Human-dog communication -- breed as important as species

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Dog breeds selected to work in visual contact with humans, such as sheep dogs and gun dogs, are better able to comprehend a pointing gesture than those breeds that usually work without direct supervision. A series of tests, described in BioMed Central's open access journal *Behavioral and Brain Functions*, should caution researchers against making simple generalizations about the effects of domestication and on dog-wolf differences in the utilization of human visual signals.

Márta Gácsi, from Eötvös University, Hungary, worked with a team of researchers to examine the performance of different breeds of dogs in making sense of the human pointing gesture. Gácsi said, "It has been suggested that the study of the domestic dog might help to explain the evolution of human communicative skills, because the dog has been selected for living in a human environment and engaging in communicative interactions with humans for more than 10,000 years. However, this study is the first to reveal striking difference in the performance of breed groups selected for different characteristics."

The researchers found that gun dogs and sheep dogs were better than hunting hounds, earth dogs (dogs used for underground hunting), livestock guard dogs and sled dogs at following a pointing finger. They also out-performed mongrels. Moreover, breeds with short noses and centrally placed eyes were better at interpreting the gesture than those with long noses and widely spaced eyes, which can probably be connected to a more optimal retinal location of greatest visual acuity, that might help focus their attention.

According to Gácsi, "Although these results may appear to be unsurprising, there is a common tendency to make assumptions about genetic explanations for differences in comprehension between 'dogs' and wolves. Our results show that researchers must be careful to control for animal breed when carrying out behavioral experiments."

More information: Effects of selection for cooperation and attention in dogs, Marta Gacsi, Paul McGreevy, Edina Kara and Adam Miklosi, *Behavioral and Brain Functions* (in press), www.behavioralandbrainfunctions.com/

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