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RESEARCH ARTICLE

The Horse Behaviour toward Grooming

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ABSTRACT

The domestication and artificial selection of horse for various purposes have led to the emergence of various horse breeds, often associated with specific physical characteristics and behavioural tendencies. Understanding individual differences in horse behaviour, particularly during interactions with humans, is essential for promoting positive experiences and welfare. Mane grooming, a common human-horse interaction, provides valuable information about the horse's emotional responses and the preferences. This study was conducted to determine the behaviour of 350 horse seven different horse breeds (101 Thoroughbred horses, 96 Arabian horses, 123 Hanoverian horses, 10 Belgian horses, 6 French horses, 8 Dutch horses, 2 German horses, and 1 Hungarian horse) during mane grooming sessions. The study involved observing the horse from the front and both sides during the mane grooming process and face-to-face interviews with horse owners. The research aims to obtain information about the emotional reactions of the horses by focusing on approach and avoidance behaviours, and it investigates the effects of characteristics such as breed, age, gender and mane direction. Research has revealed that personality differences among seven different horse breeds. Also, it shows that only 10.28 % exhibited aggressive behaviours during the mane grooming. Some differences have been observed among breeds in terms of mane direction. According to the results, it was concluded that breed-specific and individual characteristics should be taken into account in care practices in order to enhance horse welfare and strengthen the human-horse bond.

Keywords: Aggressive behaviour, grooming, horse mane

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Atın Bakıma Karşı Davranışı

ÖZ

Atların çeşitli amaçlar için evcilleştirilmesi ve seleksiyon, farklı fiziksel özelliklere ve davranış eğilimlerine sahip özel at ırklarının ortaya çıkmasına yol açmıştır. Özellikle insanlarla etkileşimde at davranışlarındaki bireysel farklılıkları anlamak pozitif deneyimleri arttırmak ve hayvan refahı bakımından önemlidir. Yaygın bir insan-at etkileşimi olan yele bakımı, atların duygusal tepkileri ve tercihleri hakkında değerli bilgiler sağlar. Bu çalışma, yedi farklı at ırkından 350 atın (101 İngiliz atı, 96 Arap atı, 123 Avrupa atı, 10 Belçika atı, 6 Fransız atı, 8 Hollanda atı, 2 Alman atı ve 1 Macar atı) yele bakım seansları sırasındaki davranışlarını belirlemek amacıyla gerçekleştirilmiştir. Çalışma, yele bakımı sırasında atın önden ve her iki yandan gözlemlenmesini ve at sahipleriyle yüz yüze görüşmeleri içermektedir. Araştırma, yaklaşma ve kaçınma davranışlarına odaklanarak atların duygusal tepkileri hakkında bilgi edinmeyi amaçlamakta ve ırk, yaş, cinsiyet ve yele yönü gibi özelliklerin etkilerini araştırmaktadır. Araştırma, yedi farklı at ırkı arasında kişilik farklılıkları olduğunu ortaya koymuştur. Ayrıca, sadece %10,28'inin yele tımarı sırasında agresif davranışlar sergilediğini göstermektedir. Yele yönü bakımından ırklar arasında bazı farklılıklar gözlenmiştir. Araştırma sonucuna göre, at refahını artırmak ve insan-at bağını güçlendirmek amacıyla bakım uygulamalarında ırka özgü ve bireysel özelliklerin dikkate alınması gerektiğini sonucuna varılmıştır.

Anahtar Kelimeler: Agresif davranış, at yelesi, tıraş

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INTRODUCTION

During the domestication of horses, certain traits were selected through artificial selection to serve different purposes, leading to the emergence of various domestic horse breeds. The process of artificial selection often focuses on physical traits such as size, strength and speed (Clutton-Brock 1999). However, desired behaviours have also been taken into consideration (Hislop 1992; Houpt and Kusunose 2000). Different horse breeds are commonly associated with specific behavioural tendencies, and such claims are often supported by anecdotal evidence from passionate breed enthusiasts. Breeds promote the group by describing its typical temperament and personality. For example, the Highland pony is known for its "kindly nature and even temperament" (Highland Pony Society 2006), while the Irish draught horse is described as having "an intelligent and gentle nature and is noted for its docility and sense" (Irish Draught Horse Society of Great Britain 2006). As a result, it is anticipated that different horse breeds have different personalities. The term "personality" in this context refers to the consistent patterns of feeling, thinking, and behaving in an individual (Pervin and John 1997). While the application of this definition to animals has limitations, studies on horse personality have focused on observing behaviours to establish individual differences rather than attempting to assess feelings or thoughts, which is challenging or impossible to do. Recent studies have explored that assessing individual differences through behaviour tests and through ratings provided by handlers (Le Scolan et al. 1997; Wolff et al. 1997; Anderson et al. 1999; Seaman et al. 2002; Creighton 2003; Momozawa et al. 2003; Visser et al. 2003b; Momozawa et al. 2005). These studies have shown that it is possible to reliably evaluate individual differences in horse behaviour, and there have been discussions about potential applications of this knowledge (Mills 1998).

Horse behaviour toward groomers and mane grooming is a type of interaction with humans that can vary based on individual temperament and past experiences (Lansade et al. 2021; Merkies and Franzin 2021). Mane grooming involves combing, detangling, and styling the mane, which is the long hair along the top of the horse's neck. For many horses, the relationship with their groomers plays a significant role in how they respond to mane grooming. Some horses thoroughly enjoy the attention and relaxation that comes with the grooming process and may stand still and content during mane grooming sessions. They may even nuzzle the groomer or show signs of pleasure, such as lowering their heads or gently swaying their bodies (Lansade et al. 2019). These horses have likely developed a positive association with grooming and trust the groomer's touch. Conversely, some horses may feel uneasy or anxious about mane grooming, especially if they are not familiar with the process or have had negative experiences in the past (Lansade et al. 2018). These horses may display signs of resistance, such as moving away, raising their heads, or tensing their muscles (Lansade et al. 2019). Mane grooming can be particularly sensitive for some horses, as the mane can tangle easily, and detangling might cause discomfort or pain.

The direction of a horse's mane is primarily determined by genetics and the development of hair follicles on the neck (Svensson et al. 2012; Whishaw & Kolb 2016). In most horses, the mane typically grows and falls on either the left or right side of the neck. Some horses may have deviations from the standard left or right mane, with hair growing on both sides or in a non-conforming manner.

The enchanting and unique aspect of horses lies in their beautiful and lustrous mane and tail. Similar to how people have various hairstyles, horses can exhibit different mane "styles" (Jo King 2021). Besides being visually attractive, horse manes serve several purposes, such as pest control, protection, and providing a grip for riders during the early stages of domestication (Jo King 2021). It's important to note that the direction of the mane does not have any impact on a horse's behaviour or performance; rather, it is mainly an aesthetic characteristic (Whishaw & Kolb, 2016). Horse behaviour toward groomers and mane grooming can range from cooperative and relaxed to apprehensive and resistant (Lansade et al. 2018). Building trust and understanding the horse's preferences and comfort levels are essential for creating a positive and enjoyable grooming experience. Mane grooming with patience, kindness, and sensitivity can become a rewarding part of the human-horse relationship, contributing to the horse's overall welfare and fostering a deeper bond with their human caretakers (Bastian 2022).

The aim of this study is to investigate the various behaviours exhibited by seven different horse breeds during mane grooming sessions. The main purpose of this research is to evaluate horses' behavioural responses to grooming, specifically by observing approach and avoidance behaviours. Additionally, the study investigates the impact of characteristics such as horse breed, age, gender, and mane direction on grooming responses.

MATERIALS and METHODS

Animal Materials

The study's animal materials consisted of horses from equestrian clubs and stud farms located in different cities in Turkey (Mersin 2 clubs, Adana 4 clubs, Konya 1 club, Eregli 2 clubs, Osmaniye 2 clubs, Istanbul 2 clubs, Antalya 2 clubs, Tarsus 1 club, Gaziantep 1 club, and Ankara 1 club). Behaviour data from 350 horses from seven different horse breeds

were collected and compared. Horses' breed, age, gender, and coat colour were obtained from the pedigree records kept by the High Council of Stewards of the Ministry of Agriculture and Forestry. The horses diet included oats, barley, hay, apples, and carrots. Table 1 shows the horses breed age and gender information used in the study.

Table 1. The numbers, ages, genders, and breeds of the horses used in the study

Horse Breed	Male Horse Number	Female Horse Number	Minimum Age (Year)	Maximum Age (Year)	Average Age (Year)
Thoroughbred	52	49	1	22	6.24
Arabian	59	37	2	17	6.54
Hanoverian	80	43	2	30	12.14
Belgian	6	4	6	16	13.4
French	3	3	10	16	12.5
Dutch	6	2	2	11	6.875
German	2	-	14	18	16
Hungarian	-	1	16	16	16

Observations

Horse behaviours

The horse behaviour consisted of two behavioural categories: aggressive behaviour and relaxed behaviour. Interview with the horse owners on the behaviour of their horses during the grooming process and specifically noted whether the horses displayed any signs of aggression. Among the behaviours associated with aggression were biting, striking, rearing, not permitting grooming, and even throwing themselves on the ground. When horses exhibited resistance during the grooming process, various strategies and methods were employed to overcome this resistance. Typically, when the grooming process commenced, horses attempted to endure the procedure patiently for the first 10 minutes. If a horse continued to resist, approaches such as increasing the number of caregivers were attempted. In such cases, additional individuals were brought in to participate in the grooming process to help the horse remain calmer. However, if the horse continued to resist, rope twitch was used, attached to the horse's nose to gain control over the horse. The rope twitch was employed to encourage the horse to remain calm and cooperative. The grooming process extended to an average of 30 minutes. If, after this 30-minute duration, the horse still did not permit the grooming process, two main options were considered. The first was sedating the horse, and the second was discontinuing the grooming process.

Horse Mane Direction

The horse mane direction was categorized into three types: left mane root, right mane root, and split (where the mane falls on both sides). The grooming process was done using horse clipper (Heiniger Delta 3 Clipper, Switzerland). The study documented the direction of the manes of the horses, as well as the direction in which the manes grew back after being groomed. Mane directions were determined through a combination of observation and face-to-face interviews with horse owners. The examination involved observing the horse from the front and both sides.

RESULTS

Horse behaviours

The Dutch, Belgian, French, and Hungarian horse breeds did not show any sign of aggression. During mane grooming session, cases of aggression were observed in Thoroughbred horses mostly. Out of a total of 52 male Thoroughbred horses, 15 of them displayed aggressive behaviour when their manes were shaved. Out of 49 female Thoroughbred horses 11 horses have shown aggressive behaviour during mane grooming. This indicates that 25.74% of Thoroughbred horses expressed aggressive behaviour.

Among a group of 59 Arabian male horses, only 3 horses exhibited aggression during the grooming session. Out of 37 Arabian female horses, 6 of them showed aggression during the grooming session. Thus 9.375% of Arabian horses expressed aggression.

Out of a 123 Hanoverian horses, only one female horse with a left mane root showed aggression, representing 0.81% of the Hanoverian horse subjects.

Among the two German male horses observed, one horse exhibited aggression during the grooming session. This particular horse had a mane directed to the right. Table 2 provides information about the aggression displayed by horses during mane grooming sessions.

Table 2. Numbers of the aggressive horses by breed, age, gender, and coat colour

Variables	Horse Breeds			
	Thoroughbred	Arabian	Hanoverian	German
Age				
1-4	17	6	1	-
5-9	6	3	-	-
10-18	3	-	-	1
Gender				
Male	15	3	-	1
Female	11	6	1	-
Coat colour				
Bay	14	1	-	-
Black	5	-	-	-
Chestnut	2	5	1	-
Flea-Bitten Gray	-	1	-	-
Dapple Gray	-	2	-	1
Mahogany Bay	5	-	-	-

Horse Mane Direction

Among the 15 Thoroughbred aggressive male horses, 6 had a right mane, 6 had a left mane, and 3 had a split mane. In total 23 of the 52 male Thoroughbred horses had left mane, 19 right mane and only 10 with split mane. 4 of the 11 aggressive female horses had right mane and 7 of the 11 aggressive female horses had left mane. In total 25 of the 49 female Thoroughbred horses had left mane, 21 right mane and only 3 with split mane. The manes of five Thoroughbred horses were completely shaved from the root, and no change in the direction of the manes was observed.

Out of 59 Arabian male horses observed, 19 had a left mane, 35 had a right mane, and 5 had split mane. Among the aggressive Arabian male horses, 2 had a left mane, and 1 had a right mane. Similarly, among the 37 observed Arabian female horses, 13 had a left mane, 23 had a right mane, and 1 had split mane. Among the aggressive Arabian female horses, 2 had a left mane, and 4 had a right mane. The manes of eight Arabian horses were completely shaved from the root, and no change in the direction of the manes was observed.

Among the 123 Hanoverian horses observed, only one female horse with a left mane root displayed aggression. Out of the 80 male Hanoverian horses, 34 had a left mane, 40 had a right mane, and 6 had a split mane. Among the 43 female Hanoverian horses, 14 had a left mane, 25 had a right mane, and 4 had a split mane. The manes of four Hanoverian horses were completely shaved from the root, and no change in the direction of the manes was observed.

In the observed sample of horses, there were 6 male Dutch horses, with 3 having a right mane, 2 having a left mane, and 1 having a split mane. Among the 2 female Dutch horses, both had a left mane. Two German male horses were also observed, one with a right mane and the other with a left mane. In the case of the 10 Belgian horses, there were 3 male horses with a right mane and 3 male horses with a left mane. Among the 4 female horses, 3 had a right mane, and 1 had a left mane. Among the 6 French horses, 3 male horses were observed, all of which had a right mane. Out of the 3 female horses, 2 had a left mane, and 1 had a split mane. The mane of one French horse was completely shaved from the root, and no change in the direction of the mane was observed. Additionally, one female horse from Hungary had a left mane. Table 3 provides the number of horses according to mane direction.

Table 3. Number of horses according to mane direction

Horse Breeds	Gender	Left Mane	Right Mane	Split Mane
Thoroughbred	Male	23	19	10
	Female	25	21	3
Arabian	Male	19	35	5
	Female	13	23	1
Hanoverian	Male	34	40	6
	Female	14	25	4
Belgian	Male	3	3	-
	Female	1	3	-
French	Male	-	3	
	Female	2	-	1
Dutch	Male	2	3	1
	Female	2	-	-
German	Male	1	1	-
	Female	-	-	-
Hungarian	Male	-	-	-
	Female	1	-	-

DISCUSSION

Lansade et al. (2019) conducted a study involving 69 horses during grooming sessions to evaluate their behaviour. Their findings indicated that only 5% of the observed horses showed mutual grooming, approach, or relaxed behaviour, while avoidance and threatening behaviours were observed in a significantly higher number of horses. The study revealed that the expression of avoidance or approach behaviours was not influenced by the gender or breed of the horses. This suggests that these behaviours might be more attributable to the grooming approach used rather than inherent characteristics of the horses themselves. Notably, the observation method used in the study was consistent with a previous study by Lansade et al. (2018), where 100% of the horses exhibited an approach response during gentle grooming adapted to their individual reactions.

The results suggest that there may be personality differences among the seven horse breeds evaluated in this study. In total out of 350 horses 36 horses had aggressive behaviour. This indicates that only 10.28% of horses expressed aggressive behaviours. Gender, age, and mane direction had no impact on the number of horses expressing aggressive behaviour and relaxed behaviour. It can be argued that the behaviour of horses during the grooming session could influenced by their breed, particularly evident in Thoroughbred horses. Also, the character of the horse and the way the mane was shaved may influence the behaviour of the horses.

Improving grooming practices to elicit positive behaviours in horses is relatively straightforward. In a study by Feh and de Mazières (1993), they found that massaging the horse in its preferred zones led to many positive behaviours. Discovering the horse's preferred zones involves being observant of their approach and avoidance behaviours, as well as paying attention to facial expressions, which can be particularly sensitive indicators of the horse's emotional state (Hintze et al. 2016; Lansade et al. 2018).

Positive emotional states during grooming can be identified by a raised eyebrow, low neck carriage, half-closed eyes, and extended lips. These signs should encourage the handler to continue brushing that area. Conversely, negative emotional states are indicated by a raised neck, wide-open eyes, and even slight tensing of the mouth corners. If these signs are noticed, the person should adjust their grooming or grooming approach accordingly. Additionally, it is crucial for the handler to be aware of any grimaces of pain, as described by Dalla Costa et al. (2014), which should immediately prompt them to stop and assess the situation.

During the study, it was observed that Thoroughbred horse subjects tended to slightly have more left manes with percentage of 47.52%, whereas Arabian horses showed a higher prevalence of right manes with a percentage of 60.42%. Similarly, Hanoverian horses displayed a slightly more noticeable prevalence of right manes with a percentage of 51.22%. In contrast, Dutch horse subjects exhibited a greater occurrence of left manes, while Belgian horse subjects had a higher prevalence of right manes.

It is important to acknowledge that these variations in mane direction among different horse breeds were observed but did not exhibit substantial differences.

CONCLUSION

In conclusion, this study provides valuable insights into the behaviours of seven horse breeds during mane grooming sessions. We examined potential influences on their grooming reactions, such as gender, age, mane direction, and breed characteristics. Compassionate grooming practices are essential for enhancing horse welfare and strengthening the human-horse bond. Differences in personality among breeds were observed, but not all pairs showed significant distinctions. Only a small percentage of horses exhibited aggressive behaviours (10.28%). Mane direction is primarily influenced by genetics, and while variations were noted among breeds, they were not significant. Considering individual differences and breed-specific traits can lead to a positive and enjoyable grooming experience for both horses and groomers, fostering a deeper bond between humans and horses.

Conflict of interest: The author has no conflicts of interest to report.

Authors' Contributions: YP contributed to the project idea, design and execution of the study. YP contributed to the acquisition of data. YP analyzed the data. YP drafted and wrote the manuscript. YP reviewed the manuscript critically. The author has read and approved the finalized manuscript.

Ethical approval: "This study is not subject to the permission of HADYEK in accordance with the "Regulation on Working Procedures and Principles of Animal Experiments Ethics Committees" 8 (k). The data, information and documents presented in this article were obtained within the framework of academic and ethical rules."

Explanation: The author of the study ensured compliance with animal ethics policies after carefully reviewing them. The research solely involved observing horses during grooming sessions in a natural field setting, and no specific experimental interventions were conducted on the animals for this investigation.

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REFERENCES

Anderson, M.K., Friend, T.H., Evans, J.W., Bushong, D.M., (1999). Behavioural assessment of horses in therapeutic riding programs. Appl. Anim. Behav. Sci. 63, 11–24.

Bastian, J. (2022, May 8). How grooming can improve connection with your horse. Irish Sport Horse Magazine. https://www.irishsporthorsemagazine.com/how-grooming-can-improve-connection-with-your-horse/

Clutton-Brock, J., (1999). A Natural History of Domesticated Mammals. Cambrige University Press, Cambridge, UK. Coolican, H., 2004. Research Methods and Statistics in Psychology. Hodder and Stoughton.

Creighton, E., (2003). Matching horses for courses: development of robust tests of equine temperament to address equine welfare. In: 37th International Congress of The International Society of Animal Ethology, Fondazione Iniziative Zooprofilattiche e Zootecniche, Brescia, Venice, p. 148.

Dalla Costa, E., Minero, M., Lebelt, D., Stucke, D., Canali, E., & Leach, M. C. (2014). Development of the Horse Grimace Scale (HGS) as a pain assessment tool in horses undergoing routine castration. *PLoS one*, *9*(3), e92281.

Feh, C., De Mazières, J., (1993). Grooming at a preferred site reduces heart rate in horses. Anim. Behav. 46, 1191–1194.

Highland Pony Society, (2006). Highland ponies—Characteristics. www.highlandponysociety.com/highlandponys.htm

Hintze, S., Smith, S., Patt, A., Bachmann, I., & Würbel, H. (2016). Are eyes a mirror of the soul? What eye wrinkles reveal about a horse's emotional state. PloS one, 11(10), e0164017.

Hislop, J., (1992). Breeding for racing. The Kingswood Press, London, UK.

Houpt, K.A., Kusunose, R., (2000). Genetics of behaviour. In: Bowling, A.T., Ruvinsky, A. (Eds.), The Genetics of The Horse. CABI, Oxon, UK, pp. 281–306.

Irish Draught Horse Society of Great Britain, (2006). Breed Standard. www.irishdraughthorsesociety.com/breed_standards.htm

Jo King, A. (2021). Why Do Horses Have Manes. Access address: https://www.petmd.com/horse/why-do-horses-have-manes.

Lansade, L., Nowak, R., Lainé, A.-L., Leterrier, C., Bonneau, C., Parias, C., Bertin, A. (2018). Facial expression and oxytocin as possible markers of positive emotions in horses. Sci.Rep. 8, 14680.

Lansade, L., Bonneau, C., Parias, C., & Biau, S. (2019). Horse's emotional state and rider safety during grooming practices, a field study. Applied Animal Behaviour Science, 217, 43-47.

Lansade, L., Trösch, M., Parias, C., Blanchard, A., Gorosurreta, E., & Calandreau, L. (2021). Horses are sensitive to baby talk: pet-directed speech facilitates communication with humans in a pointing task and during grooming. Animal Cognition, 24(5), 999–1006. https://doi.org/10.1007/s10071-021-01487-3

Le Scolan, N., Hausberger, M.,Wolff, A., (1997). Stability over situations in temperamental traits of horses as revealed by experimental and scoring approaches. Behav. Process 41, 257–266.

Merkies, K., & Franzin, O. (2021). Enhanced understanding of Horse–Human interactions to optimize welfare. Animals, 11(5), 1347. https://doi.org/10.3390/ani11051347

Mills, D.S., (1998). Personality and individual differences in the horse, their significance, use and measurement. Equine Vet. J. Suppl. 27, 10–13.

Momozawa, Y., Ono, T., Sato, F., Kikusui, T., Takeuchi, Y., Mori, Y., Kusunose, R., (2003). Assessment of equine temperament by a questionnaire survey to caretakers and evaluation of its reliability by simultaneous behaviour test. Appl. Anim. Behav. Sci. 84, 127–138.

Momozawa, Y., Kusunose, R., Kikusui, T., Takeuchi,Y., Mori, Y., (2005). Assessment of equine temperament questionnaire by comparing factor structure between two separate surveys. Appl. Anim. Behav. Sci. 92, 77–84.

Pervin, L.A., John, O.P., (1997). Personality Theory and Research. John Wiley and Sons, New York.

Seaman, S.C., Davidson, H.P.B., Waran, N.K., (2002). How reliable is temperament assessment in the domestic horse (Equus caballus)? Appl. Anim. Behav. Sci. 78, 175–191.

Svensson, E., Telldahl, Y., Sjöling, E., Sundkvist, A., Hulth, H., Sjøvold, T., & Götherström, A. (2012). Coat colour and sex identification in horses from Iron Age Sweden. Annals of Anatomy - Anatomischer Anzeiger, 194(1), 82–87. https://doi.org/10.1016/j.aanat.2011.11.001

Visser, E.K., van Reenen, C.G., Schilder, M.B.H., Barneveld, A., Blokhuis, H.J., (2003b). Learning performances in young horses using two different learning tests. Appl. Anim. Behav. Sci. 80, 311–326.

Whishaw, I. Q., & Kolb, B. (2016). The mane effect in the horse (Equus ferus caballus): Right mane dominance enhanced in mares but not associated with left and right manoeuvres in a reining competition. Laterality: Asymmetries of Brain, Behaviour, and Cognition, 22(4), 495–513. https://doi.org/10.1080/1357650x.2016.1219740

Wolff, A., Hausberger, M., Le Scolan, N., (1997). Experimental tests to assess emotionality in horses. Behav. Process 40, 209–221.