Does learning ability differ with personality in dogs?

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Introduction
- Advances in understanding dog personality and learning ability can help match dogs to an owner or handler, providing a suitable and perfectly matched owner and dog (Coppeninger et al, 2004).
- First, animal cognition is a developing area to measure an individual’s welfare.
- Second, further research into dog personality and learning ability can improve our understanding of factors that affect cognitive performance which is much more complicated than simply intelligence.
- Third, new found knowledge on personality and learning ability can be used to assess dogs, especially puppies, for suitability for certain tasks.
- Overall, improved knowledge about a dog’s individual personality can help promote better training and welfare (Svatberg, 2002).

Aims
- To understand how personality affects a dog’s cognitive performance, using subjective and objective methods

Methods
- Personality was assessed using the validated Monash Canine Personality Questionnaire (Ley et al, 2009).
- An objective approach was used to measure cognitive performance through two learning ability tasks, V-shaped Fence (figure 1) and Spin the Bottle (figure 2), using three measurements.
  - These three measurements included; Engagement, Performance and Subject’s ability to learn through sets and attempts at each task.
  - These performance factors were then compared to the individual’s results from the personality questionnaire.

Figure 1: Shows the V-shaped fence learning ability task.

Figure 2: Shows the Spin the Bottle learning ability task.

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\text{Improvement } 1 = \text{latency in attempt } 1 - \text{latency attempt } 2. \\
\text{Overall Improvement } = \text{latency attempt } 1 - \text{latency attempt } 3.
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Results - Principal Component Analysis

Pearson’s Product-Moment Correlation Coefficient test
- The test revealed that there was a significant correlation between Motivation and Average Level of Engagement in Spin the Bottle (P=0.046, R=0.362, N=31).
- Regarded as a weak and positive by the PCA test at 0.527, this figure could be argued that it had a high tendency.
- No other significant data were found in Component 2, Component 3, Component 4, Component 5 and Component 6.

Paired T-test
- The test showed that there was a significant difference in overall level of engagement between the V-shaped fence and Spin the Bottle task (N=31, R=.321, P<0.00).
- V-shaped fence showing higher levels of engagement at a mean of 3.9960 and Spin the Bottle at 2.5076.

Conclusion
- Although only one significant piece of data was found this key piece of data could be baseline knowledge on which to develop future research.
- Understanding that a dog’s motivational state may impact learning ability can encourage owners to provide them with an appropriate task or training goal.
- Understanding that individuals learn and perform differently is vital to improve welfare so animals remain in a balanced emotional state.

References

Acknowledgement
I would like to thank all participants for providing the dogs within this study, the time and effort you all provided to help with this research is very much appreciated. I would also like to thank my dissertation supervisor, Carrie Ijichi, and Dog Behaviourist mentor, Sandra Raw, for their endless help and support to this research study. Also to Ben Pringle who helped design and build the learning ability tasks, the building skills and attention to detail meant all dogs could complete the tasks safely. Finally, I appreciate the support from Hartpury College for technical equipment and advice given during the testing of the hypothesis.