Main insights of Wild Runners Flyball Team analysis

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Agenda

01. Goals

02. Summary of analysis

03. Proposals

01. GOALS

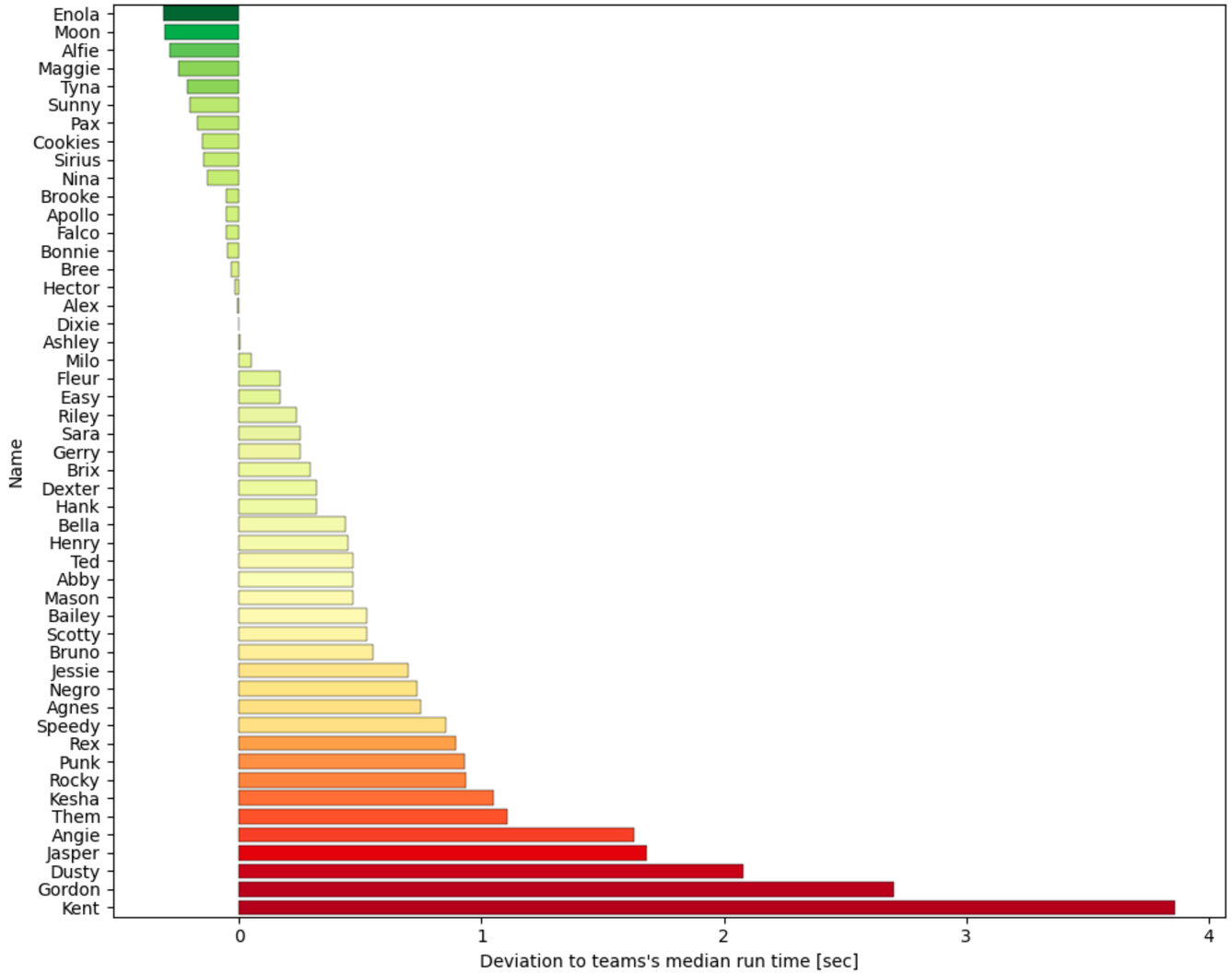
01. Goals

Processing the WRFT flyball team's competition data from the past year to build up a comprehensive picture, which will also help them to achieve even higher levels of performance in the future.

02. SUMMARY OF ANALYSIS

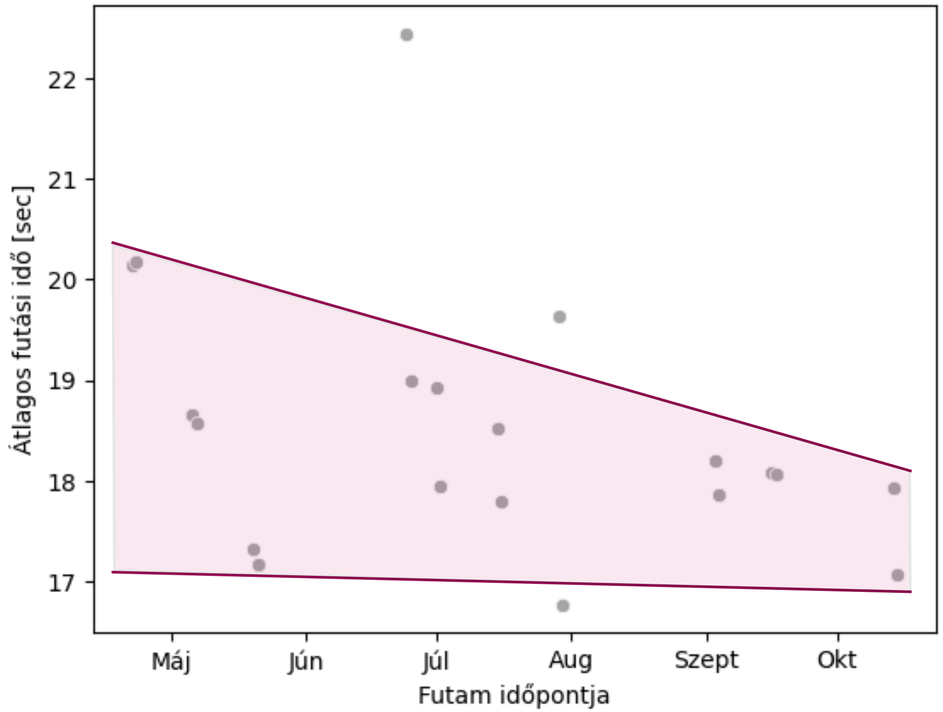
02. Individual performance of dogs

- Deviation of individual average running times compared to team median
- Many dogs perform significantly worse than the average
- The individual, average performance of the dogs in the competitions is crucial



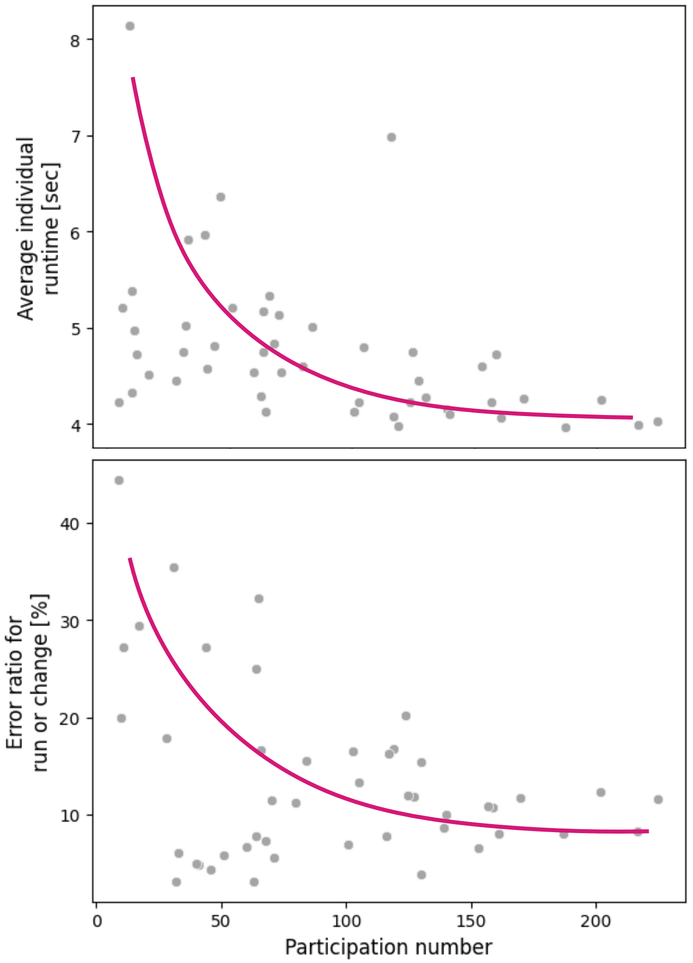
02. Experience - season perspective

- Average running time of the team on each race day
- As the season progresses, the team's running time tends to decrease, so performance improves
- An improvement of almost 15% compared to the first race of the season



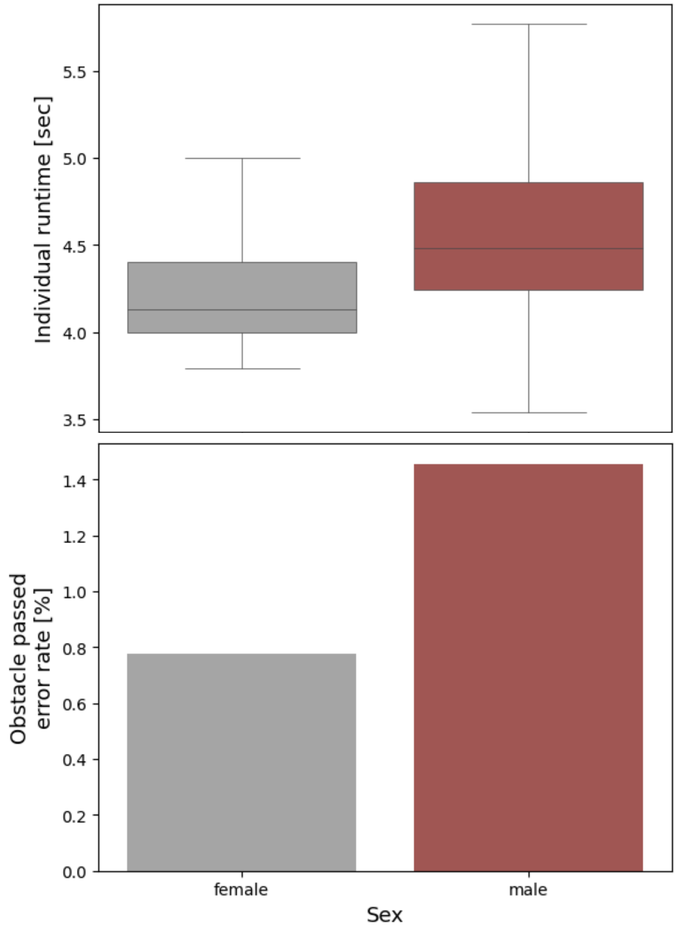
02. Experience - individual perspective

- Average individual running times and percentage of errors as a function of the number of races attended
- As the number of participants increases, dogs perform better on average in individual run times
- The rate of changing and running errors also decreases significantly as the number of participants increases



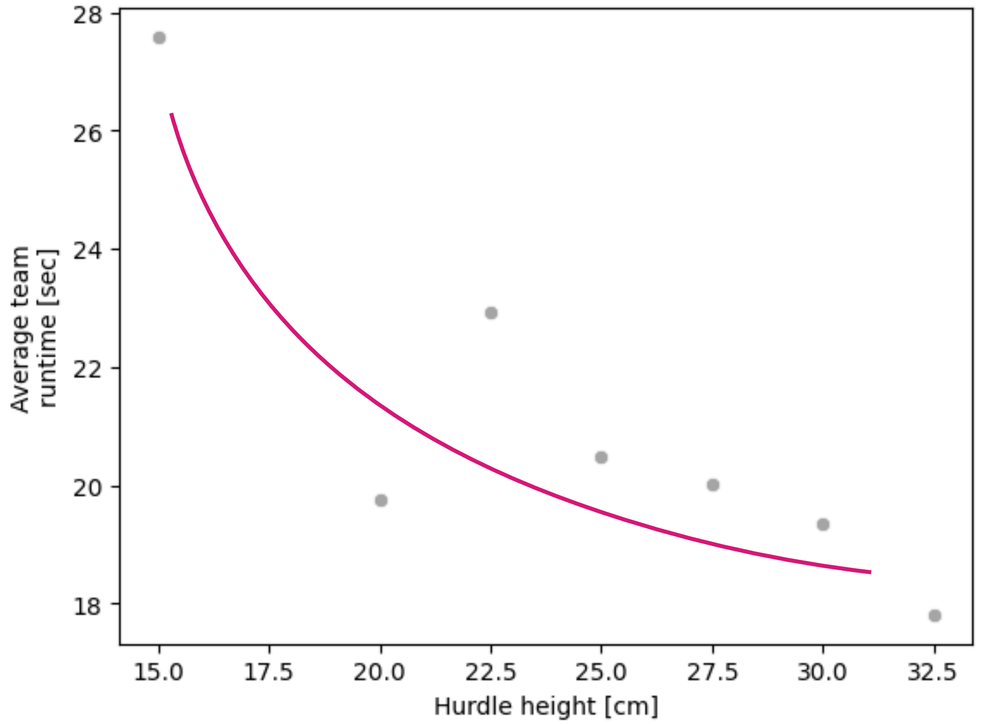
02. Effect of sex

- Distribution of individual run times and proportion of ‘barrier avoided' errors by sex of dog
- Median running time of bitch dogs is better by 8%
    - The standard deviation of running times is also smaller for bitch dogs, making their performance more stable
- Bitch dogs have nearly half as many ‘barrier avoided' errors



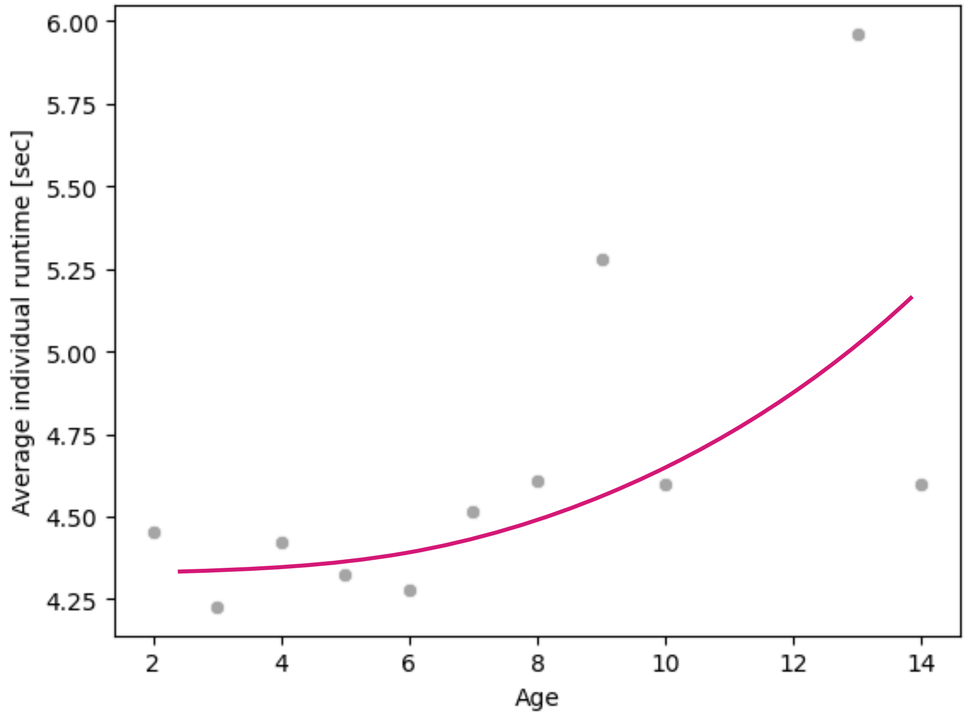
02. Barrier height

- Distribution of running times by barrier height used in the race
- Team running times typically decrease at higher obstacles
- Team performance worsens, especially for 15 cm barriers



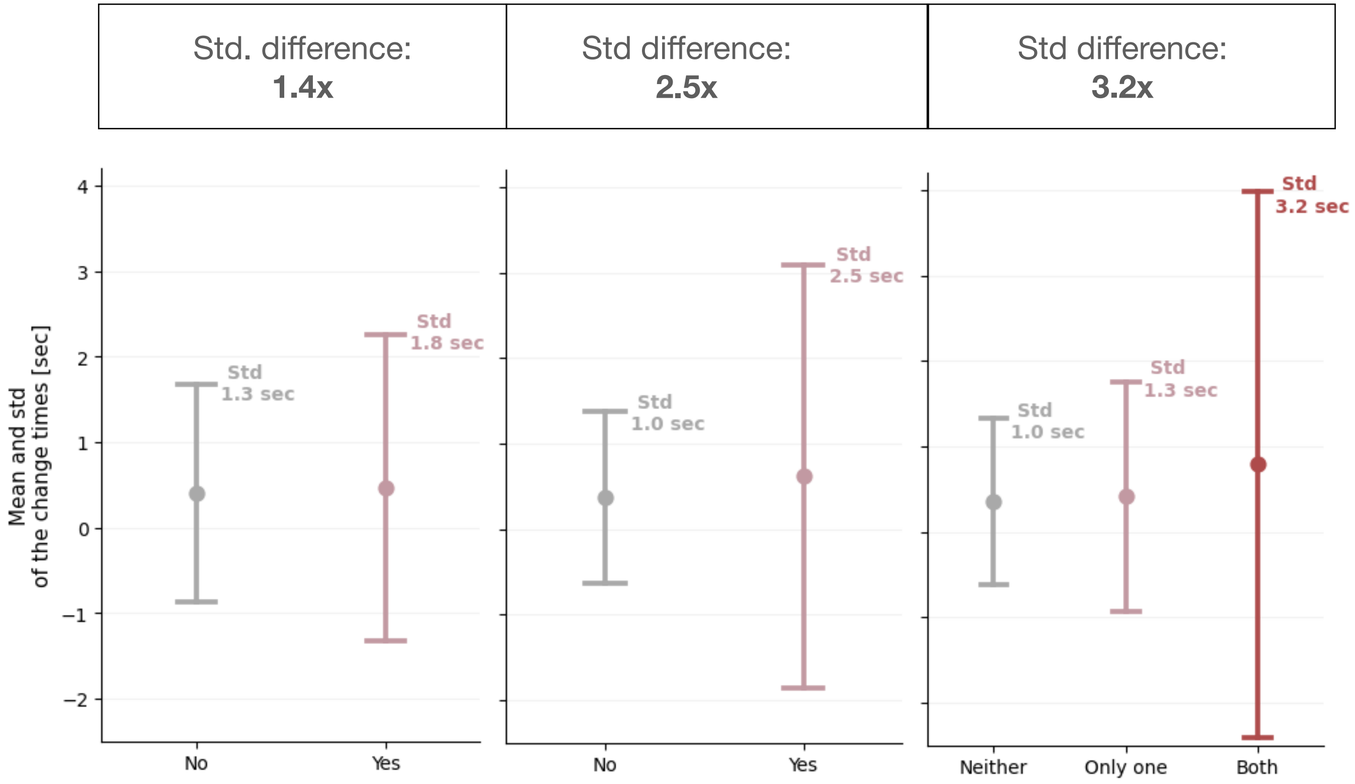
02. Age

- Distribution of individual running times by age of dogs
- Performance becomes more unstable at 7 years of age
- Over the age of 8 years, running times typically increase



02. Analysis of change times

- Mean and standard deviation of runtimes according to:
  - has a neutral dog was followed by a castrated,
  - has the sex of the dog differentiated,
  - or every two variable he's changed at the relay.
- If the neutral state or the sex changes at the relay:
  - The change times is slightly increasing
  - The standard deviation increases with a higher rate
  - Thus, the performance will be insable
- The standard deviation increases by a rate of 3.2x when every two variable are changed



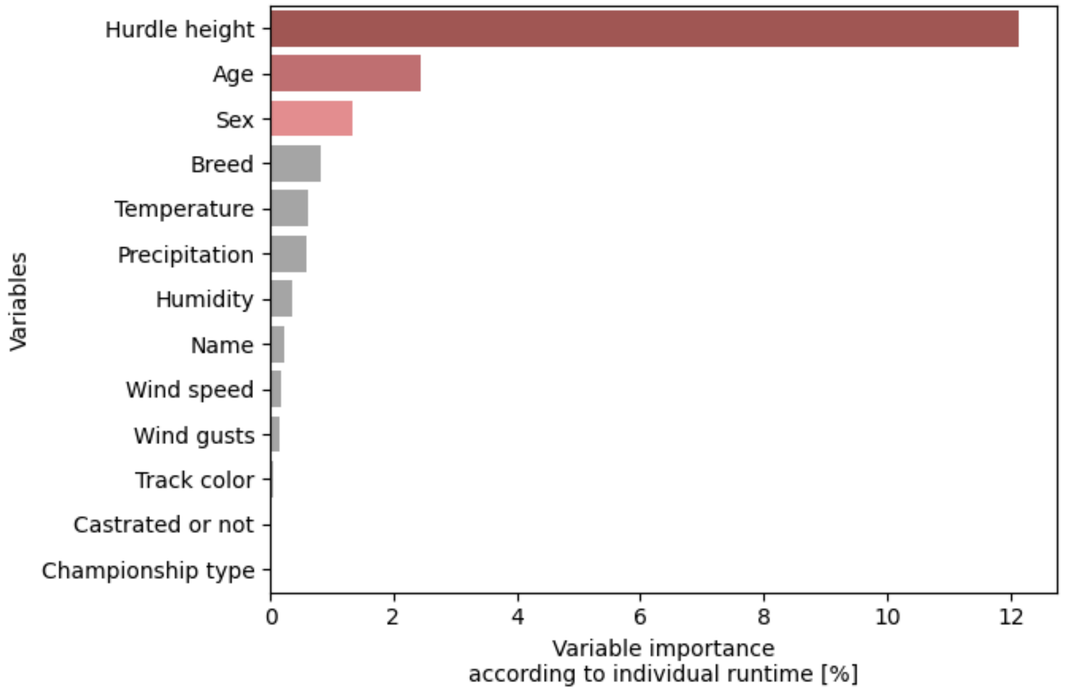
Were dogs of different sexes competing in the race?

Were both sexed and neutered dogs competing in the race?

Both the sex of the dogs and the castration status has changed over the relays?

02. Variable importances according to ML

- The individual runtimes can be predicted with a good accuracy (inside of 5% error threshold)
- The regression model gives a good overall picture about the importance of variables
- The main determinants of the runtimes:
  - Hurdle height of the dog
  - Age
  - Sex



03. PROPOSALS

03. Main proposals

1

More experienced but younger dogs show better performance on average.

It is advisable to compete with dogs **younger than 7 years old** and to **participate in as many competitions and training sessions as possible**.

2

The **jumping height** of dogs is crucial.

It is worth **competing taller dogs** as their performance is typically better.

3

Female dogs have a lower running time and a lower failure rate.

It is **better to race female dogs**.

4

Relays are important for stable performance.

Within races, it is **recommended to have dogs of the same sex and castration status** in competition.

Thank you for your attention