

C-BARQ

Assessing and researching a dog's behaviour.

What is C-BARQ?

C-BARQ (Canine Behavioural Assessment and Research Questionnaire) developed by Yuying Hsu and James Serpell in 2003^[1] got 'guardians' recruited via existing databases and also social media outreaches to complete a survey answering basic environment and demographic information alongside an assessment. This consisted of a "short series of object-choice warm-ups ... followed by two experimental pointing conditions" being "ostensive and non-ostensive".^[2]

C-BARQ uses a scale between 0 and 4 to measure the prominence of behavioural issues in a dog. The lower the number, the least displayed the behaviour is: 0 being none/never and 5 being extreme/always. This allows us to categorise dogs with a higher C-BARQ score as having more undesirable behaviour and therefore should not be chosen to become a working dog or similar.

Relevance in choosing Working Dogs?

In Working Dogs, C-BARQ can be used to create "comparisons with other assistance dogs" and discover "onset behavioural problems" so that they can be "targeted for early training interventions". It also provides an "objective standard against individual dog's likelihood of success/failure" in training and field service.^[1]

Results

Looking at section "2.4 Sampling, sample and data collection", you can see that there is narrow age range (4.40 ± 3.1 years) and that a large majority of the data (around 90.2%) are dogs living in private homes.^[2] This means the data is skewed towards younger dogs, which could prove beneficial for identification of issues in Working Dogs at early ages. However, a broader understanding of dog's behaviour could have been achieved by collecting data from more of a variety of ages and environments.

The study initially contained 704 dogs of which 235 were excluded (leaving 469) because "they did not complete the behavioural testing".^[2] This is an extremely small sample size meaning a large amount of dogs outside the ranges of the average age, sex, and environment will not be represented by the data. However, currently there are "approximately 50,000 pet dogs" in the C-BARQ database comprising of "more than 300 species".^[1] This means that C-BARQ is now extremely accurate for a huge range of ages, sexes, and environments.

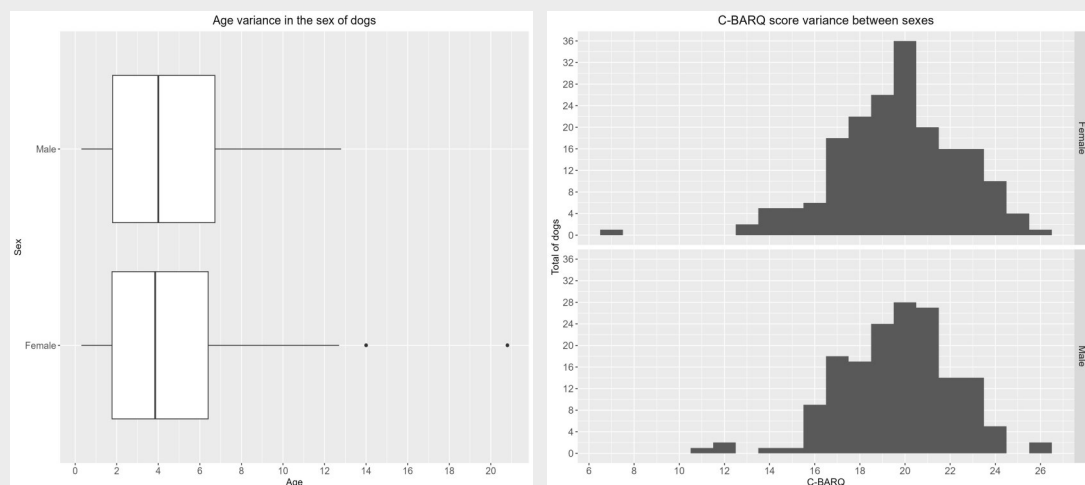
Our dataset and analysis

Our dataset contains around 455 dogs and has 8 recordings of C-BARQ assessment results for each one. Being between 0 and 4 means that the possible range for the sum of the C-BARQ scores for each dog is 0-32. A higher score meaning the more undesirable the behaviour of the dog is. A dog with a lower C-BARQ total would most likely prevail in training and field testing, so would be a more viable choice over a dog with a higher score.

In our dataset, there are around 147 out of 455 dogs missing one or more test score, meaning our resulting data is more inaccurate than expected. Any dogs missing any scores have been removed from the data below.

From the boxplots (left), we can see that the ages of both sexes are distributed somewhat similarly and average is just under 4. This means that the results will be much more accurate when determining the behaviour of dogs between the ages of 2 and 6 in either sex.

From the histograms (right), we can see that there is more variance in the C-BARQ score for female dogs (top) and that they received a higher score on average, suggesting that the behaviour of female dogs is more desirable overall.



[1]: C-BARQ, Serpell, J., University of Pennsylvania (2024) About the C-BARQ. Canine Behavioral Assessment & Research Questionnaire. DOI: <https://vetapps.vet.upenn.edu/cbarq/about.cfm>.

[2]: ManyDogs Project, Espinosa, J., Hare, E., Alberghina, D., Valverde, B.M.P., and Stevens, J.R. (2024). Data from the ManyDogs 1. Journal of Open Psychology Data, 12:7, pp. 1-26. DOI: <https://doi.org/10.5334/jopd.109>.