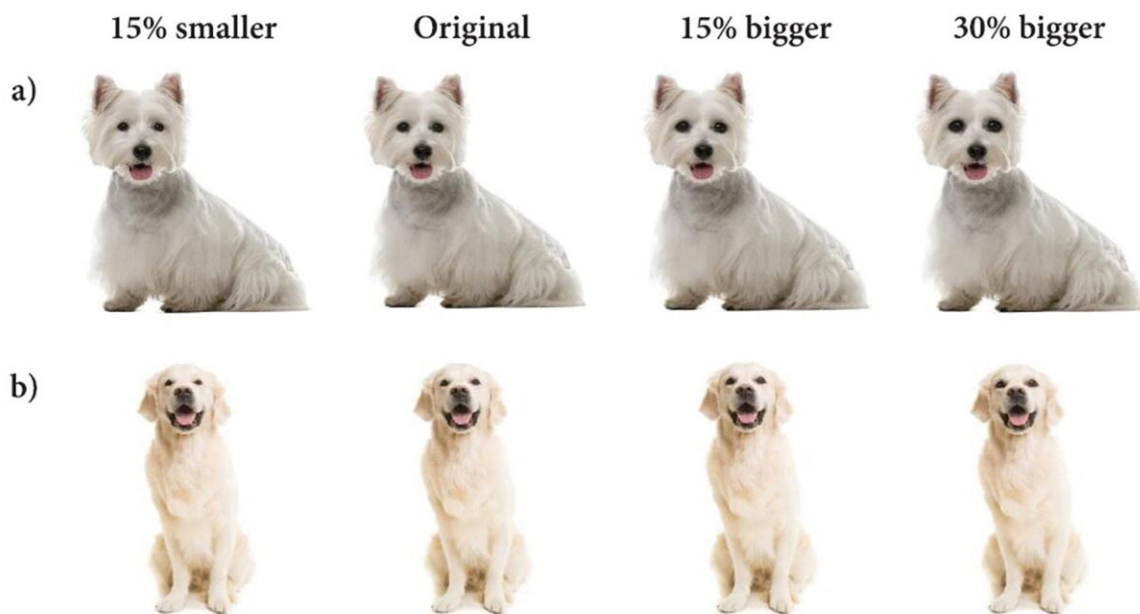


The 'Puss in Boots' effect: How a dog's eye size changes a woman's voice pitch

August 31 2023, by Hannah McGowan



Credit: University of Lincoln

New scientific research that explores inter-species communication has discovered that women's vocal pitch increases when addressing dogs who have larger eyes.

The study was conducted by a group of scientists from the University of Lincoln, U.K., the University of Sussex, the University of Saint-Etienne

and the University of Arkansas at Little Rock.

The paper, "The Puss in Boots Effect: Dog Eye Size Influences Pet-directed Speech in Women" published in *Interaction Studies: Social Behaviour and Communication in Biological and Artificial Systems*, confirms that pet-directed [speech](#) (PDS) is consistent with previous research on infant-directed speech whereby the phenomenon of neoteny, the retention of juvenile features in adult mammals, means [dogs](#) with larger eyes tend to elicit an increase in the pitch range of women's voices.

Over the years, many reasons for PDS have been posited, from engaging the attention of dogs, to fostering a social bond, and evoking caregiving behaviors in the owner.

The team conducted a speech test with 21 male and 24 [female participants](#) to assess the pitch used when addressing images of dogs whose eye sizes had been manipulated to increase or decrease from their breed baseline. More than 400 people were also asked to rate the sex, age, and "cuteness" of the images in an online survey.

The researchers confirmed that large eye size induced pet-directed speech in women but not men. The women also rated dogs with a 30% larger eye size as younger than dogs with apparently smaller eyes.

Holly Root-Gutteridge, Postdoctoral Research Fellow at the University of Lincoln, said, "The research tells us a new fact about how men and women respond differently to 'cuteness,' even at an unconscious level, as men responded less to the changes in eye size than women.

"It also confirms that as humans, we do respond more to the perceived youthfulness of animals."

Jemma Forman, Doctoral Researcher at the University of Sussex, said, "Women increase the range of their voices when viewing bigger eye sizes. Conversely, when the eye size becomes too big and looks out-of-place, an 'uncanny valley' effect takes over in which the dogs become overall less pleasant and more unsettling to view.

"Therefore, [women](#) speak with a less exaggerated vocal range to the dogs with large, uncanny eye sizes. This effect is more obvious in breeds such as the pug or Pomeranian, breeds of dog who already have relatively large eyes for their head size."

Raffaella Lesch, Assistant Professor in Zoology and Bioacoustics at the University of Arkansas at Little Rock said, "When analyzing the acoustic data of all participants, it was impressive to discover how strongly certain participants modulated their voices.

"During interactions with dogs we can't really help it but use this very specific type of speech and it is very similar to the type of speech we use around little kids."

More information: Jemma Forman et al, The Puss in Boots effect, *Interaction Studies: Social Behaviour and Communication in Biological and Artificial Systems* (2023). [DOI: 10.1075/is.22032.for](https://doi.org/10.1075/is.22032.for)

Provided by University of Lincoln

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