

# Importance of Dog Morphology in apparent Behaviour and Trainability: Examining how Morphological Differences in Dog Breeds can affect Perception of their Trainability

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## Introduction

Domestic dogs (*Canis lupus familiaris*) are one of the most morphologically varied species, exhibiting an enormous variety of sizes and body types. Different breeds also exhibit different behavioural traits, and are perceived by dog trainers and owners as having variable abilities to be trained. There is evidence of a strong genetic component in canine behaviour. However, recent studies suggest that some differences, particularly in apparent ability to learn a task (trainability), may have a basis in morphology rather than cognitive ability. Owner behaviour probably plays a strong role as well, particularly in the case of small dogs, which are often considered less obedient than larger dogs (Arhant *et al.*, 2010).

## Discussion

Communication, auditory or visual, between owner and dog is essential in training. A dog's visual ability can be impaired by morphology (Helton & Helton, 2010). This can make certain dogs appear less obedient because they are not able to detect a visual signal well enough to respond to it. Due to their overall diminutive size, small dogs have a smaller inter-ocular distance than large dogs (Helton & Helton, 2010). Since inter-ocular distance is related to depth perception, they may therefore, have poorer depth perception than large dogs, making it more difficult for them to detect and interpret trainer cues (Helton & Helton, 2010). This is supported by an analysis of a human pointing test, where small dogs were found to make the wrong decision with significantly greater frequency than large dogs (Helton & Helton, 2010). In this test, a dog was restrained, and one of two bowls was baited out of its sight. The experimenter made a brief pointing motion at the baited bowl (less than 1 second) and the dog was released. The first bowl it approached was considered its choice (Helton & Helton, 2010). If smaller dogs had greater difficulty seeing the experimenter pointing, this would account for their relatively higher frequency of wrong choices. In training, a lack of response or wrong response to a visual cue is likely to be interpreted as a lack of obedience, and the dog in question may be designated as less trainable than a dog better able to perceive and respond to the cue.

Another factor contributing to perceived trainability of various dog breeds could be their physical ability to respond to commands. Body size and morphology of dogs may contribute to differences in ability to respond quickly to cues. In a study examining breed differences in agility performance, dogs considered to be from highly trainable breeds and those from breeds considered less trainable demonstrated equal precision in completing a course (Helton, 2010). Precision was taken to be a measure of the dogs' ability to learn and respond to commands, in other words, their trainability and cognitive abilities. However, breeds considered more trainable were faster to complete courses (Helton, 2010). Examination of the morphology of the various breeds showed that trainable breeds tended to have uniform size and morphology, being mostly medium-to-large-sized dogs, with no extreme morphological features. Breeds considered highly trainable include Border Collies, Shetland Sheepdogs, Poodles and Retrievers.

Breeds considered difficult to train were morphologically diverse, ranging from very small to very large, and encompassing brachycephalic to dolichocephalic dogs. The breeds considered least trainable include divergently shaped and sized dogs such as Afghan Hounds, Bulldogs, Basset Hounds, Pekingese and Mastiffs (Helton, 2010). The author speculates that very large dogs may not have the manoeuvrability of the medium-sized breeds, and are more difficult for a handler to physically position during training. Small dogs, on the other hand, will have a much shorter stride length and lower top speed, as well as

simply being more difficult for a handler to reach. It is likely that other morphological extremes also compromise manoeuvrability and stride length (Helton, 2010). Since dogs that are quick to respond to handler cues are generally labelled highly trainable, morphology that hampers a dog's response time is likely to lead to the animal being considered less trainable, even if the two dogs have similar abilities to learn.

Finally, differences in the way owners treat different breeds and sizes of dogs, probably also contribute to the general perception of their trainability and obedience, or lack thereof. A survey examined differences in owner and dog behaviour between small and large dogs. Certain owner behaviours were found to contribute significantly to dog obedience or disobedience (Arhant *et al.*, 2010). Owners of small dogs were significantly more likely to be inconsistent in their interactions with their dogs, sometimes rewarding or ignoring a behaviour and at other times punishing it. In both large and small dogs, inconsistency on the part of owners was positively correlated with a decrease in obedience. Owners of small dogs were also less likely to obedience-train their dogs. Playing games with their dogs, such as fetch or tug of war, was another activity in which owners of large dogs engaged more frequently than owners of small dogs. This was another activity positively correlated with obedience (Arhant *et al.*, 2010). All these findings suggest that small dogs and large dogs are often treated quite differently by their owners and that these differences can negatively influence the behaviour and degree of obedience of small dogs.

## Conclusion

The evidence from these three studies suggests that trainability in dogs is more multi-faceted than previously supposed. A dog's ability to learn is an important aspect of training, but differences between breeds may be more due to disparity in physical ability because of diversity in size and morphology, rather than differences in learning ability. Owner contribution to the relative obedience or lack thereof of their dogs is also important. Differences in the treatment of small and large dogs is probably an important influence in the perception of the ease of training of certain breeds. All dogs, of all shapes and sizes, benefit from training. Perceptions of their ability to learn, which may be attributed to other factors, should not be allowed to interfere with this important aspect of dog welfare.

## References

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