Dogs!

(Or Finding a New Best Friend)

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Questions to Answer

1. Why was this topic chosen?

2. How was the behavioral data collected by Dr. Coren?

3. What is the distribution of dog classifications?

4. Is there a relationship between dog size and lowest reps for new commands?

5. Why spend more time exploring dog height rather than dog weight?

6. What is the relationship between number of reps and how well the dog obeyed?

7. What method of analysis was least useful?

8. What method of analysis proved most useful/meaningful?

9. What was the most challenging aspect of working with this data

10. What is the benefit of this analysis?

Research Problem

- Match a person with the best new dog to the new owner

  - Family with small kids

  - Active single person

  - Senior looking for companionship

- Every group has different needs and abilities to care for and/or train a dog

- Finding the right dog helps manage expectations

  - Foster better relationship with new pet

The Data

American Kennel Club

- The breed name

- The lower and upper breed height

- The upper and lower breed weight

Dr. Coren's Data

- The breed name

- The AKC size and classification

- The likelihood the breed will obey initial commands

- Lower & upper repetition limits for each bread

Dog Classifications:
Comparison of Average Lowest reps and Average Percentages Obeyed

obey_percent		reps_lower	
Classification		Classification	
Above Average Working Dogs	70.0	Above Average Working Dogs	16.0
Average Working/Obedience Intelligence	50.0	Average Working/Obedience Intelligence	26.0
Brightest Dogs	95.0	Brightest Dogs	1.0
Excellent Working Dogs	85.0	Excellent Working Dogs	5.0
Fair Working/Obedience Intelligence	30.0	Fair Working/Obedience Intelligence	41.0
Lowest Working/Obedience Intelligence	0.0	Lowest Working/Obedience Intelligence	81.0

- Average Working/Obedience - 38
- Above Average Working Dogs - 27
- Fair Working/Obedience - 20
- Excellent Working Dogs - 19
- Lowest Working/Obedience - 10
- Brightest Dogs - 10
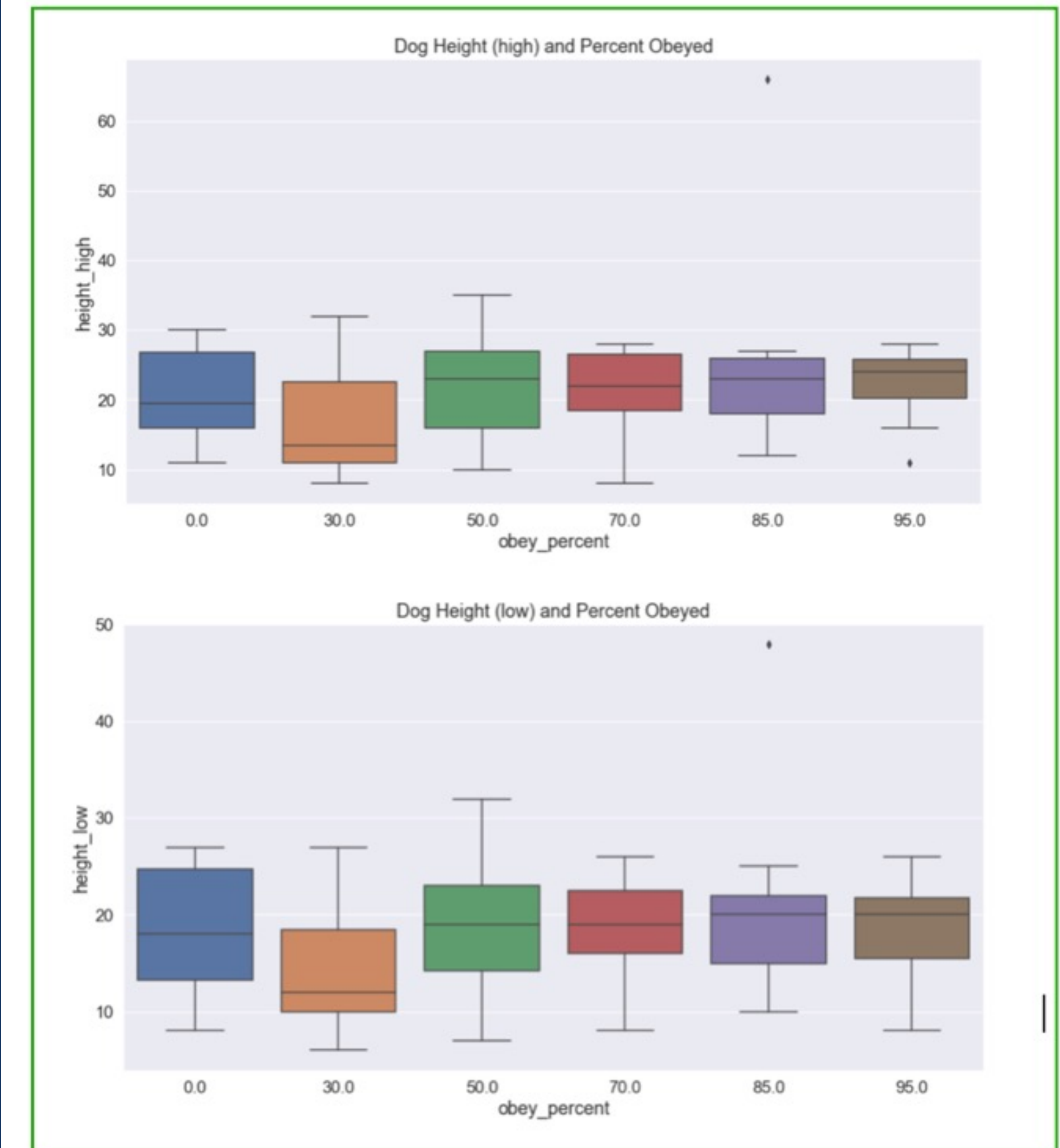
Analysis

- General exploration of the data, which included:

  - counts:

    - min/max/mean

    - percentile

    - standard deviation for each column

  - General distributions
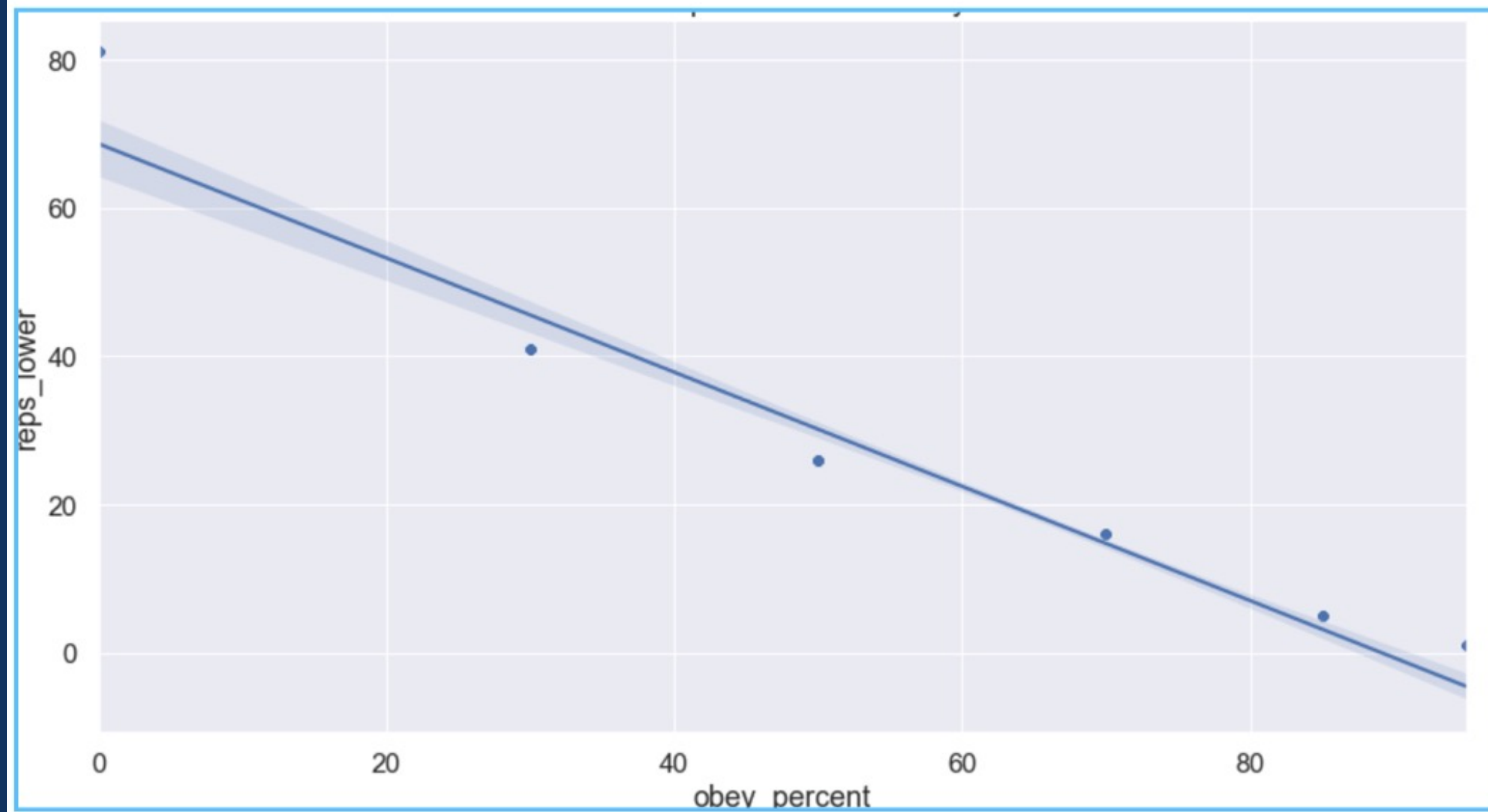
  - Variable comparisons

  - Plots

Boxplots:
Comparison between Dog Heights and Percentages Obeyed

Analysis

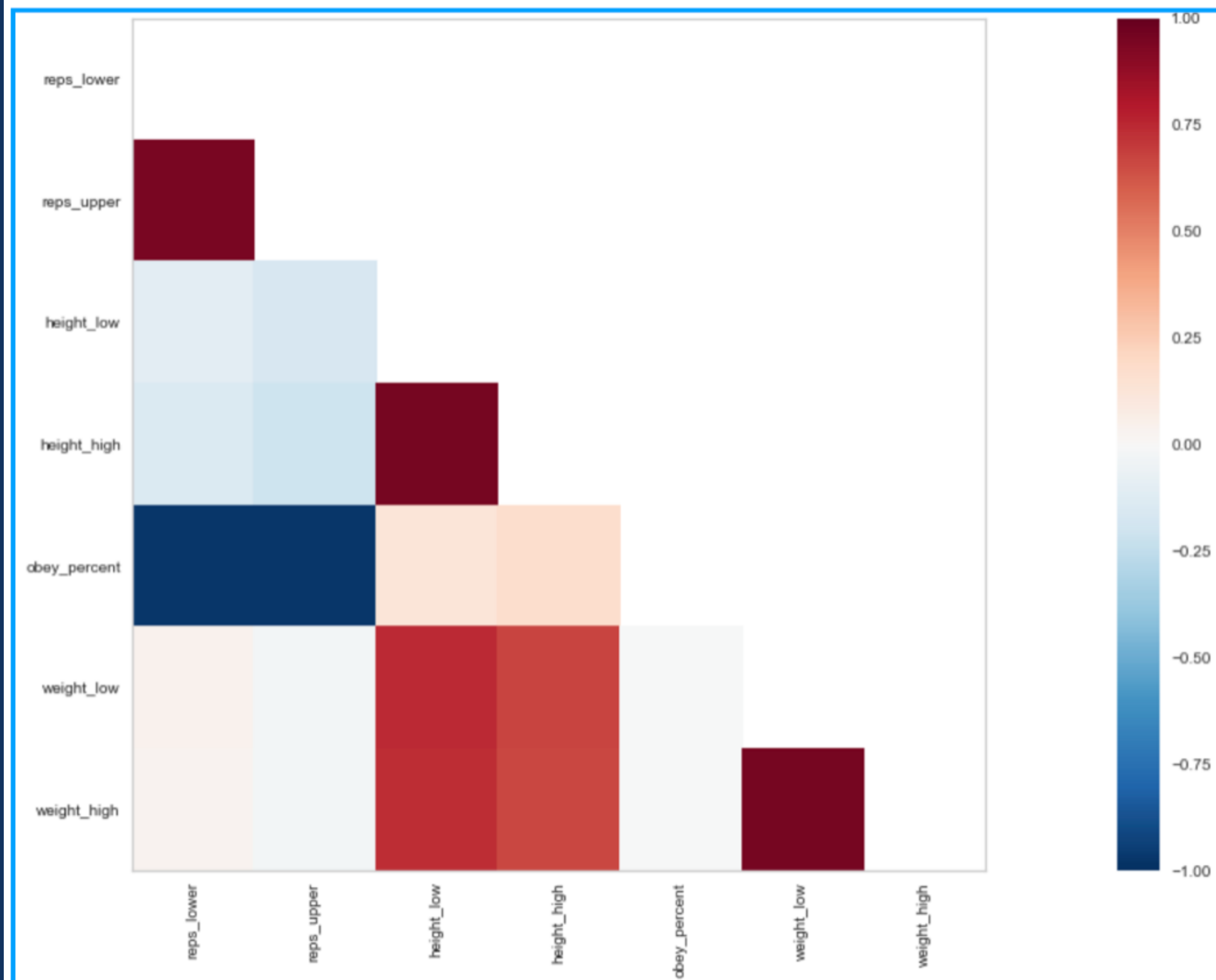**Bivariate Plot:**
Lower Rep Counts and Percentages Obeyed

- Relationship between reps and obeyed percentages

- Strong relationship between lower reps for new commands and high percentage for first commands

- Shaded area shows more variance between reps and percent obeyed as rep number increases

- Once number of reps is decreased and percent of first commands obeyed increases, relationship strengthens

Analysis

Correlation:
Repetitions, Weights, Heights, and Percentages

Correlations

- Relationships between lower repetitions and obeyed percentages

- Also a small relationship between dog weights and repetitions

- Not as strong

Limitations & Challenges

- Small dataset

  - Difficult to split into meaningful test and training sets

  - Unreliable predictions

- Incomplete data

  - Missing some breeds due to incomplete information

Conclusions, Future Use, & Recommendations

- Correlation successfully matched similar breeds

- Assists matching with prospective new owners

- Used by rescues

  - Match new owners

  - Identify which dogs need more training

- Results in better relationship between dogs and new owners

Thank You