



FROM PUPPYHOOD TO ADOLESCENCE: LONGITUDINAL COGNITION STUDY AT CANINE COMPANIONS FOR INDEPENDENCE

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OUR MISSION

Enhance the lives of people with disabilities by providing highly trained assistance dogs and ongoing support to ensure quality partnerships.





Acknowledgements

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- Drs. Brian Hare and Margaret Gruen



From Puppyhood to Adolescence

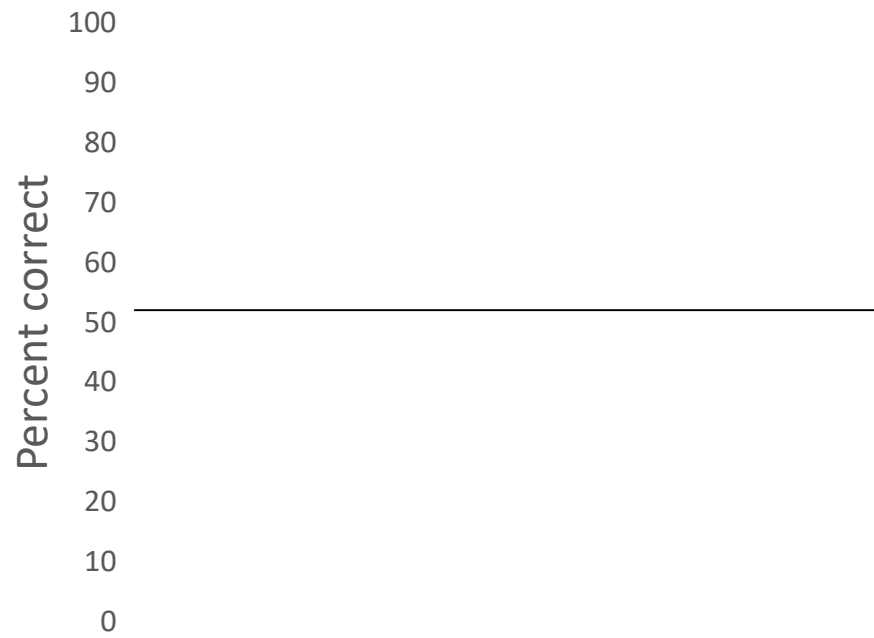
- Longitudinal Cognition Study
- 168 puppies
 - 65 litters (97 females, 71 males)
 - 9 weeks & 18 months of age
 - CBARQ @ 6 & 12 months, extra questionnaire @ 10 & 16 months
- Stability of Traits
- Heritability
- Prediction of Success

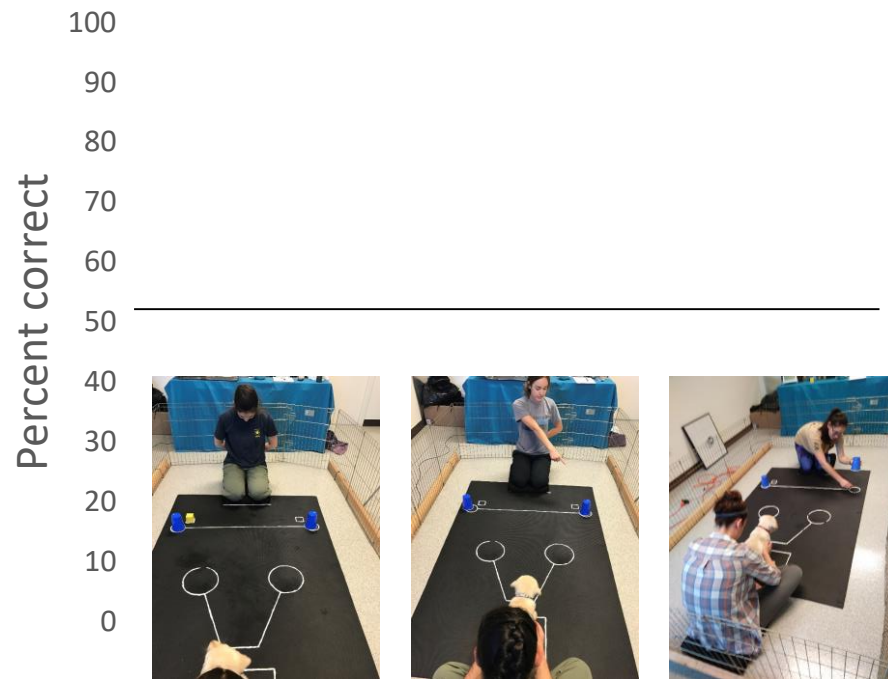


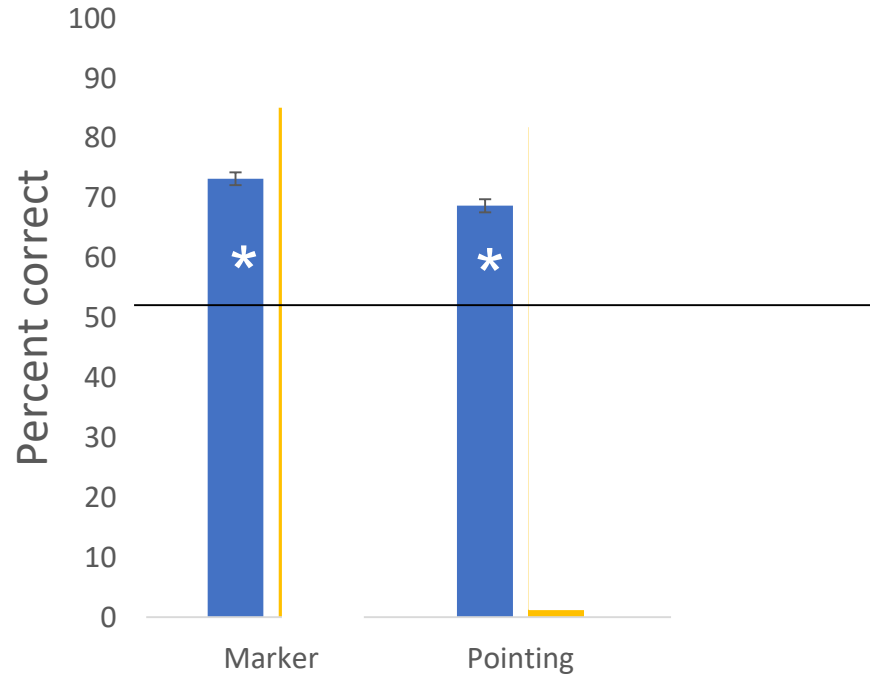
Cognition Testing

- 16 different tasks measuring abilities such as:
 - memory
 - impulse control
 - problem-solving skills
 - interpretation of social cue
 - discrimination of sensory information

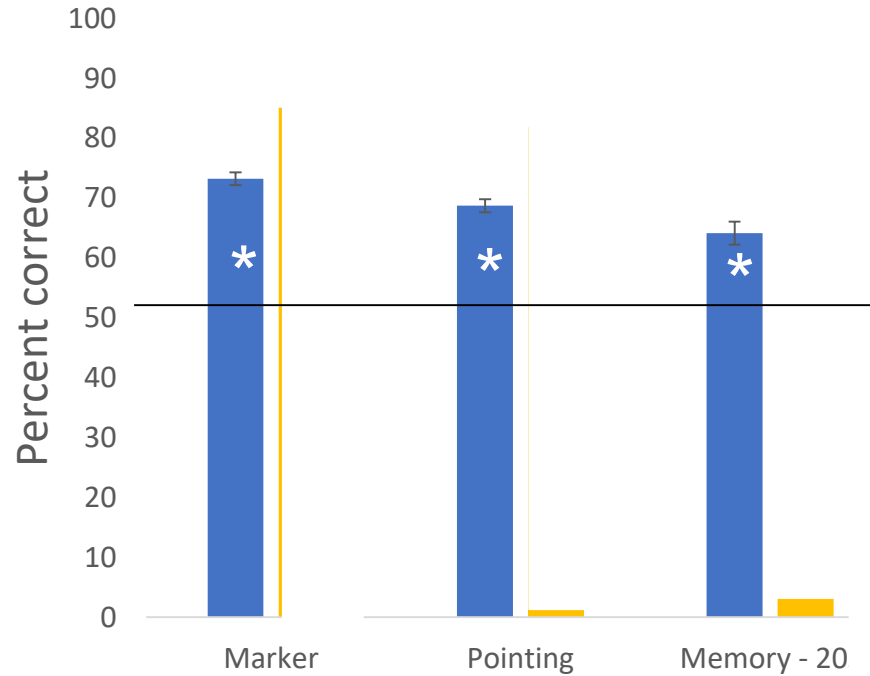








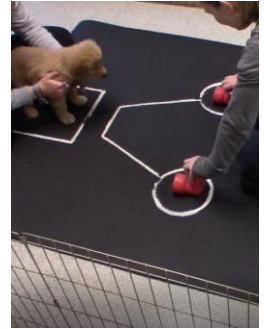
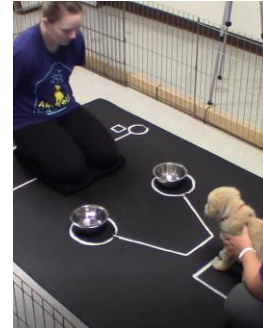
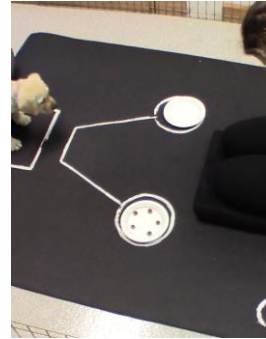
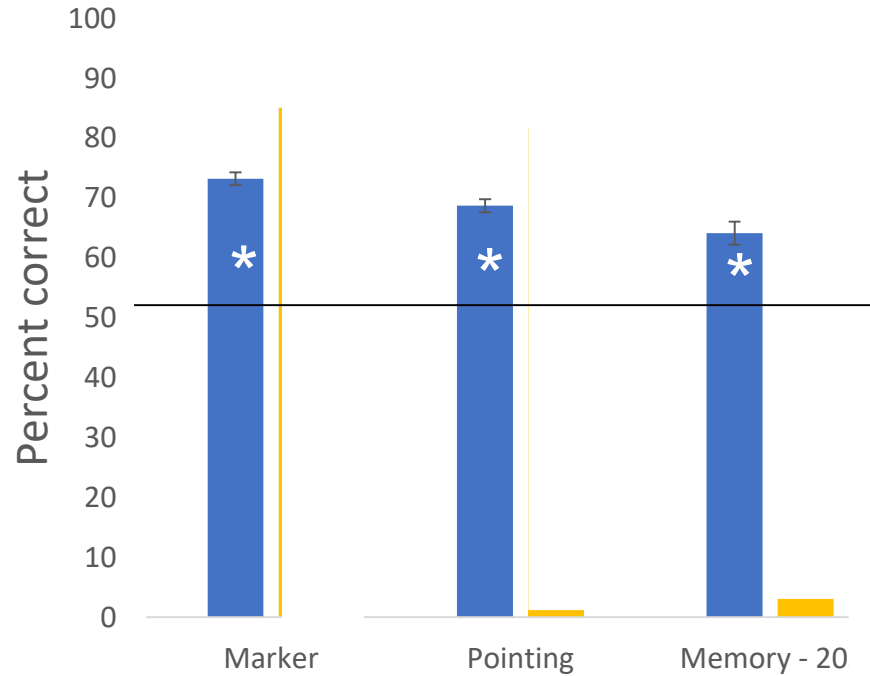
* $p < 0.001$ ■ Puppy scores



*

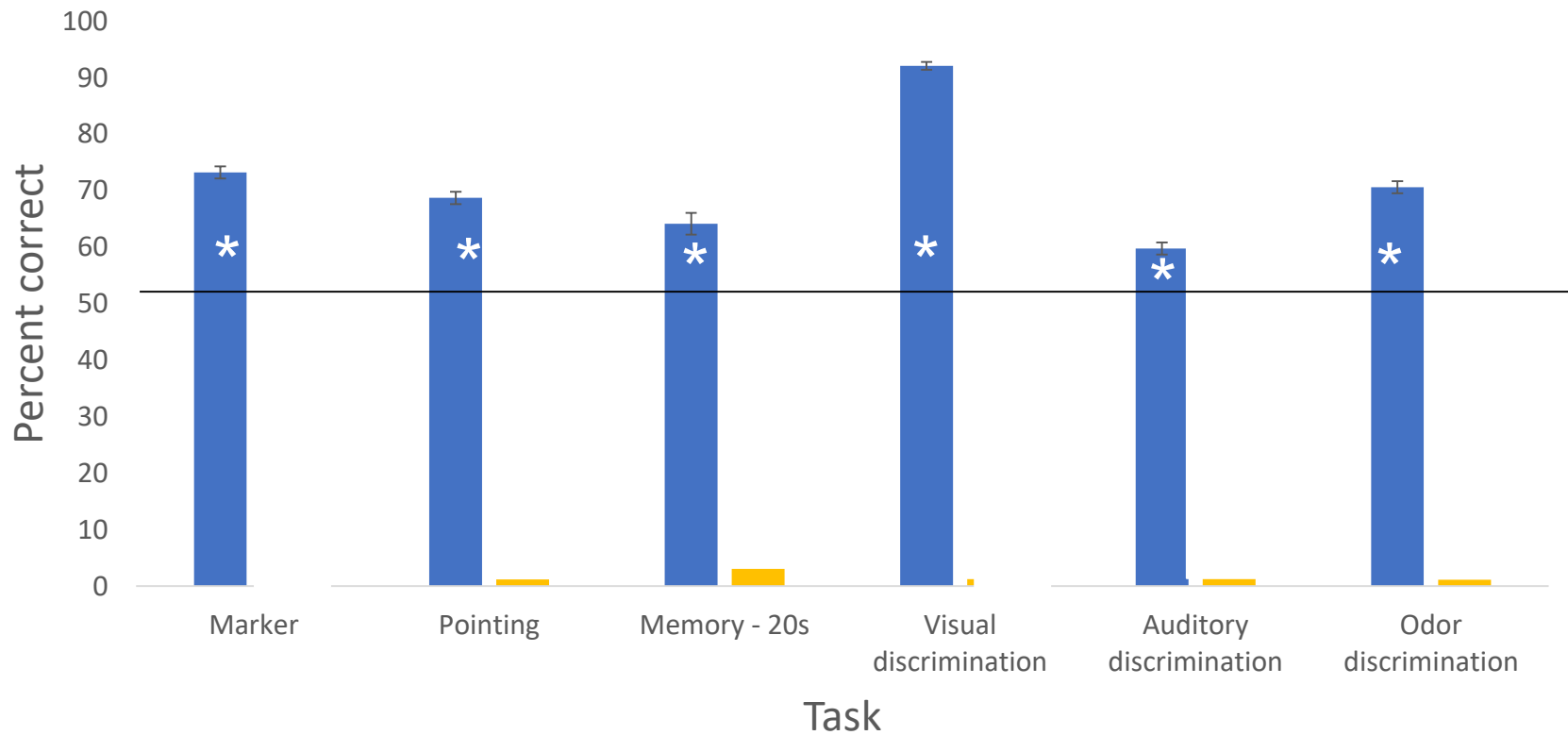
$p < 0.001$

■ Puppy scores



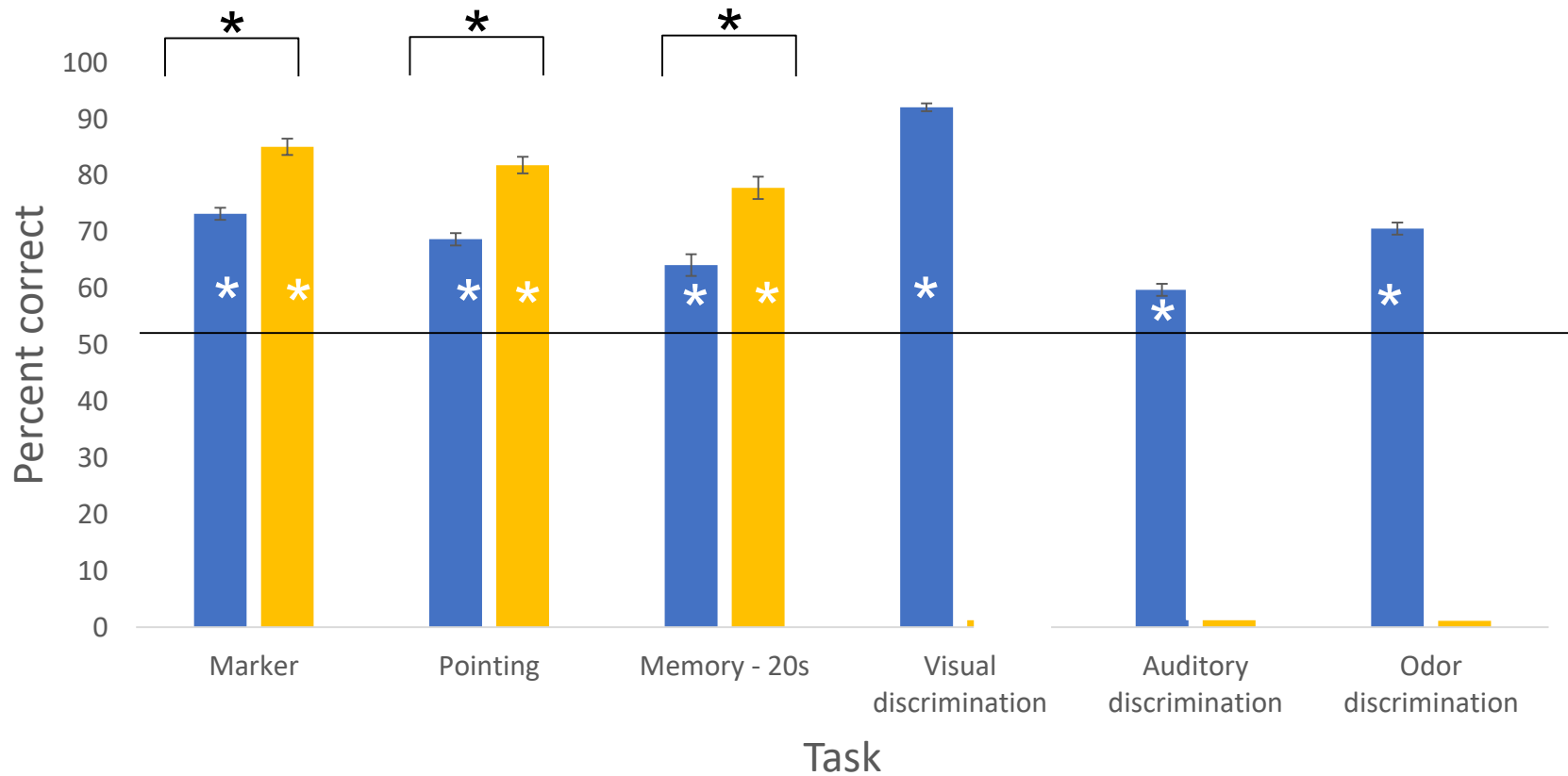
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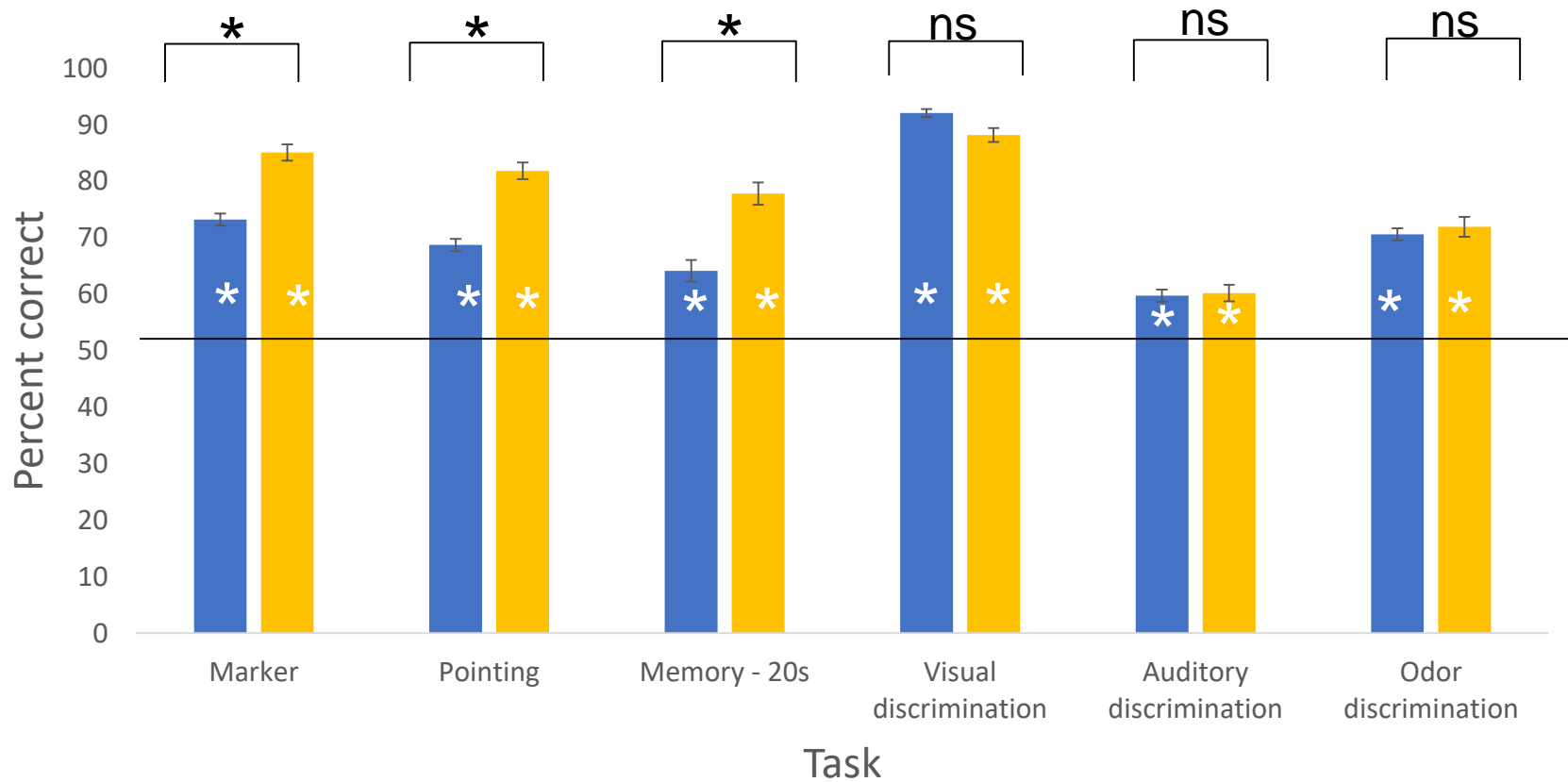
■ Puppy scores



* $p < 0.001$

■ Puppy scores

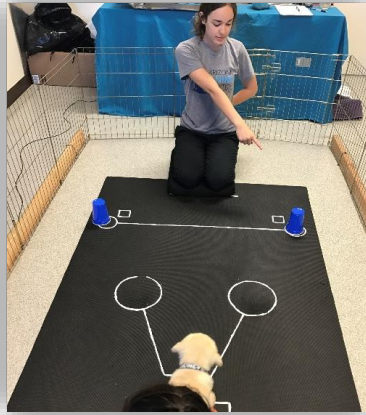




* $p < 0.001$

■ Puppy scores ■ Adult scores

Prediction of Adult Phenotype



$p = .0089$



$p = .0084$



$r^2 = 0.16$

Prediction of Adult Phenotype



$p = .027$



$p = .001$



$r^2 = 0.32$

Heritability

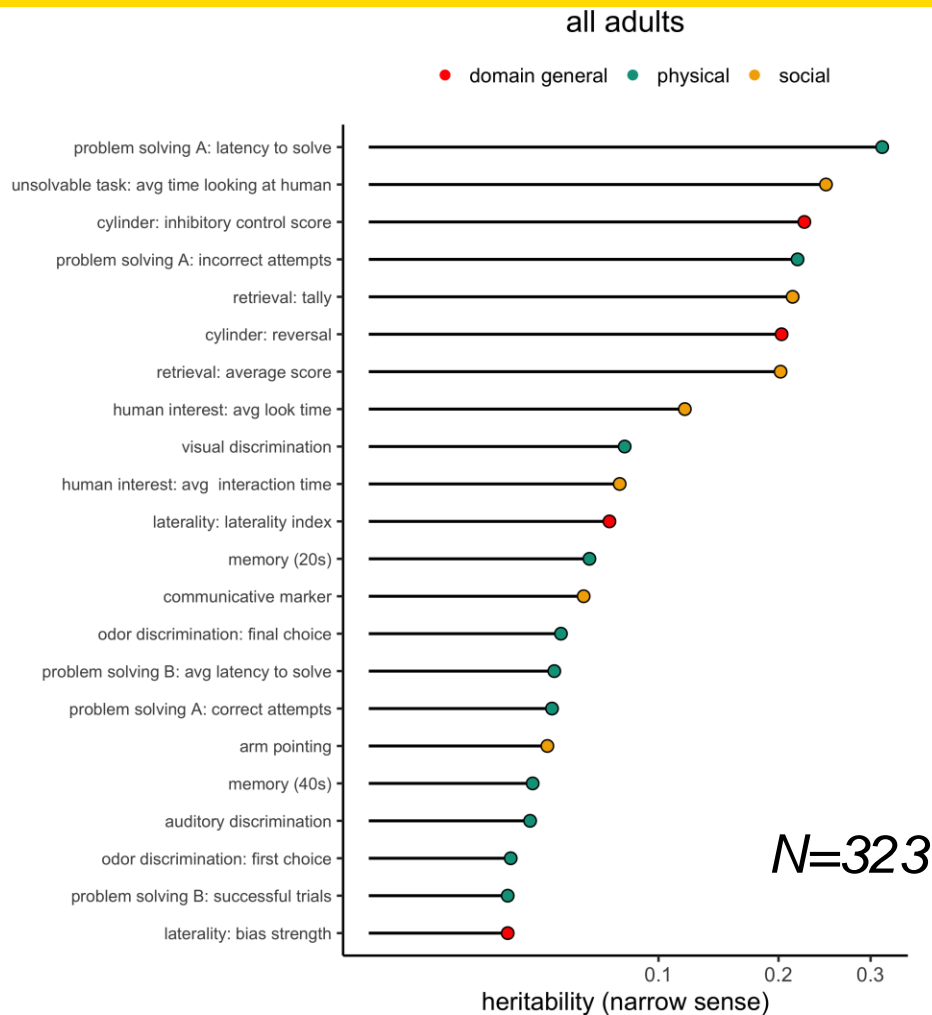
ORIGINAL RESEARCH ARTICLE

Front. Vet. Sci., 04 October 2018 | <https://doi.org/10.3389/fvets.2018.00236>



Enhanced Selection of Assistance and Explosive Detection Dogs Using Cognitive Measures

Evan L. MacLean^{1,2*} and Brian Hare^{3,4}



Conclusions

- Cognition & temperament testing @ 8 weeks of age
- Development of traits
- Heritability
- Predictions for adult phenotype and success as a working dog



Questions?

