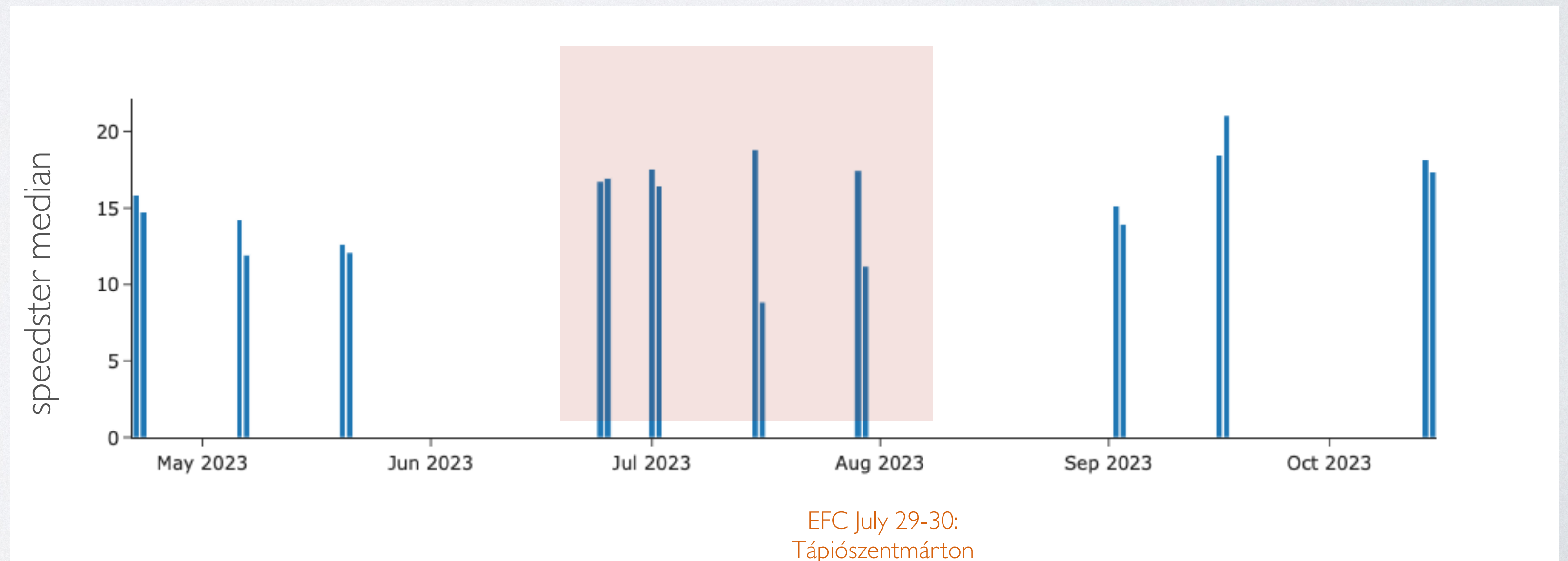
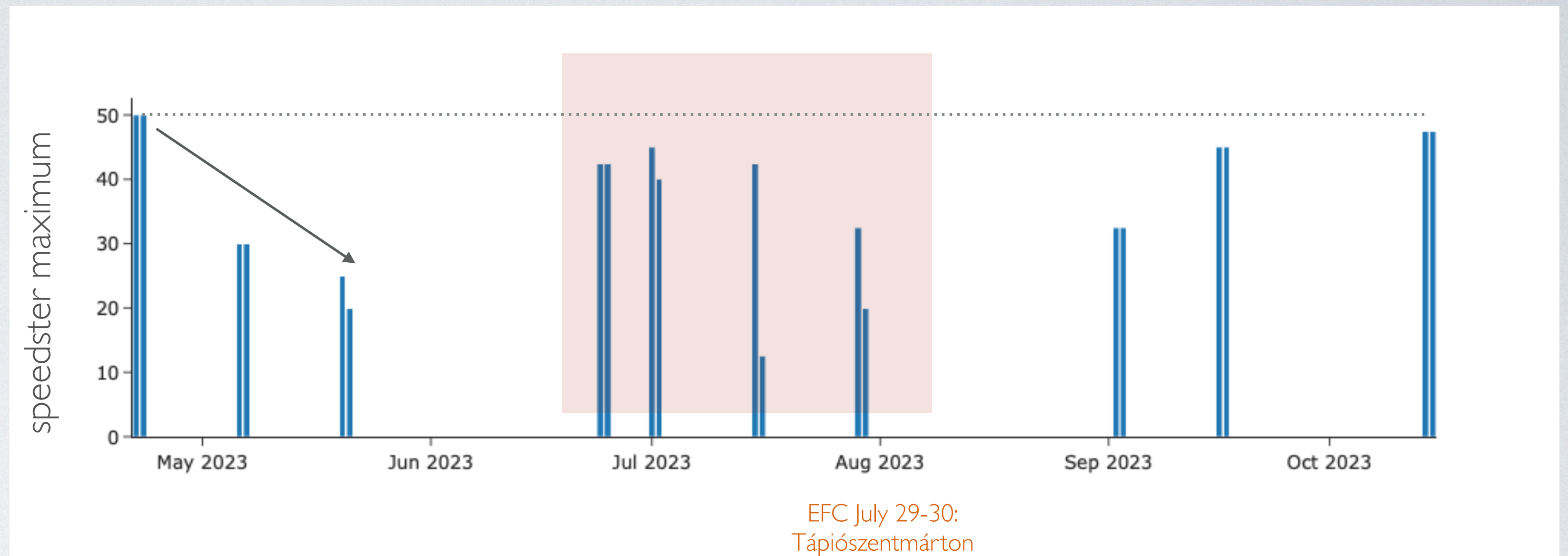
15





speedster

FROM RACE TO RACE





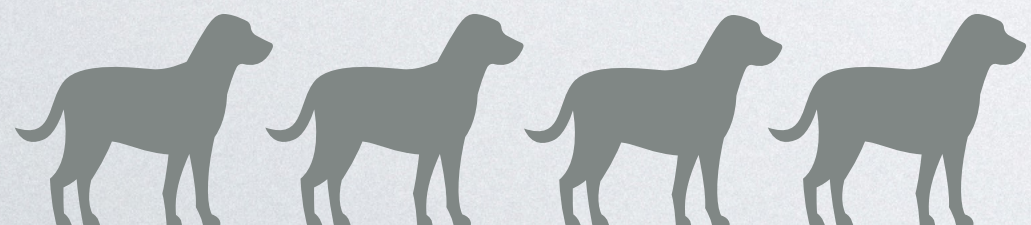
# WHAT CAN AFFECT THE METRICS?

External factors of competition:

- Weather
- Blue/red lane
- Relay position
- Hurdle height

Characteristics of dogs and handlers:

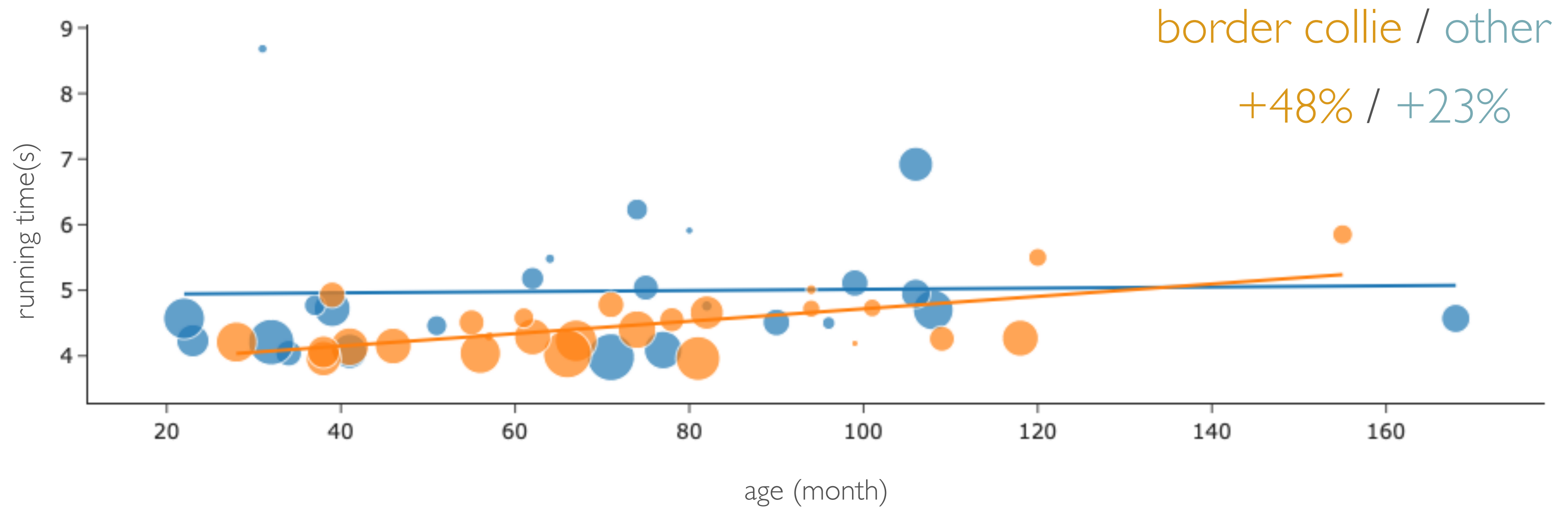
- Age
- Breed
- Sex
- Training quantity





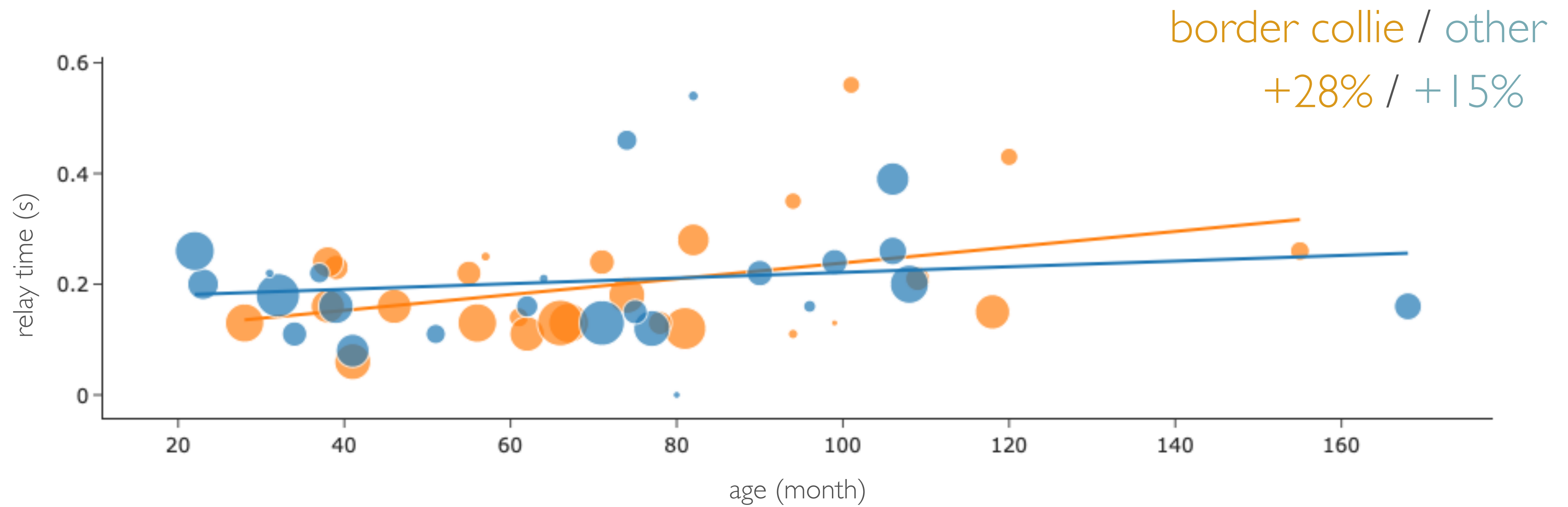
CORRELATION: AGE ~

Running times



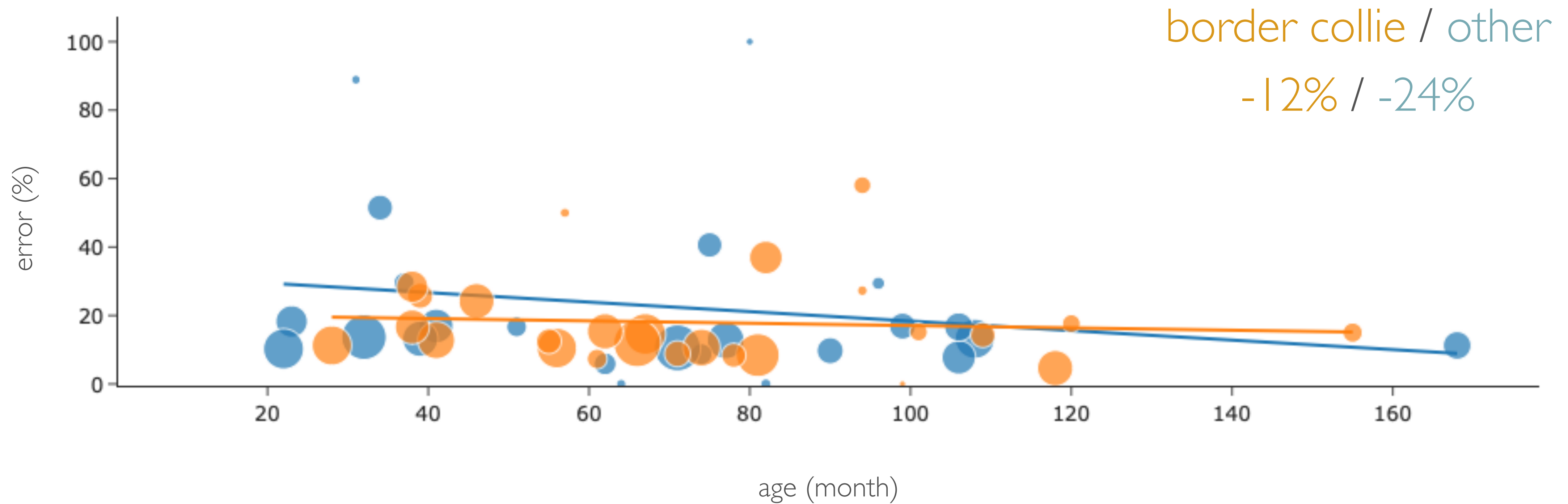


CORRELATION: AGE  $\sim$  Relay times





CORRELATION: AGE ~ Relay errors  
Running errors





# CORRELATION SUMMARY:

- border collie age ~ running performance +48%
- border collie age ~ relay time +28%
- not border collie age ~ errors -24%
- non border collie age ~ running performance +23%
- non border collie age ~ relay time +15%
- border collie age ~ errors -12%

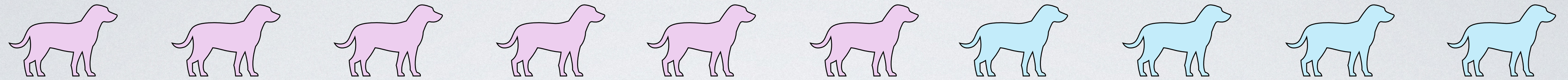
Border collies run and change faster than other breeds of dogs in the team.

They slow down more with age, but they are still faster than other dogs until they are 8-10 years old.

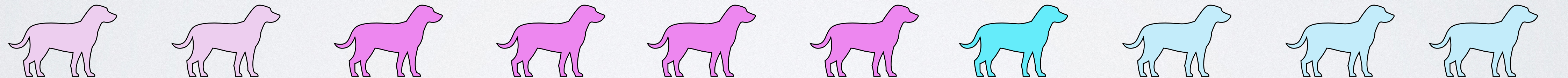
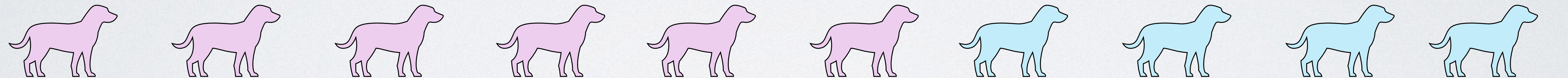
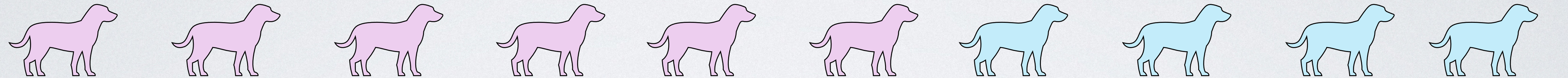
Border collies are also more accurate than other breeds of dogs, and this hardly changes with age.



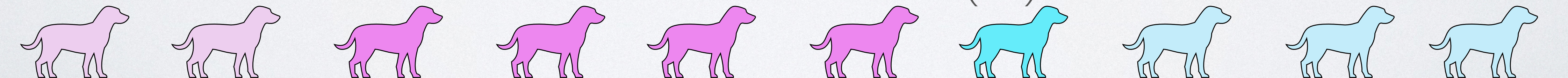
# WILDRUNNERS DOGS - 50



neutered (40)



intact (10)

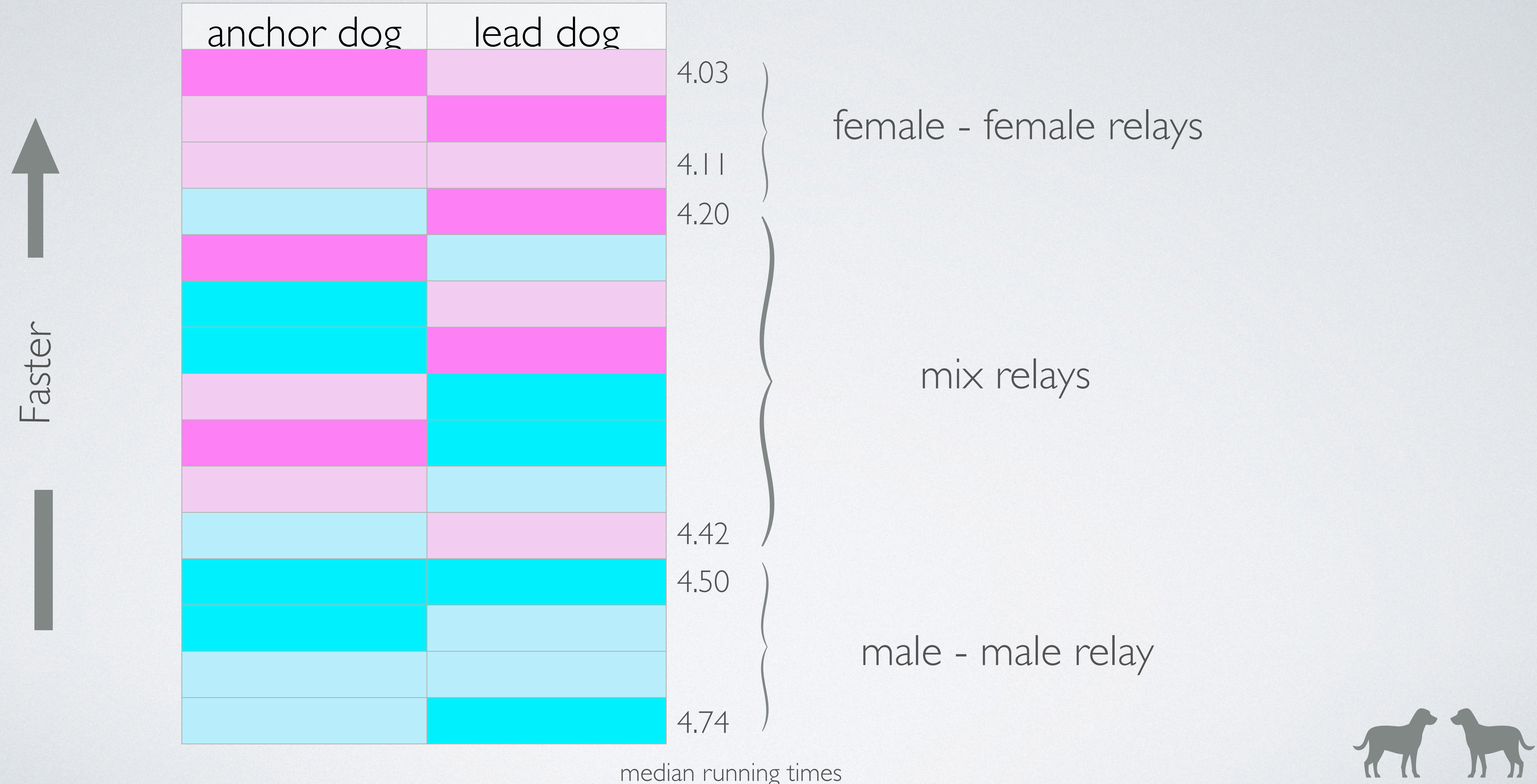


female (30)

male (20)

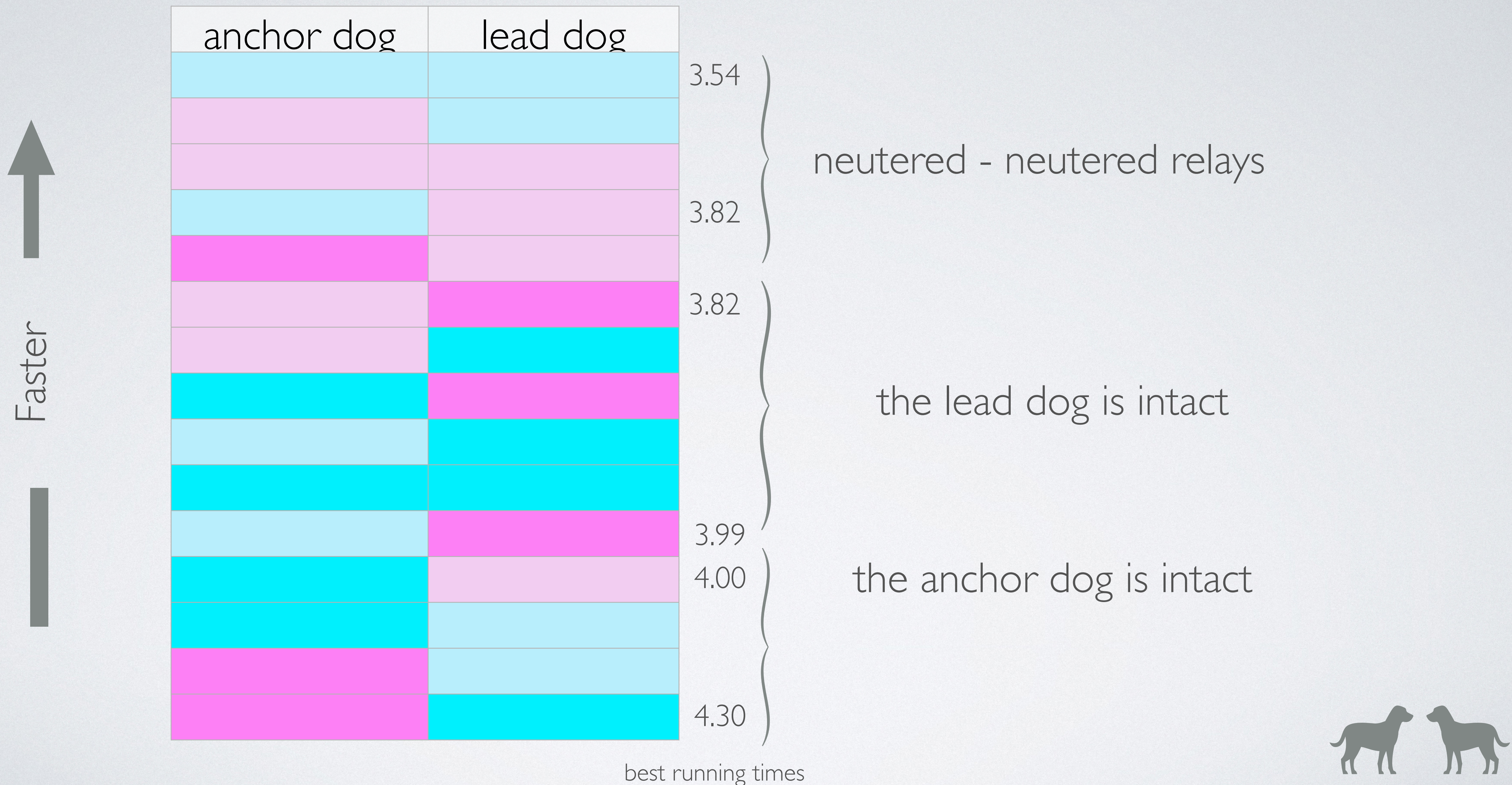


HOW DOES THE DOG'S GENDER AND SEX AFFECT THE DOGS' RUNNING PERFORMANCE?





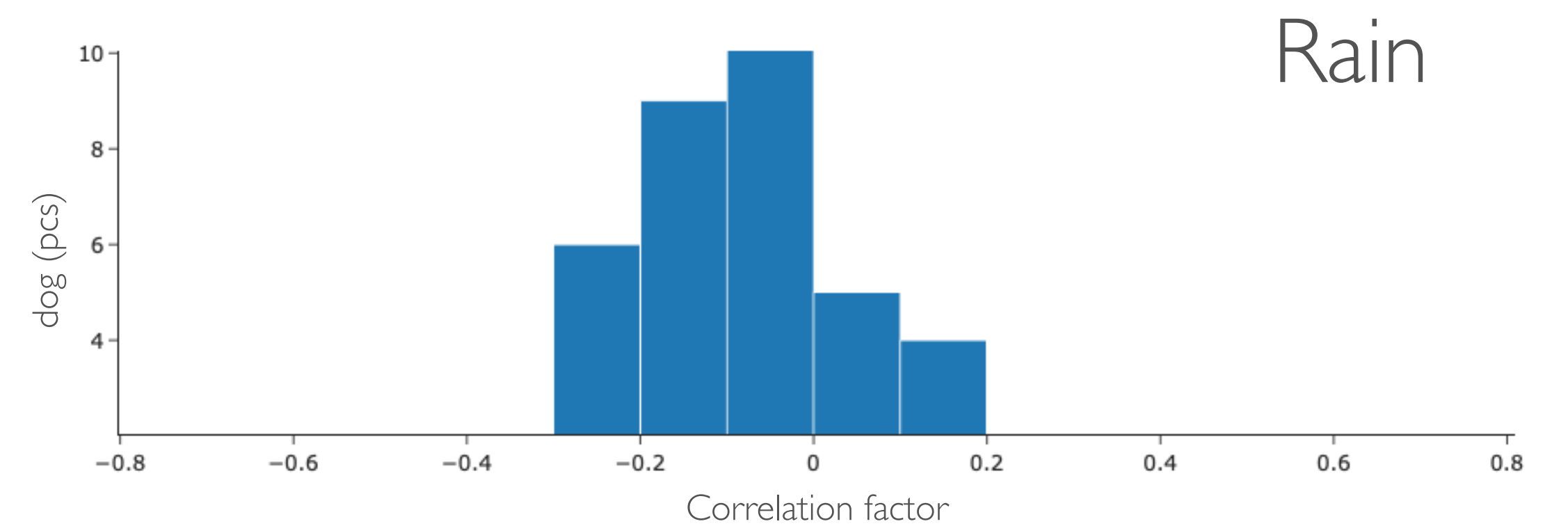
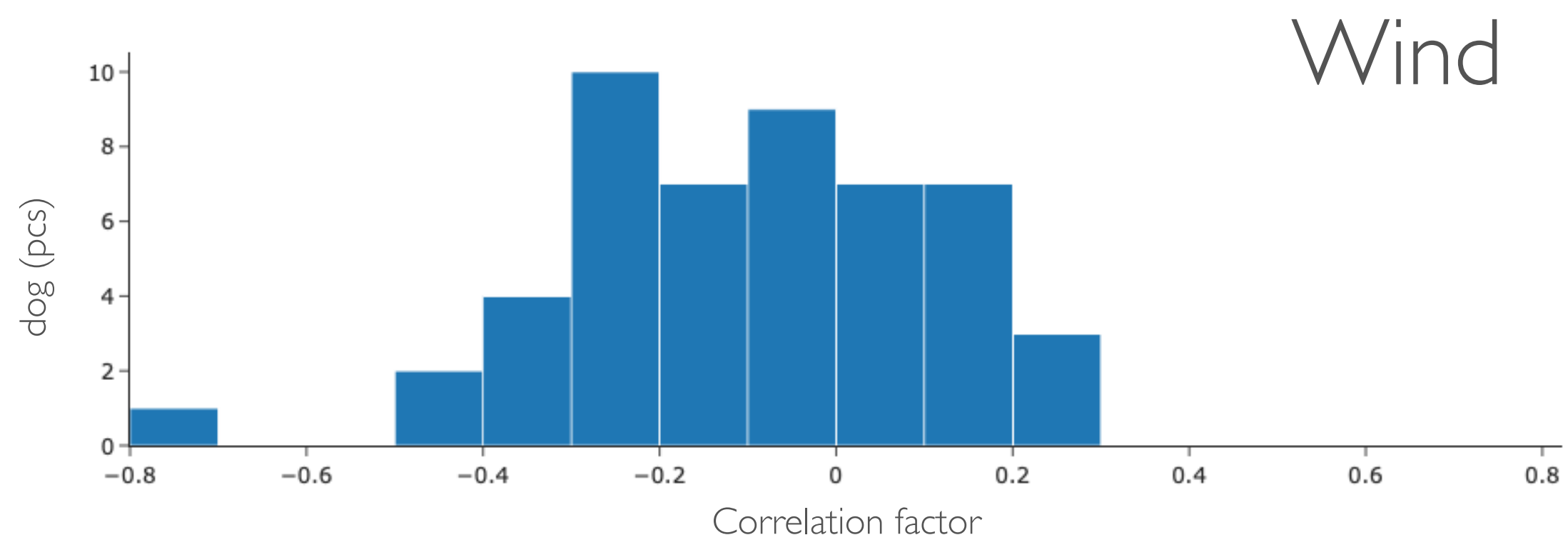
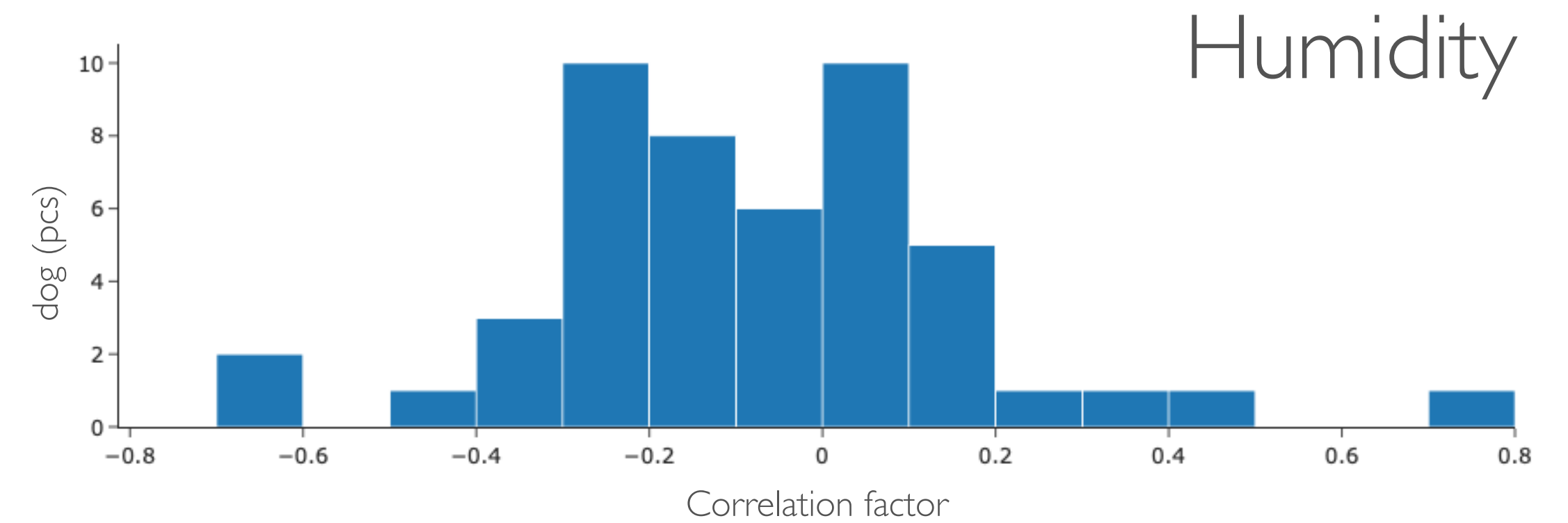
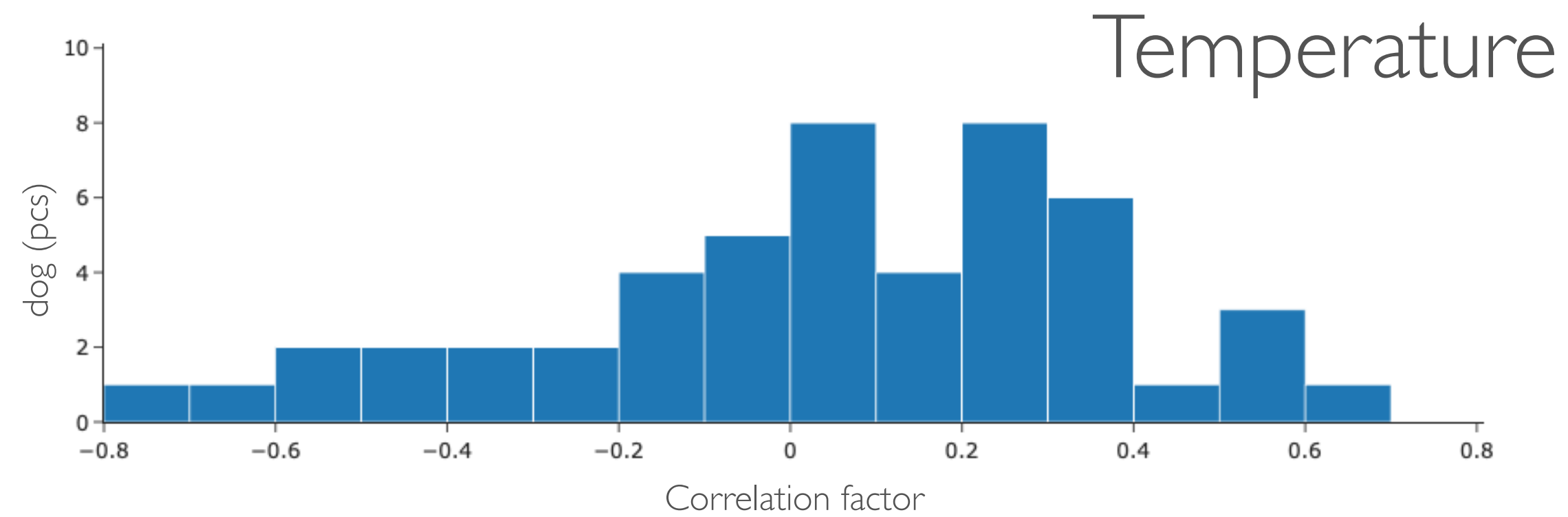
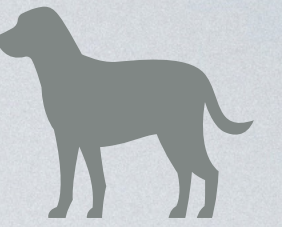
# HOGYAN HAT A VÁLTÁSRA A KUTYÁK NEME ÉS IVAROSSÁGA?





# CORRELATION: WEATHER ~

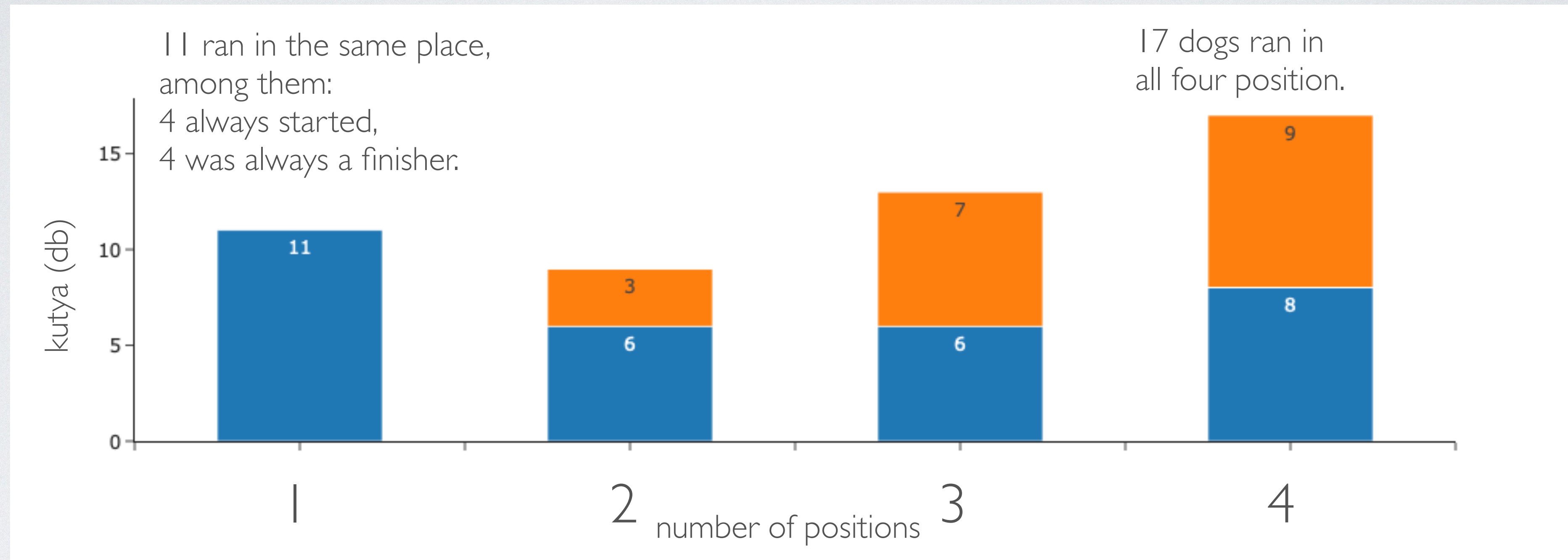
Running times



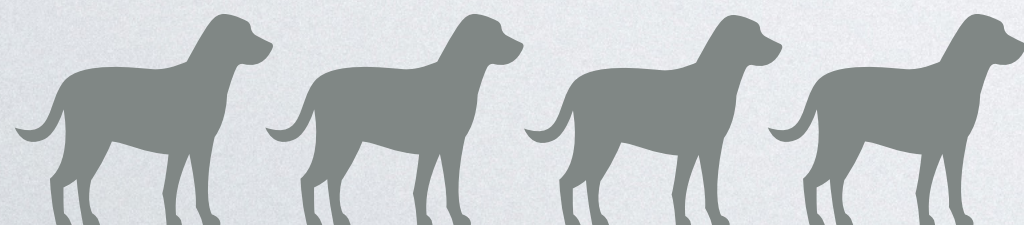


# HOW MANY POSITIONS DID THE DOGS RUN IN THE RELAYS?

Relay positions



the dog runs mostly in the position of the best time / does not run there





# SUGGESTIONS:

+auxiliary tables

Number  
of dogs

- By **increasing the number of teams**, more teams with different compositions can be formed with new dogs.

Speedster

- Currently, the 15-30 speedster is optimal in relays, but you can always **try a faster** small dog around the 40-50 speedster.

Relay positions

- If possible, the dogs should run in the **relay position** where they ran their **best time**.
- Take into account the sex of the dogs when switching, **avoid male-male** and **intact-intact** relays.

Relay erros  
Running errors

- Reducing dogs' mistakes with lots of practice / more competition situations.
- If a dog is **more sensitive** than average to one of its components, this should be taken into account in the expected **weather** of the competition



THANK YOU