Horses can read our body language, even when they don't know us

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Amy Smith with Red. Credit: University of Sussex

Horses can tell the difference between dominant and submissive body postures in humans, even when the humans are not familiar to them, according to a new University of Sussex-led study.

The findings enhance our understanding of how animals can communicate using body posture across the species barrier, and are

specifically helpful for informing horse handlers and trainers about the ways horses perceive human body language.

Psychology researchers worked with 30 domestic horses to see whether they were more likely to approach a person displaying a dominant body posture (involving the person standing straight, with arms and legs apart and chest expanded), or a submissive posture (slouching, keeping arms and legs close to the body, relaxed knees).

They found that even though the horses had been given food rewards previously by each person when in a neutral body posture, they were significantly more likely to approach the individual displaying a submissive rather than a dominant posture in follow-up trials.

Co-lead author of the study, psychology doctoral student Amy Smith, said: "Horses are often thought to be good at reading human body language based on anecdotal evidence such as the 'Clever Hans effect'. However, little research has tested this empirically. These results raise interesting questions about the flexibility of cross-species communication."

Horses were more likely to approach the trainer displaying a submissive body posture (right) than a dominant body posture (left), in a University of Sussex-led study looking at how different species communicate through body language. Credit: University of Sussex

Dr Leanne Proops, co-author (University of Portsmouth), said: "Evolutionarily speaking, animals - including humans - tend to use larger postures to indicate dominance, or threat, and smaller postures to indicate submissiveness. Horses may therefore have an instinctual understanding of larger vs. smaller postures."

Last year Amy, who is part of the Mammal Vocal Communication and Cognition Research Group in the School of Psychology at the University of Sussex, co-led a study that found horses were able to distinguish between angry and happy human facial expressions.

Clara Wilson, who co-authored the paper while an undergraduate at the University of Sussex, said: "We were interested in dominant and submissive postures with horses specifically because, although many trainers use posture as a training cue, little research has investigated whether horses would be sensitive to these cues without any specific training."

"Results like these encourage us to be more conscious of the signals we exhibit when interacting with horses and other animals to facilitate a smooth animal-human relationship."

The researchers recruited horses at three equestrian centres in Suffolk and East Sussex. All the handlers were women, dressed in similar clothing and of similar size. A dark neck warmer covered their faces to eye level to minimise facial expression cues.

The horses, who had previously been fed by two people, were given a free choice to approach either the person displaying the dominant or the submissive body posture. Over the course of four trials it was found that horses showed a preference for approaching the person displaying the submissive body posture, rather than showing a preference for an individual handler or a particular side.

This latest study is published in *Animal Cognition*.

More information: Amy Victoria Smith et al. Domestic horses (Equus caballus) prefer to approach humans displaying a submissive body posture rather than a dominant body posture, *Animal Cognition* (2017). DOI: 10.1007/s10071-017-1140-4

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