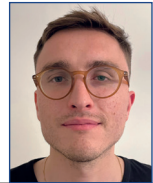


Body language: the key to successful communication between humans and horses



A. Sačer, A. Vidošević, A. Trstenjak, I. Sabolek*, Ž. Pavičić,
K. Matković and M. Ostović

Abstract

The paper summarises the importance of body language as the basis of communication between humans and horses. Understanding horse body language is crucial for successful communication. Horses in communication use their entire body from head to tail and will respond to even the smallest signs made by their human companions. Accordingly, humans should be aware of their body language

and pay close attention to body language communication when working with horses. In this sense, there is also a need to increase research on equine welfare during human-horse interactions, assessing not only the negative but also their positive affective states.

Key words: *human-horse relationship; body language; communication; behaviour; animal welfare*

Introduction

The first thing to bear in mind is that horses are social animals. They prefer to associate with their own kind but they can also accept other species as companions (Goodwin, 1999). Nowadays, humans are among their most common companions (Ekesbo and Gunnarsson, 2018).

Human relationships or interactions with horses have varied through history depending on human needs, but the ability of horses to carry a human individual may have been crucial for their relationship with humans (Robinson, 1999). The first domesticated horses were probably

used as the sources of meat, milk and hide; however, with time, horses became an important tool in transportation, agriculture, mining and warfare, followed by their increasing use in sports, breeding, animal assisted therapy, or as companions for leisure (Goodwin, 1999; Lönker et al., 2020). Many aspects of horse behaviour have thus been controlled by humans (Goodwin, 1999).

The communication that occurs between a human and a horse can be observed in ranges from periodical interactions (farrier or veterinarian) to more

Antun SAČER, sixth-year student, Ante VIDOŠEVIĆ, sixth-year student, Albert TRSTENJAK, fifth-year student, Ivana SABOLEK*, DVM, Assistant, (Corresponding author, e-mail: isabolek@vef.unizg.hr), Željko PAVIČIĆ, DVM, PhD, Full Professor, Kristina MATKOVIĆ, DVM, PhD, Full Professor, Mario OSTOVIĆ, DVM, PhD, Associate Professor, Faculty of Veterinary Medicine, University of Zagreb, Zagreb, Croatia

frequent ones that are built across time between an owner and their horse (Hausberger et al., 2008). In order to communicate with a horse and understand its behaviour, it is crucial to understand the psychology that affects a horse's mind (Goodnight, 2007). We expect horses to understand and accept our instructions, although we have evolved as predators, and our evolutionary courses have been formed by a completely different history (Goodwin, 1999; Evans, 2010). As humans cannot convey their intentions to horses by verbal language, the body is the basis from which the communication system develops in the human-horse relationship (Brandt, 2004). The better we are in observing and understanding a horse's body language while being fully aware of our own body language, the safer, easier and more efficient is our work with horses (Ladewig, 2019). This kind of relationship with the horse is ideal but many equestrians find it illusive. If we learn to control a horse's space and communicate with our own body language in a way that it understands, we will not only earn its respect and obedience but also its admiration (Goodnight, 2007).

This paper summarises the importance of body language for successful communication between humans and horses.

Body language communication

Body language communicates what it is like to be an animal at a given moment in time (Nagel, 1974). Body language is more than just a pattern of movement or style of behaviour that can be identified over time. It is a psychological dimension which is immediately present and available to evaluation, thus enabling us to estimate the quality of an animal's ex-

perience directly and in detail. As such, body language identifies animals as being sentient, whatever they do (Wemelsfelder, 2007).

As in other types of communication, the one that includes body language consists of information exchange between the sender and the recipient. Body language is based on the fact that the very thought of performing a known action will activate motor neurons that are used for the respective action, resulting in a slight contraction of the muscles involved. These contractions are called intention movements and they signalise the action to be performed by the sender in the next second, thus enabling the recipient to respond. Many animals and humans use body language to signalise their intention, either alone or in combination with other forms of communication. In social animals, body language is substantial for cohesion of the group members; body language not only replaces in part physical aggression during a conflict but also invites members of the group to pleasurable behaviours such as playing and allogrooming. Communication with body language is important not only between conspecifics but also for interspecies communication. Thus, horses living in close contact with humans learn the meaning of our body language (Ladewig, 2019).

Body language is a mutually created language that enables the two to create a world of shared meanings and stimulate deeper understanding of one another (Brandt, 2004). In these terms, Birke (2007) discusses partnership as a central tenet of "natural horsemanship", emphasising that good horse persons have long recognised the need to "think from the horse's point of view". Otherwise, there only remains social exclusivity built on using the horse.

Understanding horse behaviour

Above all, horses are prey animals, meaning they will choose to flee when in danger. Although their predators are sporadic, the instincts tell them to always fear for their lives. The horse will always move toward the safety of its herd. For example, the difference between a dog and a horse is that a dog will leave safety for food, but a horse will leave food for safety (Goodnight, 2007).

Herd hierarchy is another important element in understanding the horse psychology and how humans fit in it (Goodnight, 2007). Horses form their social order readily and open aggression is relatively rare in wild horse herds, as compared with horses kept in a domestic environment. According to the laws of the herd, the horses' hierarchy is usually based on individual dominance. To explain individual dominance: the order is unidirectional, but may not be linear throughout the group, so that A may be dominant to B, which may be dominant to C, but C may be dominant over A (Goodwin, 1999; Houpt, 2011).

Sensory abilities of horses are closely related to their perception, and thus to their behaviour. Horses and humans share the five most common sensory modalities, i.e., vision, hearing, smell, taste, and touch; however, their range and acuity differ between the two species, therefore, it is not likely that horses perceive their environment in the same way as humans. Since sensory abilities differ between horses and humans, it is important to better understand horse sensory abilities, in particular to ensure their positive welfare (Rørvang et al., 2020).

Horses communicate with their entire body, with head position, ear position, facial expressions, feet, tail, mouth, teeth

and nose. Different gestures show different behaviours. For example, pawing indicates frustration and the intention to move. Snaking is a gesture made by lowering the head with the nose pointed out and teeth locked, and it is a sign of dominance. On the other hand, bobbing the head to the ground means the horse accepts subordination. Moving the hinds toward a threat or lifting its foot indicates the horse is becoming defensive and is preparing to kick. Tossing the head high with the nose moving in a circular motion is the most recalcitrant gesture (Goodnight, 2007).

The eyes and ears are visual indicators of attention in domestic horses (Wathan and McComb, 2014) and they are able to distinguish between facial expressions of conspecifics (Wathan et al., 2016). Horses also remember previous expressions seen on the faces of particular people and use this emotional memory to direct future interactions, with the most negative response if they have previously seen an angry *versus* a happy person (Proops et al., 2018). Smith et al. (2018) provided novel evidence demonstrating that domestic horses can spontaneously distinguish and attribute communicative meaning to dominant postures of the human body. Domestic horses have been shown to prefer approaching humans that display submissive to those displaying dominant body posture.

While observing a herd, we will learn to recognise the subtle communications that constantly occur within. In a herd, a frightened horse will have an alarmed posture as an action to communicate an outside threat to other horses, and they will all instantly act the same way and look in the same direction. The alarm posture of the horse is a posture of high tension: elevated head, tensed ears, and raised and stiffened tail (Goodnight, 2007). Horses react to tension in human individuals

with the same alarm as if displayed by their companions (Goodwin, 1999). That said, they will always reflect emotions of animals including humans around them (Goodnight, 2007). Horse ears probably are the best indicators of its emotions. Ears directed backward point to aggression; the more straight the ears are laid along the head, the more aggressive the horse is. A submissive horse turns its ears outward. Horses tend to pose their ears in the same direction they are looking. A rider usually can identify the threatening object by looking in the direction the horse's ears are facing (Houpt, 2011).

Although it is hard to know how the horse thinks and feels, paying due attention to subtle behavioural signals can reveal how the horses would prefer us to communicate with them (Merkies and Franzin, 2021). Mejdell et al. (2016) demonstrated that horses had learned to communicate their preferences by using symbols, while comprehending the consequences of their choice for their own thermal comfort. Touching the symbols, they chose to stay without a cover on nice weather, but decided to have a cover in wet, windy and cold weather.

Accordingly, if we focus on the animal as a whole, its behaviour is not observed just as a physical motion but is assessed in broader context, thus acquiring an expressive, psychological quality (Wemelsfelder, 2007).

Human-horse communication

As horses are primarily visual communicators, they are extremely sensitive to subtle changes in body language of their human companions (Goodwin, 1999). Quite frequently, we are unaware of the signals we emit, but daily routine care for horses includes actions that are observable with consequences

that the animal will learn. Information on their intentions can help those handling horses to prevent accidents or to intervene and modify unwanted behaviour. Besides this, body language can be the first signal pointing to a disease or a sign that something is wrong (Ladewig, 2019). Controlling one's own body language is the first step to controlling the horse's actions (Goodnight, 2007). With development of a more acute tactile sense in communication with horses, humans become more efficient with their bodies and can better 'adjust' to the horse's body to properly understand its communication. Experienced equestrians develop increased awareness of their body language and are always careful about the messages they are conveying to the horse (Brandt, 2004). A horse will notice our posture, eye contact, foot movements, height of the shoulders, the tone of our voice and the breathing rhythm. We must be aware of our actions and know that we are constantly communicating with the horse, even through subtle signs (Goodnight, 2007).

Unlike horses, humans do not require their dogs and cats to perform complicated physical and mental tasks while riding on their back. It is for these unique qualities that explicit research of the role of both the human and horse bodies in their communication is essential (Brandt, 2004). Body language communication between the horse and the rider will not be effective "until you learn not only to read what your skin tells you but also to be, as it were, kinesthetically legible yourself" (Hearne, 2016). In the study by Keeling et al. (2009), both people (leading or riding the horse) and horses were attached with heart rate monitors. Horses were led for a walk or ridden several times to a certain distance passing close to a person. Then the people

were said that the umbrella would be opened as they led or rode the horse past the person. Although the umbrella was not opened, heart rates increased in both the humans leading or riding the horses and in the horses. Expecting the horse to be frightened by the announced umbrella opening must have increased tension in the humans, which had obviously transferred to the horse. This indicates the need to be 'hyperaware' of our body, knowing that not only our physical movements but also our physiology is translating an idea or feeling to the horse (Brandt, 2004). Ringhofer and Yamamoto (2017) found that horses communicate with their caretakers by visual and tactile signals. In horses, signal behaviour enhanced considerably in the conditions when horse caretakers did not see feed hiding. Their study results suggest that horses modify their communication behaviour toward humans according to the state of knowledge in humans.

It is quite unlikely that the horse-horse social status could be translated as an analogy of the human-horse interaction, and the leadership concept advocated in many training handbooks has been proven unreliable in the case of horses. Therefore, a horse's reactions to training probably result from reinforcement, during which correct answers are clearly and consistently rewarded, rather than from the high social position and leading role achieved by the humans. Good knowledge about the natural horse behaviour and learning capacity goes further in explaining training results than anthropomorphic explanations and dominance and leadership concepts that can endanger horse welfare and human safety (Hartmann et al., 2017).

Appropriate socialisation of young horses is of vital importance to prepare them for growing up in the social group

that includes their human companions (Ladewig, 2019). Proops and McComb (2010) showed that adult horses were able to use several cues such as body orientation, head orientation or whether the experimenters' eyes were open or closed, to determine which person to approach for food. In another study (Proops et al., 2013), young horses were only able to use body cues but not more subtle cues such as head cues or eye cues to approach the person, suggesting that experienced horses learn the meaning of our body language.

Horse welfare

Understanding how horses perceive humans and communicate with them can help develop positive interaction approaches, thus enhancing their welfare. It is also important to be able to recognise behavioural indicators of negative affective states in horses, because a failure to do so will have a negative impact on their welfare while working with humans (Merkies and Franzin, 2021). Pain and discomfort behaviour in horses is usually very subtle, and not readily or widely appreciated even by equine professionals, including many long-time horse keepers and trainers, and even by veterinarians, veterinary technicians, and care staff (Torcivia and McDonnell, 2021). These authors presented an equine discomfort ethogram, pointing out that recognising physical discomfort in horses is crucial for improving their welfare. Trindade et al. (2020) demonstrated that after a workday, ranch horses increased the frequency/duration of body language indicative of resting and decreased the frequency/duration of body language indicative of attention and movements to avoid flies. However, some of these behaviours also indicate

horse suffering, leading the authors to presume that some ranch horses probably felt a combination of tiredness and mild soreness. As it is quite easy to assess it on a farm and extrapolate it to other situations, the frequency of shifting weight between the forelegs has a potential to be used as an indicator of physical tiredness in horses. These findings can be used in developing tools to improve the welfare of ranch horses, as well as horses used in other activities; however, additional research is needed to validate some of these assumptions.

Kelly et al. (2021) report on current evidence of equine welfare during human-horse interactions, stating that it is minimal and greatly based on the absence of a negative affective state during imposed interactions. Expanding the range of methods used for assessment of a positive affective state and standardising methodology to evaluate these states would improve the overall understanding of horse welfare during human-horse interactions. In their study, Lansade et al. (2018) suggested facial expression and oxytocin as possible markers of positive emotions in horses.

Conclusion

To conclude, body language is the basis of communication between humans and horses. Understanding horse body language but also awareness of our own body language is crucial for successful human-horse relationship, i.e., easier, safer and more efficient work with horses, as well as their welfare. Accordingly, we should pay close attention to body language communication when working with horses. Moreover, it is essential to increase the research on equine welfare during human-horse interactions in-

volving not only indicators of their negative but also of positive affective states.

References

1. BIRKE, L. (2007): "Learning to speak horse": the culture of "natural horsemanship". *Soc. Anim.* 15, 217-239. 10.1163/156853007X217177
2. BRANDT, K. (2004): A language of their own: an interactionist approach to human-horse communication. *Soc. Anim.* 12, 299-316. 10.1163/1568530043068010
3. EKESBO, I. and S. GUNNARSSON (2018): *Farm Animal Behaviour: Characteristics for Assessment of Health and Welfare*. 2nd edition. Wallingford, UK: CABI. 10.1017/50962728600009209
4. EVANS, P. (2010): *Equine behavior: prey vs. predator, horse vs. human*. Cooperative Extension, Utah State University. [https://digitalcommons.usu.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&article=1124&context=extension_curall, (15 February 2023)]
5. GOODNIGHT, J. (2007): *Horse psychology & the language of horses*. [<https://extadmin.ifas.ufl.edu/media/extadminifasufledu/cflag/image/docs/fl-equine-institute/2007/HorsePsychLanguage.pdf>, (2 February 2023)]
6. GOODWIN, D. (1999): The importance of ethology in understanding the behaviour of the horse. *Equine Vet. J., Suppl.* 28, 15-19. 10.1111/j.2042-3306.1999.tb05150.x
7. HARTMANN, E., J. W. CHRISTENSEN and P. D. MCGREEVY (2017): Dominance and leadership: useful concepts in human-horse interactions? *J. Equine Vet. Sci.* 52, 1-9. 10.1016/j.jevs.2017.01.015
8. HAUSBERGER, M., H. ROCHE, S. HENRY and E. K. VISSER (2008): A review of the human-horse relationship. *Appl. Anim. Behav. Sci.* 109, 1-24. 10.1016/j.applanim.2007.04.015
9. HEARNE, V. (2016): *Adam's Task: Calling Animals by Name*. New York, NY, USA: Skyhorse Publishing, Inc.
10. HOUP, K. A. (2011): *Domestic Animal Behavior for Veterinarians and Animal Scientists*. 5th edition. Ames, IA, USA: Wiley-Blackwell, John Wiley & Sons, Inc.
11. KEELING, L. J., L. JONARE and L. LANNBORN (2009): Investigating horse-human interactions: the effect of a nervous human. *Vet. J.* 181, 70-71. 10.1016/j.tvjl.2009.03.013
12. KELLY, K. J., L. A. MCDUFFEE and K. MEARS (2021): The effect of human-horse interactions on equine behaviour, physiology, and welfare: a scoping review. *Animals* 11, 2782. 10.3390/ani11102782
13. LADEWIG, J. (2019): Body language: its importance for communication with horses. *J. Vet. Behav.* 29, 108-110. 10.1016/j.jvbe.2018.06.042
14. LANSADE, L., R. NOWAK, A. L. LAINÉ, C. LETERIER, C. BONNEAU, C. PARIAS and A. BERTIN

- (2018): Facial expression and oxytocin as possible markers of positive emotions in horses. *Sci. Rep.* 8, 14680. 10.1038/s41598-018-32993-z
15. LÖNKER, N. S., K. FECHNER and A. A. E. WAHED (2020): Horses as a crucial part of One Health. *Vet. Sci.* 7, 28. 10.3390/vetsci7010028
16. MEJDELL, C. M., T. BUVIK, G. H. M. JØRGENSEN and K. E. BØE (2016): Horses can learn to use symbols to communicate their preferences. *Appl. Anim. Behav. Sci.* 184, 66-73. 10.1016/j.applanim.2016.07.014
17. MERKIES, K. and O. FRANZIN (2021): Enhanced understanding of horse-human interactions to optimize welfare. *Animals* 11, 1347. 10.3390/ani11051347
18. NAGEL, T. (1974): What is it like to be a bat? *Philos. Rev.* 83, 435-450.
19. PROOPS, L., J. RAYNER, A. M. TAYLOR and K. MCCOMB (2013): The responses of young domestic horses to human-given cues. *PLoS One* 8, e67000. 10.1371/journal.pone.0067000
20. PROOPS, L., K. GROUNDS, A. V. SMITH and K. MCCOMB (2018): Animals remember previous facial expressions that specific humans have exhibited. *Curr. Biol.* 28, 1428-1432.e4. 10.1016/j.cub.2018.03.035
21. PROOPS, L. and K. MCCOMB (2010): Attributing attention: the use of human-given cues by domestic horses (*Equus caballus*). *Anim. Cogn.* 13, 197-205. 10.1007/s10071-009-0257-5
22. RINGHOFER, M. and S. YAMAMOTO (2017): Domestic horses send signals to humans when they face with an unsolvable task. *Anim. Cogn.* 20, 397-405. 10.1007/s10071-016-1056-4
23. ROBINSON, I. H. (1999): The human-horse relationship: how much do we know? *Equine Vet. J.* 31, Suppl., 42-45. 10.1111/j.2042-3306.1999.tb05155.x
24. RØRVANG, M. V., B. L. NIELSEN and A. N. MCLEAN (2020): Sensory abilities of horses and their importance for equitation science. *Front. Vet. Sci.* 7, 633. 10.3389/fvets.2020.00633
25. SMITH, A. V., C. WILSON, K. MCCOMB and L. PROOPS (2018): Domestic horses (*Equus caballus*) prefer to approach humans displaying a submissive body posture rather than a dominant body posture. *Anim. Cogn.* 21, 307-312. 10.1007/s10071-017-1140-4
26. TORCIVIA, C. and S. MCDONNELL (2021): Equine discomfort ethogram. *Animals* 11, 580. 10.3390/ani11020580
27. TRINDADE, P. H. E., E. HARTMANN, L. J. KEELING, P. H. ANDERSEN, G. C. FERRAZ and M. J. R. PARANHOS DA COSTA (2020): Effect of work on body language of ranch horses in Brazil. *PLoS One* 15, e0228130. 10.1371/journal.pone.0228130
28. WATHAN, J. and K. MCCOMB (2014): The eyes and ears are visual indicators of attention in domestic horses. *Curr. Biol.* 24, R677-R679. 10.1016/j.cub.2014.06.023
29. WATHAN, J., L. PROOPS, K. GROUNDS and K. MCCOMB (2016): Horses discriminate between facial expressions of conspecifics. *Sci. Rep.* 6, 38322. 10.1038/srep38322
30. WEMELSFELDER, F. (2007): How animals communicate quality of life: the qualitative assessment of behaviour. *Anim. Welf.* 16, 25-31. 10.1017/S0962728600031699

Govor tijela – ključ uspješne komunikacije između ljudi i konja

Antun SAČER, student šeste godine, Ante VIDOŠEVIĆ, student šeste godine, Albert TRSTENJAK, student pete godine, Ivana SABOLEK, dr. med. vet., asistentica, dr. sc. Željko PAVIČIĆ, dr. med. vet., redoviti profesor, dr. sc. Kristina MATKOVIĆ, dr. med. vet., redovita profesorica, dr. sc. Mario OSTOVIĆ, dr. med. vet., izvanredni profesor, Veterinarski fakultet Sveučilišta u Zagrebu, Zagreb, Hrvatska

U ovom radu smo se bavili važnošću govora tijela kao temelja komunikacije između ljudi i konja. Razumijevanje govora tijela konja ključno je za uspješnu međusobnu komunikaciju. Konji u komunikaciji koriste cijelo tijelo, od glave do repa i reagirat će i na najmanje znakove svojih pratitelja. Ljudi bi trebali biti svjesni svoga govora tijela i posvetiti veliku pozornost

komunikaciji govorom tijela u radu s konjima. U tom smislu postoji potreba i za povećanjem broja istraživanja o dobrobiti konja tijekom interakcija s ljudima koja će procjenjivati ne samo njihova negativna, već i pozitivna emocionalna stanja.

Ključne riječi: odnos čovjek-konj, govor tijela, komunikacija, ponašanje, dobrobit životinja