

# Breed differences in everyday behavior of Swedish dogs

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**SVENSKA  
KENNELKLUBBEN**  
HUNDÄGARNAS RIKSORGANISATION

# Objective

- Investigate breed differences
- Estimate genetic parameters



# Companion dogs

- Calm
- Playful
- Not fearful



# Everyday behavior – owner survey

- Based on Canine Behavior Assessment and Research Questionnaire (C-BARQ, Hsu and Serpell, 2003)
  - Additional questions (Svartberg, 2005)
- 152 questions
  - General questions about the dog and the respondent
  - Questions regarding the dogs recent behavior
    - How often/how much (1-5)
- 16 behavior traits

# Breeds included in the study

## Companion

Shetland Sheepdog  
Bernese Mountain Dog  
American Staffordshire Terrier  
Jack Russell Terrier  
Rhodesian Ridgeback  
Golden Retriever  
Lagotto Romagnolo  
Nova Scotia Duck Tolling Retriever  
Chihuahua

## Working

Australian Kelpie  
Australian Shepherd  
Belgian Shepherd Dog – Malinois  
Belgian Shepherd Dog – Tervueren  
Briard  
German Shepherd Dog  
Boxer  
Dobermann  
Hovawart  
Giant Schnauzer  
Rottweiler

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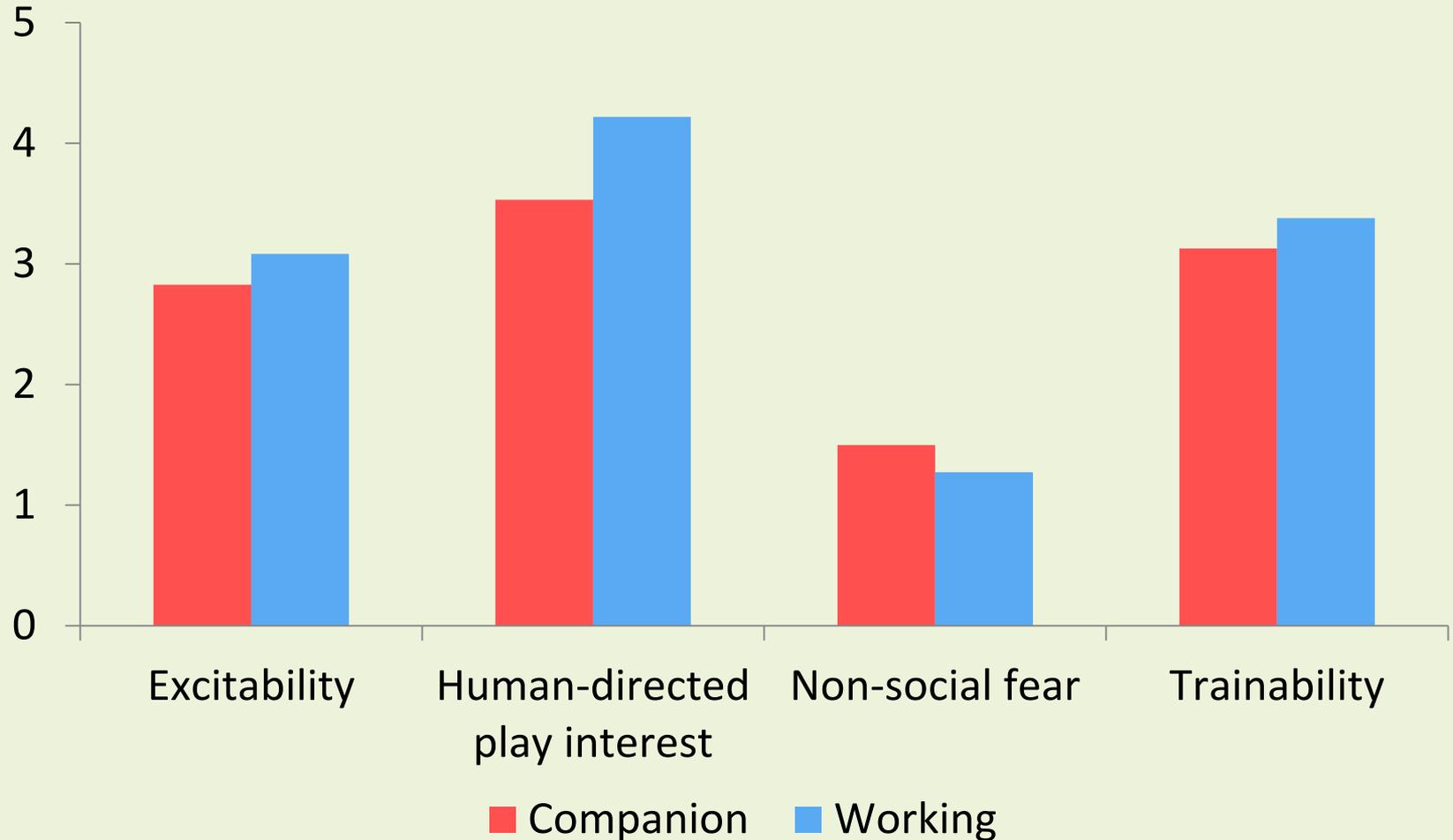
Rottweiler

# Data

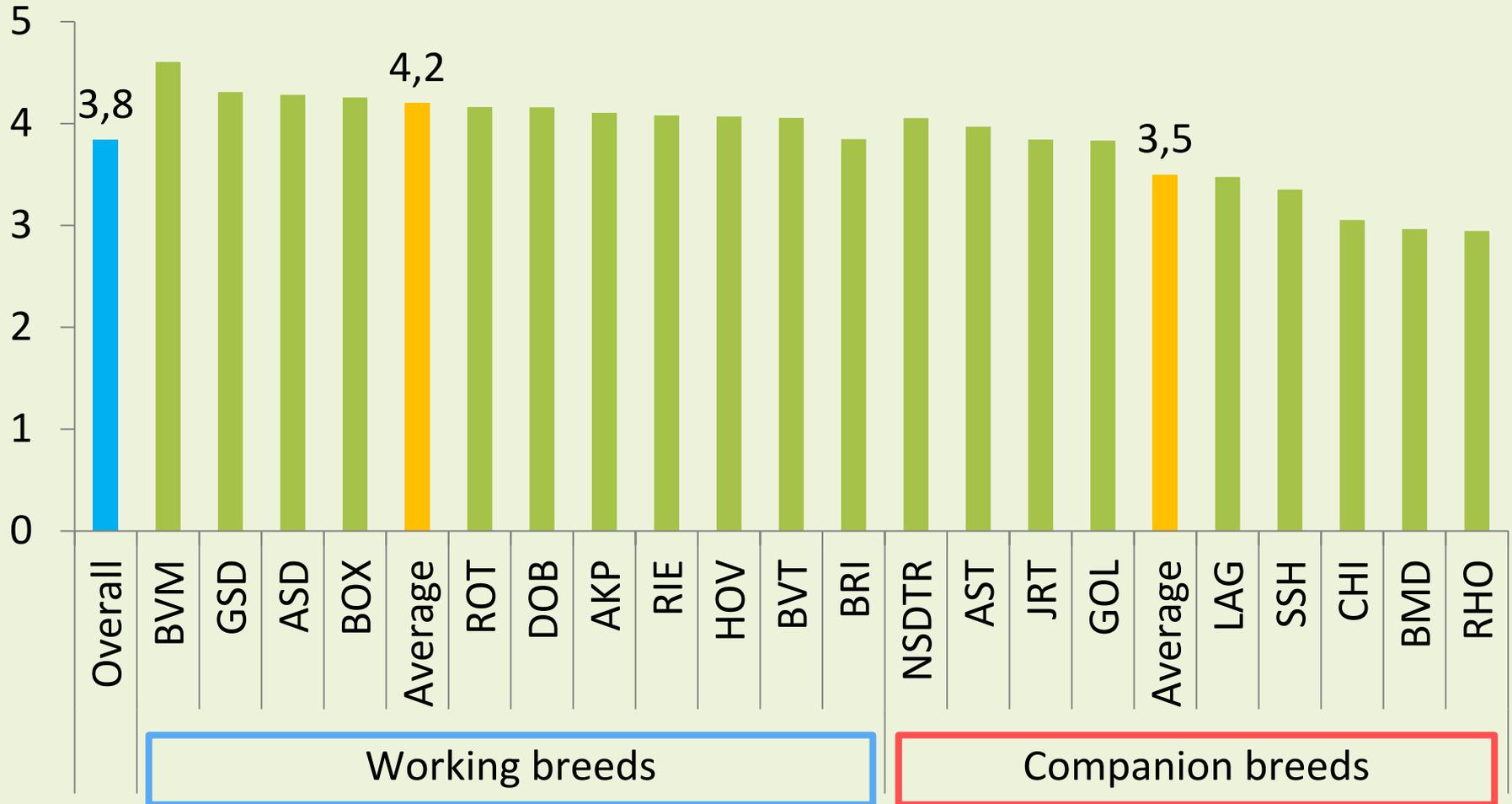
- 3,456 responses
  - No of responses per breed ranged from 67 to 353
- Average age of the dog was 5.2 years
  - Varied from 4.3 to 6.8 years
- Equal distribution between sexes (45% males)
  - Varied from 36% to 57% males

# Average scores

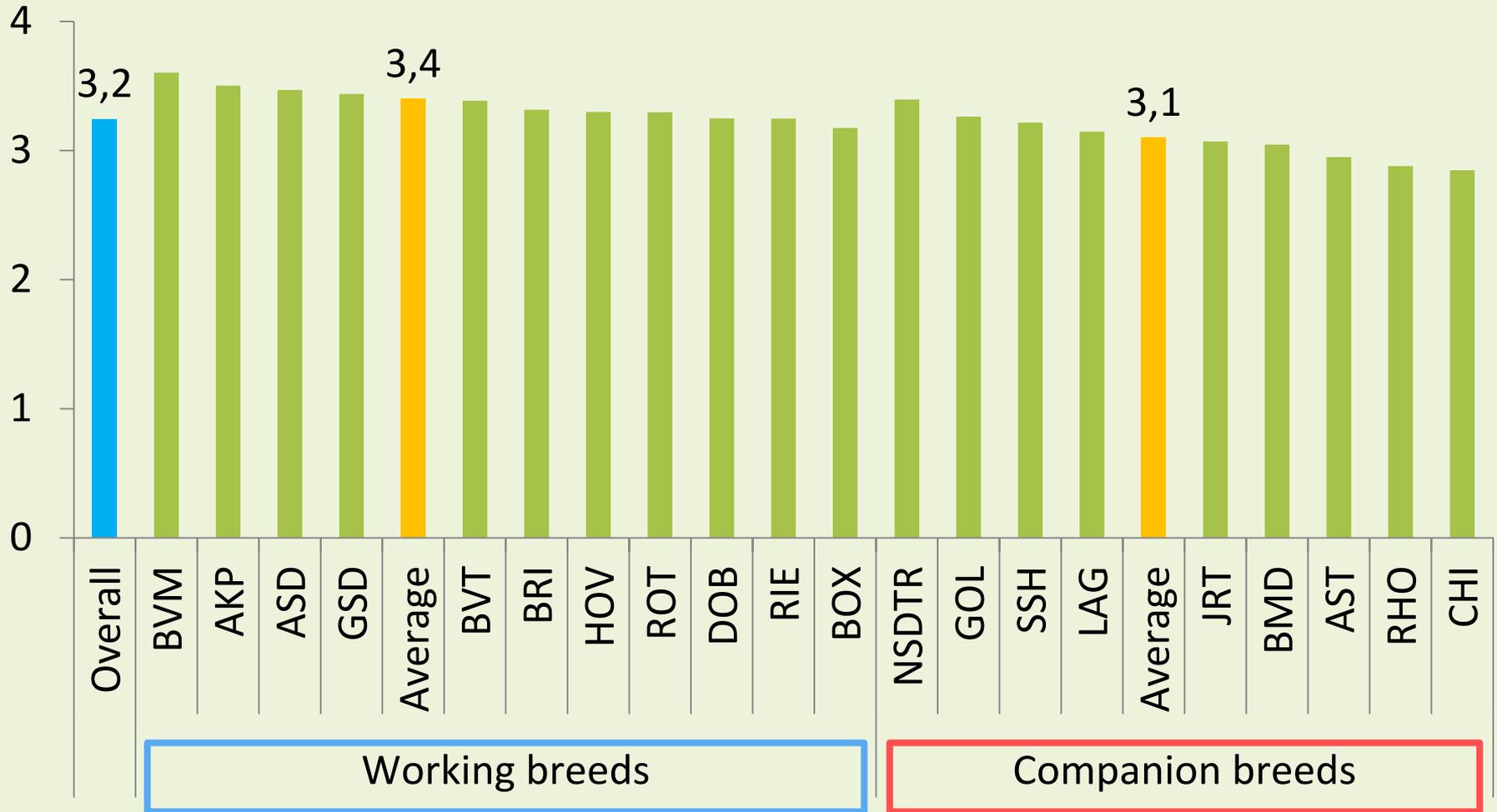
- companion breeds vs. working breeds



# Human-directed play interest

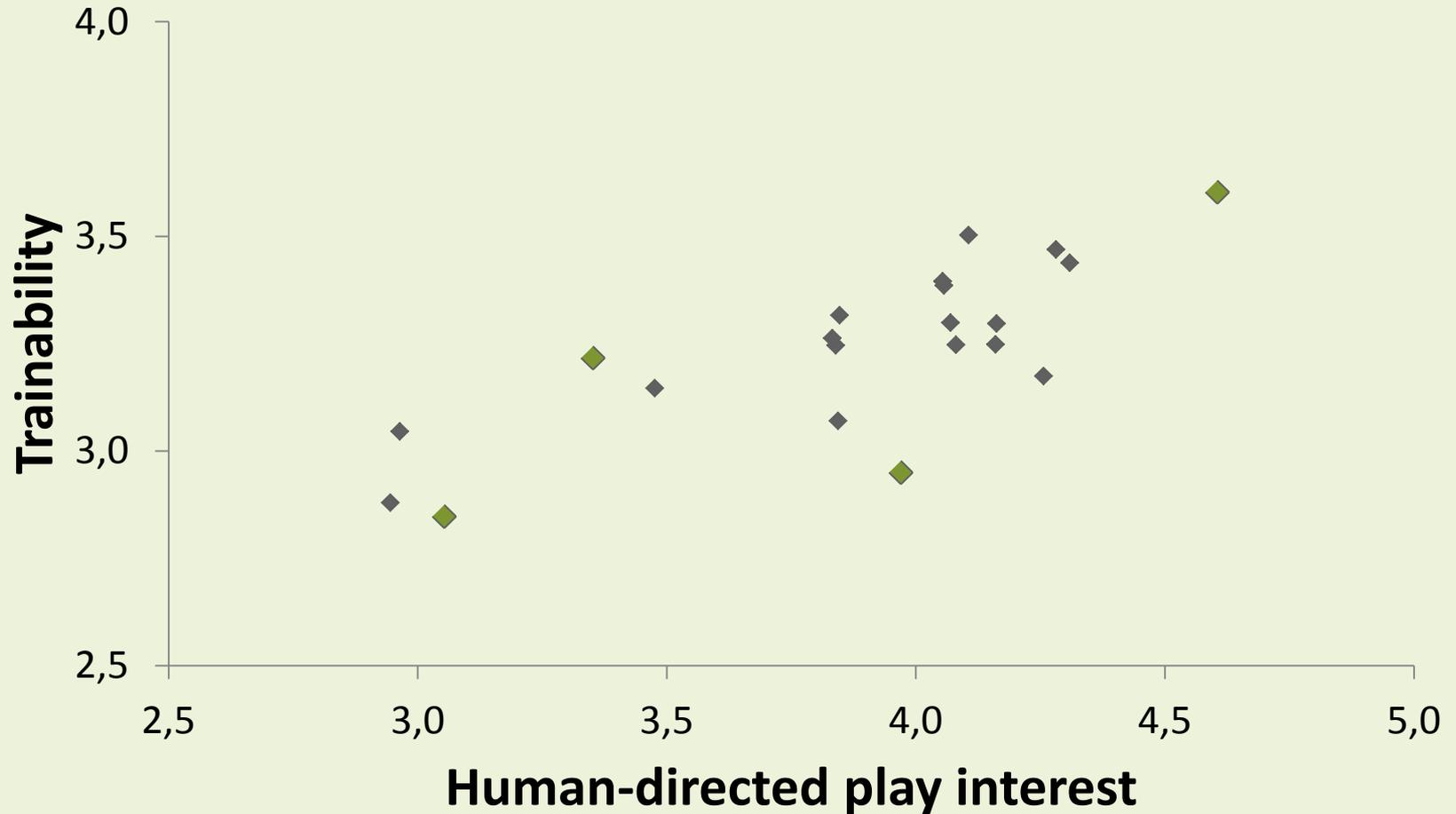


# Trainability



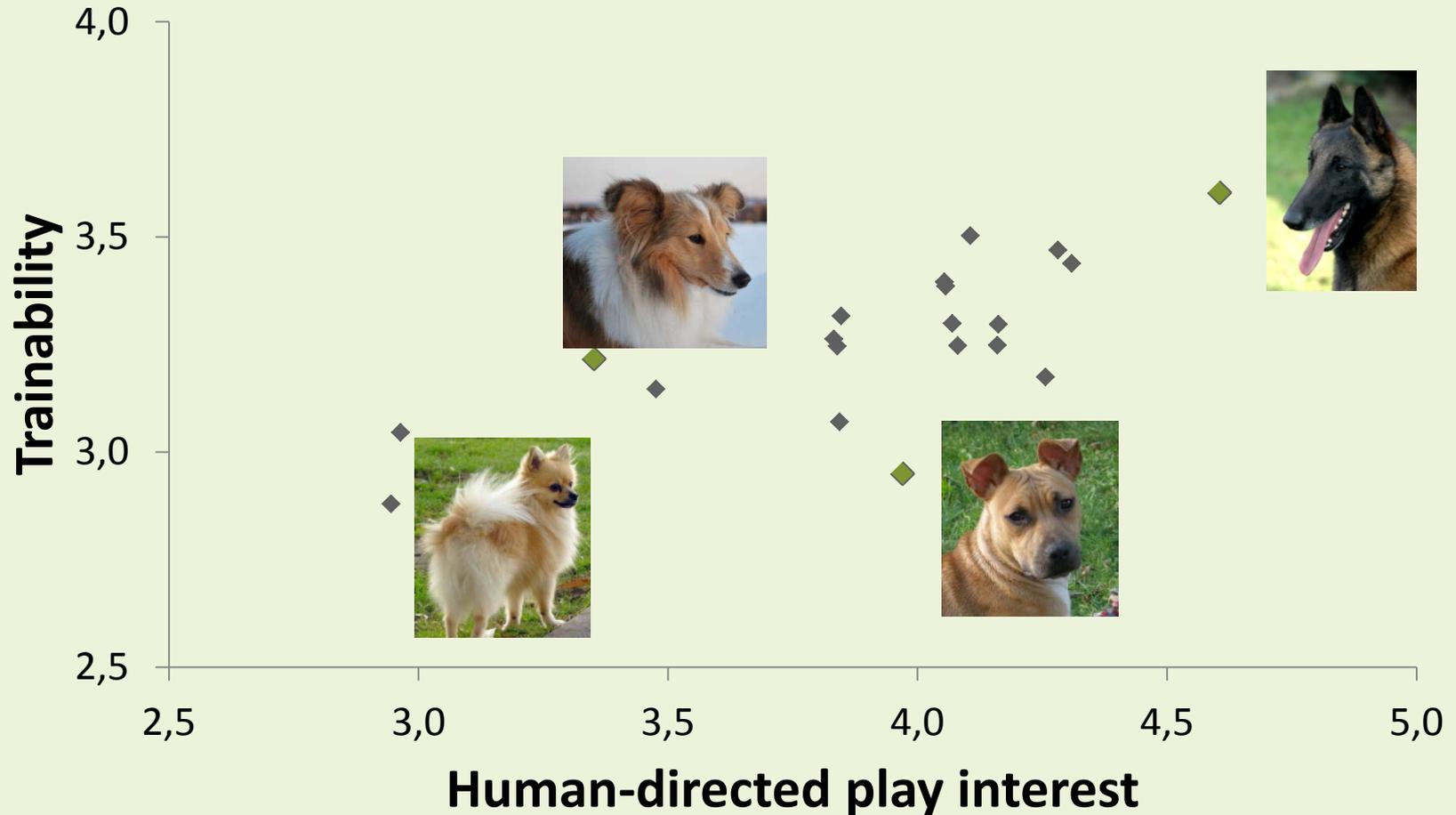
# Results

- relationships between traits across breeds



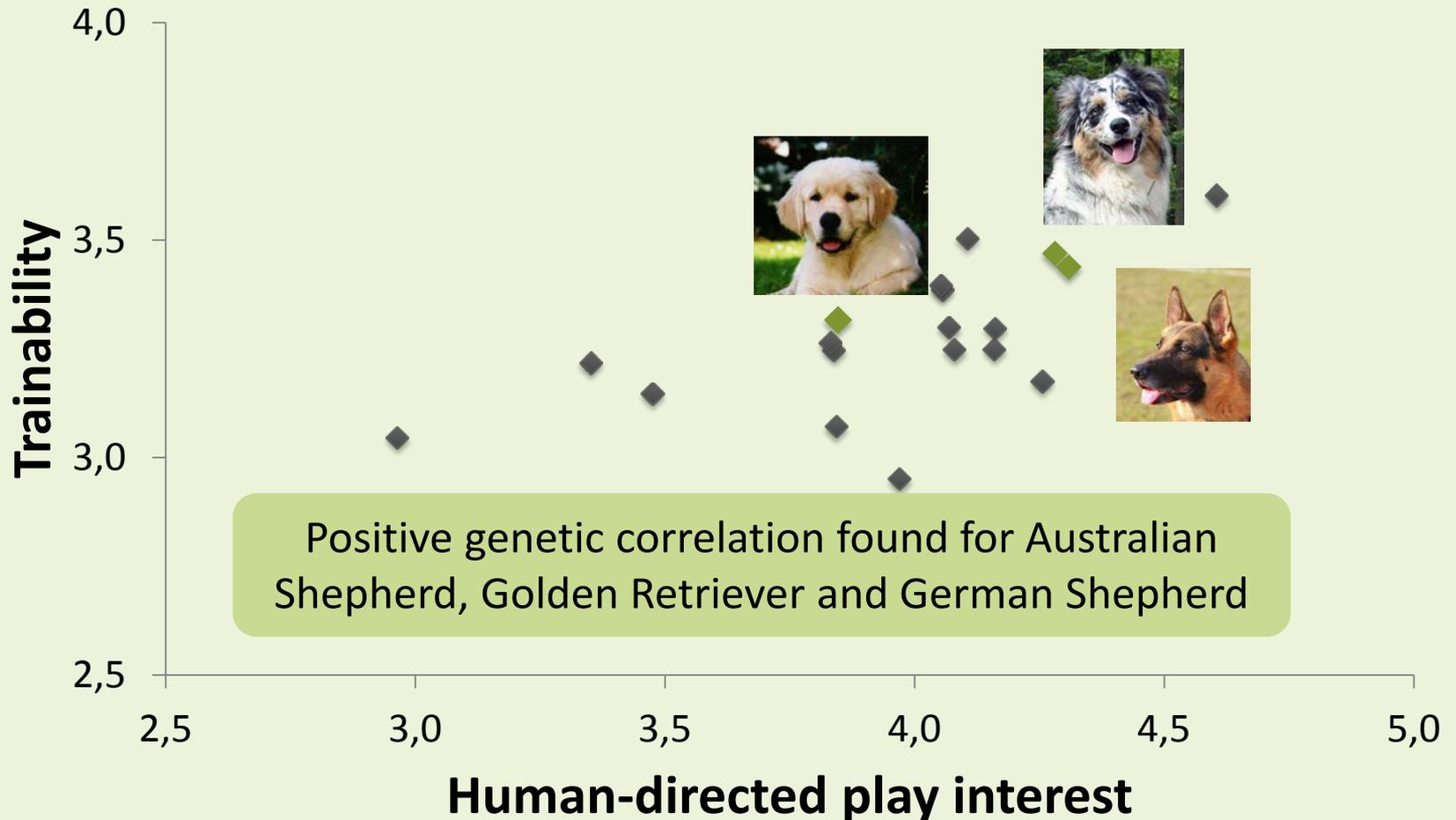
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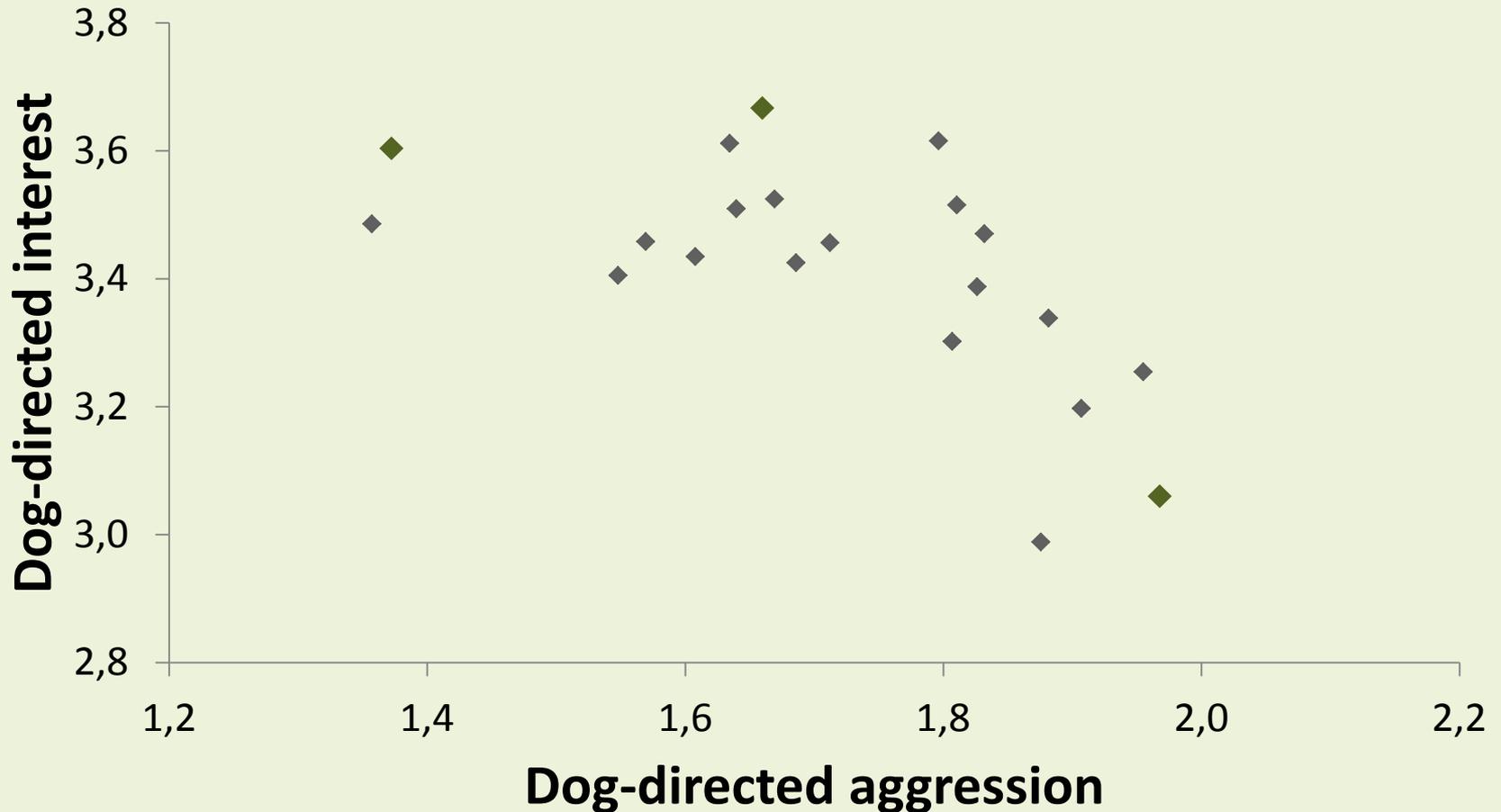
# Results

- genetic correlations between traits within breed



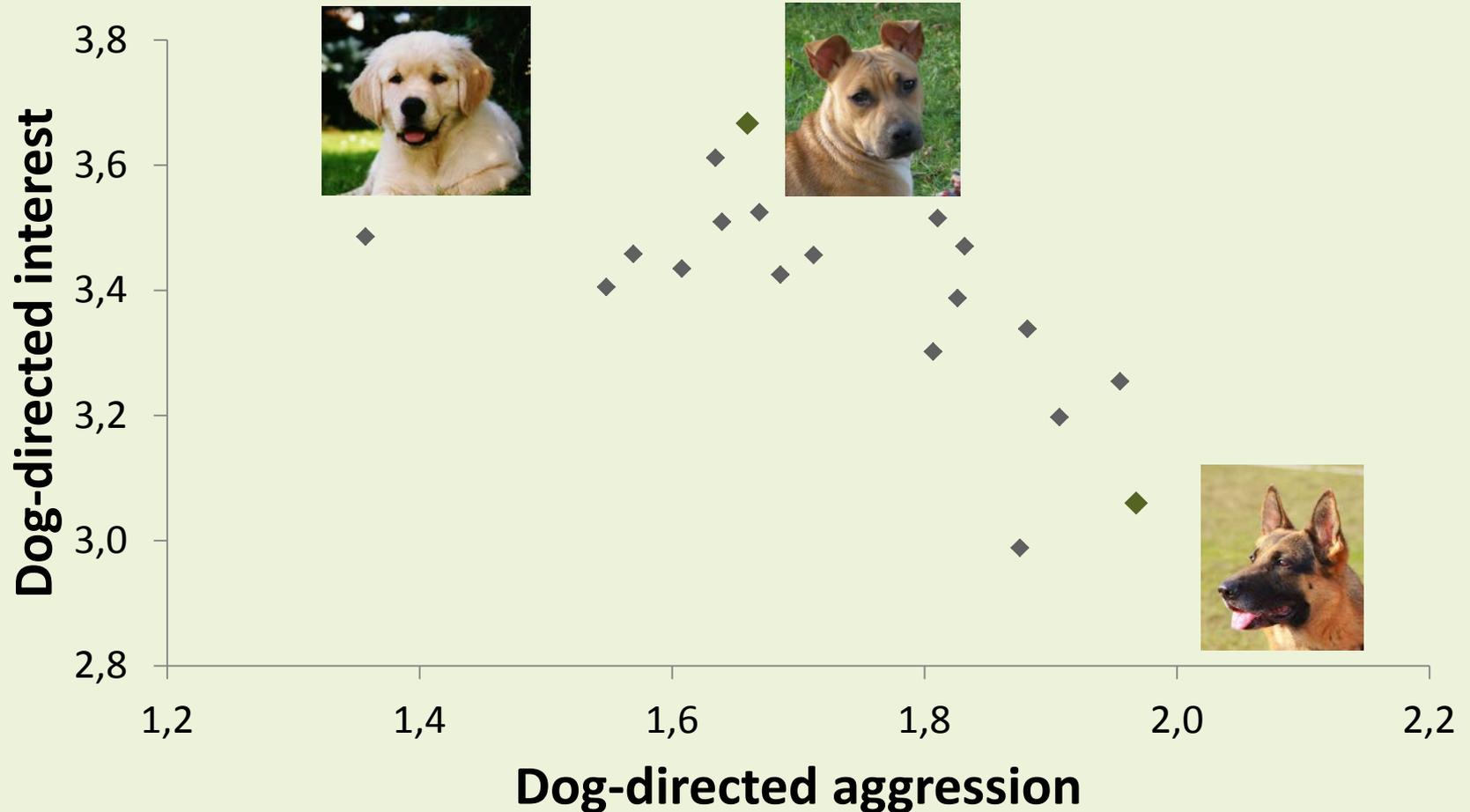
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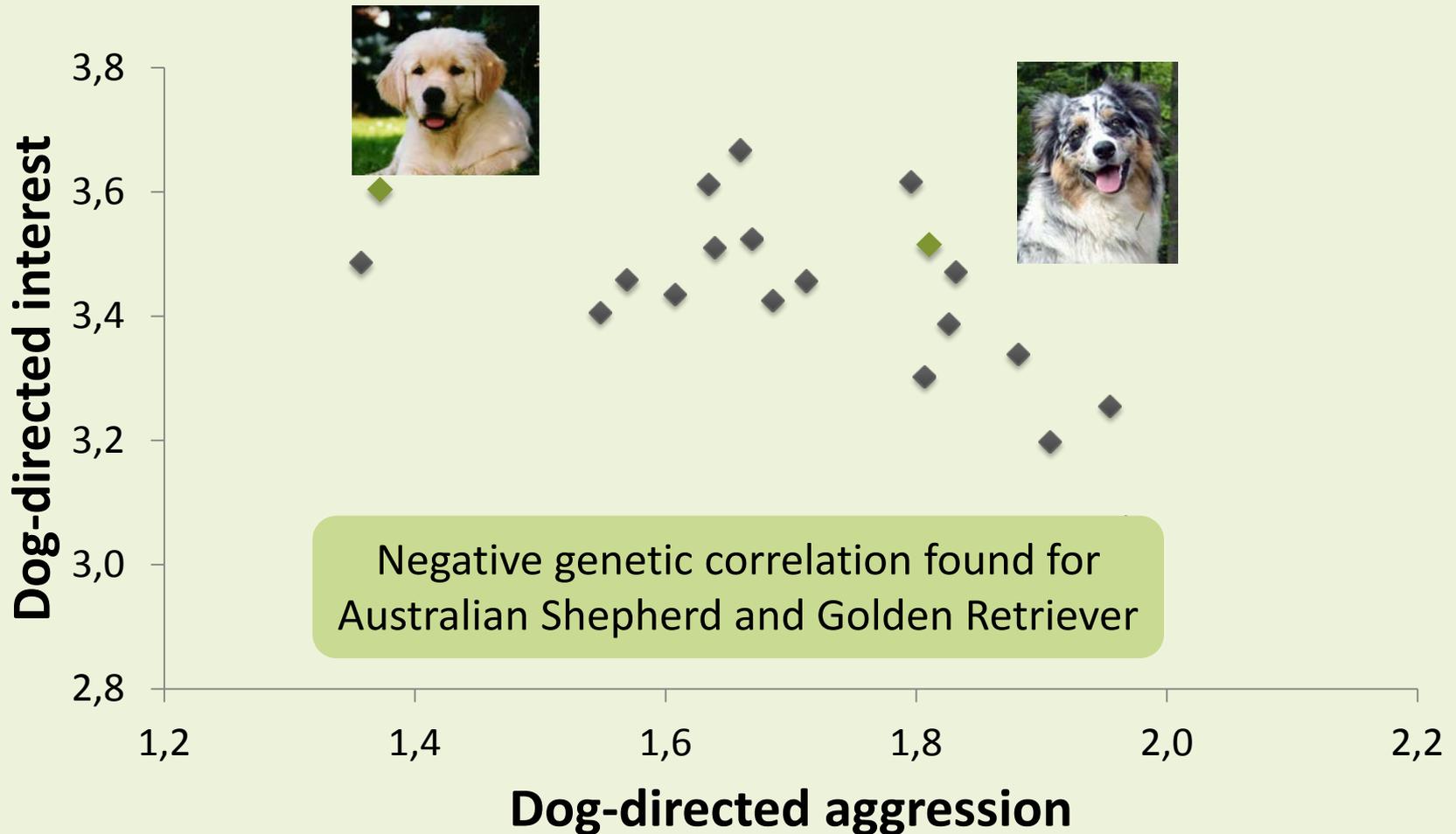
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- genetic correlations between traits within breed



# Average heritabilities

	Traits		
	Dog-directed aggression	Dog-directed interest	Excitability
Overall	0.22	0.22	0.17
Herding dogs	0.27	0.13	0.09
Guard dogs	0.04	0.24	0.21
Terriers	0.31	0.26	0.28
Retrievers	0.27	0.25	0.23

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# Average heritabilities

	Traits		
	Human-directed play interest	Non-social fear	Trainability
Overall	0.31	0.20	0.23
Herding dogs	0.44	0.21	0.17
Guard dogs	0.18	0.19	0.32
Terriers	0.48	0.14	0.36
Retrievers	0.30	0.19	0.28

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# Conclusions

- There are breed differences in everyday behavior
- Breeds that are more trainable are generally also more interested in playing with humans
- Breeds that are more interested in other dogs tend to be less aggressive to other dogs
- Heritability varies between breeds and breed groups

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**Thank you for your attention!**

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Photo: wikimedia.org

# Behavior traits

- 
1. Attachment/attention-seeking
  2. Chasing
  3. Dog-directed fear/aggression
  4. Dog-directed aggression
  5. Dog-directed fear
  6. Dog-directed interest
  7. Excitability
  8. Human-directed play interest
  9. Non-social fear
  10. Owner-directed aggression
  11. Pain sensitivity
  12. Stranger-directed aggression
  13. Stranger-directed fear
  14. Stranger-directed interest
  15. Separation-related problems
  16. Trainability
- 



# Measuring behavior traits

- Behavior tests
- Behavior assessments
- Owner surveys
- Veterinary surveys

Previous studies:

$$h^2 = 0.1-0.3$$

Based on  
behavior tests or  
behavior assessment



# Model

$$Y = \mu + \textit{sex} + \textit{testage} + \textit{testage}^2 + a + e$$

- Sex - fixed
- testage, testage<sup>2</sup>, a, e – random