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The Importance of the Trainer's Gaze in Horse Training

[1]Simona Normando, [2]Iris Perini and [2]Flaviana Gottardo
[1]Department of Experimental Veterinary Science, Università degli Studi di Padova, v.le dell'Università 16, I-35020 Agripolis, Legnaro (PD), Italy
[2]Department of Animal Science, Università degli Studi di Padova, v.le dell'Università 16, I-35020 Agripolis, Legnaro (PD), Italy

Abstract: New training methods which rely on the ethological characteristics of the horse are spreading in the horse world. Some of them highlight the importance of trainer-horse eye contact during training in the round pen. The aim of this study was to assess the effects of eye contact with the trainer on the behaviour of saddle horses during training. Ten horses, aged 4 to 17 years, were subjected to two training sessions in the round pen, one in which the trainer was wearing very dark sunglasses, the other in which the trainer was wearing normal transparent glasses. The latency of some behaviour patterns which are deemed to be representative of the horse's attention towards the trainer and acceptance of the trainer as a social leader, were measured. The results show that horses oriented the inner ear towards the trainer, sham-chewed, lowered the head, stopped, approached and followed the trainer sooner ($p<0.01$) when the trainer was wearing transparent rather than dark glasses.

Key words: Eye, gaze, horse, training, visual communication

INTRODUCTION

Although the horse has been a trusted and useful companion for humankind for a relatively long time[1], until recently few scientific studies had been carried out on the way training works in this species. However, in the last decades new ways of approaching and training horses in more natural and effective ways have been proposed[2-5] and much scientific interest has been focused on their results[6-10]. Therefore more scientific attention has been paid to the mechanisms of horse learning[11-21] and to procedures which facilitate training in this species[22-24].

One feature of horse-trainer interaction which is said to be important in training in a more ethological way is visual communication. In particular, the trainer's gaze, together with his/her position in the animal's visual field, is deemed important in order to influence the horse's behaviour during the training sessions and it is sometimes called optic pressure.

The aim of this preliminary study was to assess the effects of trainer/horse eye contact on the behaviour of saddle horses during training sessions in the round pen.

MATERIALS AND METHODS

The study was carried out in Northern Italy between October 2003 and May 2004. Ten healthy adult saddle horses (4 mares, 6 geldings), aged 4 to 17 years, were studied. They were stabled in outdoor grass paddocks, lived in groups and were fed concentrate and hay twice a day. They were all used for hacking, although one of the geldings was ridden only occasionally.

Prior to the beginning of the experiment the horses' trainer was asked to assess each horse as being sociable or shy and then all the horses were subjected to two simple reactivity tests to assess their temperament. The first consisted in the approach of a n unknown person to the stable door. The horse's latency to approach the person and its attitude were recorded. The second consisted in throwing a bright coloured rubber ball inside the box stall where the horse was housed. The horse's latency to approach the novel object and its attitude were recorded. Both tests lasted 10 minutes.

The experiment itself was based on two training session on the lunge line in the round pen, one in which the trainer was wearing very dark sunglasses (with session), the other in which the trainer was not wearing dark sunglasses (without session). During the without session the trainer was wearing normal, transparent glasses, so that the horse could see the trainer's eyes. The order in which the two training sessions were given to each horse was randomized. For the same horse, the two training sessions took place on two different days at approximately the same hour. Care was taken to

Corresponding Author: Simona Normando, Università di Padova Dipartimento di Scienze Sperimentali Veterinarie Viale dell'Università 16 I-35020 Agripolis Legnaro (PD) Italy

standardise the trainer's behaviour during the sessions as much as possible.

The session mimicked normal gentle training session in the round pen. At the beginning of each session the horse was lead to the centre of a circular training arena and the trainer threw a lunge line towards the flank of the horse in order to make it run round the perimeter of the pen. When the horse tended to slow down the lunge line was thrown again. After the horse oriented its ear toward the trainer, the lunge line was not thrown any more and the horse was allowed to slow down and eventually stop and follow the trainer. The periods of time between the first time the trainer threw the lunge line at the beginning of the training session and the occurrence of some specific behaviour patterns were recorded. These behaviour patterns were: orienting the inner ear towards the trainer, sham chewing, lowering the head, stopping, coming towards the trainer when the trainer did not walk away (thus decreasing the distance) and following the trainer when the trainer walked away. These behaviour patterns are credited as being representative of the horse's attention towards the trainer and acceptance of the trainer as a social leader[5] and of its willingness to cooperate. Generally trainers take notice of the expression of such behaviour patterns during gentle training and respond accordingly.

Data concerning the temperamental tests and were analyzed using a U Mann-Whitney test (alpha = 0.05) for unpaired data[25]. The same test was used to compare the latencies and the differences in latencies (in sec and in percentage) of the studied behaviours between sociable and shy horses during with and without lunging sessions. The latencies of each of the above-mentioned behaviour patterns recorded for each horse in the with and without lunging session were compared using a two-tailed Wilcoxon Rank test (alpha = 0.01) for paired data[25].

RESULTS AND DISCUSSION

Horses classified as shy by the trainer showed a marked increase in the latency to approach an unknown person in comparison to horses classified as sociable (median = 155 vs. 4 sec; p = 0.008). One shy horse showed aggressive behaviour towards the unknown person and another shy horse did not approach the unknown person within 10 min. On the contrary, no significant difference was found between shy and sociable horses in the latency to approach a novel object (median = 300 vs. 60 sec; p = 0.4921) (Table 1). However 4 horses (2 shy, 2 social) did not approach the ball within 10 min (Table 1), although they did not seem to show any exterior sign of being afraid.

Table 1: Latency (in sec) to approach a stranger and a novel object. N-A = not-approaching

Horse	Temperament	Latency to approach an unknown person	Latency to approach a novel object
1	shy	120	45
2	shy	120 (aggressive)	180
3	sociable	2	15
4	sociable	40	13
5	shy	>600 (N-A)	>600 (N-A)
6	shy	180	>600 (N-A)
7	sociable	30	>600 (N-A)
8	sociable	4	>600 (N-A)
9	shy	155	300
10	sociable	3	60

The results showed that horses classified as shy by the trainer were indeed more reluctant to approach a person they did not know, while no such correspondence was there for the response to the novel object. This seems to agree with the study of Vissier and co-workers[26], which found a correspondence between the assessment of the horse temperament, made by competent people and the results of some behavioural tests. These Authors, in their study, found that the underlying components of a handling test, retrieved by a principal component analysis, were correlated with experienced riders' rating scores, while the underlying components of a novel object test did not.

During the lunging session, the horses showed marked individual differences in the latency of all the studied behaviour patterns. However, with the exception of one horse during the with session, which did not lower its head, they all showed the required behaviour patterns quite quickly.

The possibility of eye contact with the trainer seemed to be important for training. In fact, although sample size was relatively small, a highly significant increase was found in the latency of all the studied behaviour patterns between the with and without sessions (ear orienting: median=79 vs. 54 sec, p=0.006; chewing: median=199 vs. 153 sec, p=0.002; lowering the head: Median=267 vs. 214 sec, p=0.008; stopping: Median=335 vs. 235 sec, p=0.004; coming towards the trainer: median=338 vs. 184 sec, p=0.002; following the trainer: Median=366 vs. 303 sec, p=0.006, Table 2). The total duration of the training session was also increased. The most likely explanation of this is that the dark sunglasses made it impossible for the horse to see the trainer's eyes and this fact impaired the visual communication between horse and trainer, thus making training more difficult. Although a novelty effect cannot be completely ruled out in explaining the results, sunglasses are similar to normal glasses and are very commonly worn objects, so it is unlikely that the horses had never seen them before.

Visual communication is indeed very important for the social life of the horse and some of the behaviours shown towards the trainer, such as sham chewing, are strongly reminiscent of subordination signals used by

Table 2: Latency (in sec) between the first time the trainer threw the lunge towards the horse's flank and the occurrence of the studied behaviour patterns in the with and without (w-out) session

	Ear orienting		Chewing		Head down		Stopping		Approaching		Following	
	w-out	with	w-out	with	w-out	with	w-out	with	w-out	with	w-out	with
Median	54	78.5	152.5	199	214	267	235	334.5	184	337.5	303	366
Min.	1	17	35	78	55	110	65	155	85	185	138	107
Max.	125	388	208	390	273	433	295	475	322	563	356	595

foals towards dominant adult horses (i. e. the so called champing or snapping behaviour)[5,27].

Recent studies have shown that for other domestic species, for example dogs[28] and goats[29], eyes and gaze direction are important cues influencing behavioural responses. Dogs, in particular, differentiate between situations in which the owner is looking at them and situation in which the owner is not, when trying to do something that they have been forbidden. The horse has not been studied much in this respect, but the results of the present study suggest that the possibility to see the trainer's eyes influence the behavioural responses of horses during training.

It is also interesting to notice that sociable did not differ from shy horses in the latency of the studied behaviour patterns in the two session, nor they differed in the increase in latency in the with as compared with the without session.

CONCLUSION

The results of this study show that visual communication, namely the possibility of seeing the trainer's eyes, seems to be an important feature of trainer-horse relationship during training on the lunge line. In fact when the possibility to see the trainer's eyes was denied because the trainer was wearing very dark sunglasses, the latency of some behavioural patterns which are taken as signs of acceptance of the human as a social leader and thus, the length of the training session were significantly increased.

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