

HORSE BEHAVIOR PATTERN AT HOLIDAY TIME SUBJECT TO ITS UTILIZATION FORM AND MORPHOLOGICAL TYPE

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ABSTRACT

The objective of the study was the assessment of the effect of a utilization form of noble horses, ponies and primitive horses managed under the same environmental conditions on their behavior at various riding-related activities during holiday time. A behavior pattern of 4 noble sport horses, 6 noble horses used for recreation and 9 primitive horses and ponies for recreational riding was analyzed. All the horses were housed in the same riding centre. The observations were carried out three times, i.e. at the holiday start, mid-holiday and after it. A scale from 1 point (refusal/undesirable negative behavior) to 5 points (most appropriate behavior, no objections) assessed horse behavior towards an approaching a stranger, cleaning activities, leg grooming, bridling, saddling and working under the saddle. A level of sport horse workload at the holiday season did not differ from that at other seasons (1–2 hrs daily on average). These horses had their permanent riders. The horses used for recreation worked more intensely during the holiday time (4 hrs on average) and carried riders of different skills levels. The behavior of noble sport horses did not show any changes at the holiday season. Whereas the behavior of the horses used for recreational riding was found to be significantly worse as against that of the sport horses during the holiday season. Most problems were observed at leg grooming-related activities in both, noble and primitive horses as well as in the pony group. As for the primitive horses and ponies, cleaning and working under the saddle induced marked worsening of the behavior as compared to the noble horses. Interestingly, the behavior worsened to the same extent in both horse groups at saddling activities. In order to prevent and limit development of undesirable behavioral events in horses, especially those for recreational riding, it is essential to provide constant control and didactic assistance of instructors and other professionals at the horse saddling or grooming activities. Notably, their regular effort should be targeted towards improvement of negative behavioral responses of ridden horses that occur at the holiday season.

Key words: horse behavior, riding utility, noble horses, primitive, ponies

INTRODUCTION

Horse behavior has long been the focus of attention on the part of scientists worldwide as it is indicated in the vast body of publications [Duncan 1980, Kiley-Worthington 1983, Hout 1986, Luescher et al. 1988, Janiszewska et al. 2008, Ninomiya et al. 2008, Nowicka-Posłuszna and Ziomko 2012, Stachurska et al. 2016]. Generally, the studies concern the distribution of daily behavior pattern of different horse groups and breeds, the time spent on the activities related to feeding, grooming, sleeping etc, foal behavioral responses and finally, stereotyped behaviors. Development of horseback riding, especially for recre-

ation, resulted in the immediate demand for horses with special predispositions and that in turn has led to the analysis of horse behaviors during the activities associated with this form of utilization. It is well known that horseback riding for leisure uses different horse breeds and types, starting with ponies for kids and youth, then noble horses and cold-bloods mainly for horse carriage driving and horseback riding as well. A well-balanced character, calm temperament and lack of bad habits prove to be essential determinants of horse usability for recreational riding in its broadest sense. Notably, numerous stables offering recreational riding service report the maximum workload for horses in summer season. The earlier stu-

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dies exploring a relationship between a horse utilization form and equine behavior patterns did not yield explicit results which may arise from differences in the methodology or conducting the research on groups of horses working in different riding centers [Ignor et al. 2011, Przybyłowicz et al. 2013].

The objective of the present paper was to assess the effect of a utilization form of noble horses, ponies and primitive horses housed under the same conditions on their behavior during various horseback riding-related activities at holiday time.

MATERIAL AND METHODS

The observation included 19 horses (12 gelding and 7 mares) managed under the same environmental and feeding conditions (in accordance with horse feeding standards), in that 4 noble sport horses, 6 noble horses used for recreational riding, 9 ponies and primitive horses for recreational riding. The equine behavior patterns were observed three times, observation I – at the holiday start (at the turn of June and July), observation II – mid-holiday (beginning of August), observation III – after the holiday season (1st week of September). The horse's responses were assessed towards an approaching stranger, cleaning activities, leg grooming, bridling, saddling and working under the saddle. The behavior pattern was evaluated on the scale of 1 to 5 points, where 1 point meant the refusal or negative/undesirable behavior, while 5 points – most appropriate behavior without any objections. The observations were carried out in the riding center offering recreational and sport riding service. All the horses were kept in the stable-pasture system and stayed at the paddocks for about 6–8 hours a day. A level of a sporting horse workload at the holiday season was similar to that out of season (1–2 hrs daily), the horses had their permanent riders. The horses used for leisure purposes worked more intensely during the holiday season (4 hrs on average) and carried riders of different skills levels. Using the Statistica software package (version 10), the obtained results were analyzed statistically calculating the means, standard deviation, minimum and maximum values as well as significance of differences between the chosen means.

RESULTS AND DISCUSSION

Figure 1 presents the mean scores obtained by the horse groups under observation for their behavior during particular activities. As the figure shows, the sport horses earned the highest points for the responses in different situations. These horses have their permanent and experienced riders and are used over a similar training intensity and time. Only the bridling chore was assessed slightly

lower (4.5 pts on average) and that resulted from unwanted behaviors displayed by one of horses which showed the reluctance at bridling. It raised the head, did not accept the bit and was anxious refusing to allow the headpiece over its ears. This horse was given 3 pts for its behavior which persisted throughout the entire observation period conducted in the stable. Walendowska and Nowicka-Posłuszna [1991] report that commonly the problem of difficult bridling centres on the horse's reluctance to take the bit and predominantly, recreational horses are literally hard-to-bridle. They are known to show undesirable habits to a large extent which often result from a low level of riding abilities of beginner riders. The authors state that sports horses and older animals accept the bit more willingly and that arises from both, their positive past experiences and a positive association with movement and workout following bridling. However, the present research results were different, namely the bridling behavior of the noble horses used for leisure was awarded the highest mean score among the horse groups observed and it did not change over the holiday season. Alike, the behavior of primitive horses and ponies did not undergo any major changes. Similar results were obtained in other studies assessing responses of horses used for recreational purposes in summer season [Ignor et al. 2011, Przybyłowicz et al. 2013].

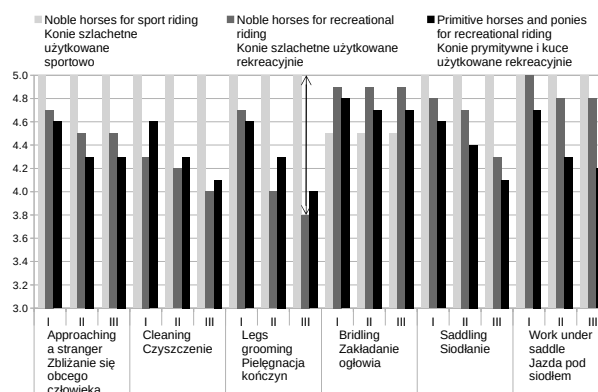


Fig. 1. Average rating earned for behavior of observed horses at the activities, points; I, II, III – observations (I – before summer holiday season, II – mid-holiday season, III – after summer holiday season); ↑ – statistically significant difference ($P \leq 0.05$)

Rys. 1. Średnie oceny za zachowanie uzyskane przez obserwowane konie podczas poszczególnych czynności, pkt; I, II, III – obserwacje (I – przed sezonem wakacyjnym, II – środek sezonu wakacyjnego, III – po sezonie wakacyjnym); ↑ – Różnica istotna statystycznie ($P \leq 0,05$)

During the holiday season, the behavior of the horse group used for leisure was found to worsen slightly on stranger's approach (0.2 and 0.3 pts). Other studies evaluating the responses of recreational horses when approached by a stranger did not bring direct and clear results. Ignor et al. [2011] found that the behavior of horses used

Table 1. Average, minimum and maximum rating for behavior of all horses observed, in points

Tabela 1. Średnie, minimalne i maksymalne noty za zachowanie wszystkich obserwowanych koni, w pkt

Behaviour Zachowanie	Approaching a stranger Zbliżanie się obcego człowieka			Cleaning Czyszczenie			Legs grooming Pielęgnacja kończyn			Bridling Zakładanie ogłowia			Saddling Siodłanie			Work under the saddle Jazda pod siodłem		
	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III
Observation Obserwacja																		
Average Średnia	4.68	4.53	4.53	4.58	4.47	4.32	4.68	4.37	4.16	4.74	4.68	4.68	4.74	4.63	4.37	4.84	4.63	4.58
S	0.749	0.841	0.841	0.769	0.905	1.057	0.749	0.831	0.898	0.562	0.671	0.671	0.562	0.684	0.955	0.501	0.684	0.838
Min	2	2	2	3	2	2	2	2	2	3	3	3	3	3	2	3	3	2
Max	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Table 2. Characteristics of significance of differences between overall average rating (in points) earned by the horse groups studied at observation periods

Tabela 2. Charakterystyka istotności różnic pomiędzy łącznymi średnimi ocenami (w pkt) uzyskanymi przez badane grupy koni w kolejnych obserwacjach

Group of horses – Grupa koni		Observation – Obserwacja		
		I	II	III
Noble horses for sport riding Szlachetne użytkowane sportowo	\bar{x} S	29.50 aB 0.41	29.50 AB 0.41	29.50 AB 0.41
Noble horses for recreational riding Szlachetne użytkowane rekreacyjnie	\bar{x} S	28.33 ac A'B' 0.26	27.17 AC A'c' 0.15	26.50 AC B'c' 0.24
Ponies and primitive horses for recreational riding Prymitywne i kuce użytkowane rekreacyjnie	\bar{x} S	27.67 Bc A'B' 0.22	26.44 BC A'C' 0.16	25.44 BC B'C' 0.19

Explanations:

Values in columns with the same small letters a, b, ... differ significantly at $P \leq 0.05$; with capital letters A, B, ... differ significantly at $P \leq 0.01$.
Values in rows with the same small letters a', b', ... differ significantly at $P \leq 0.05$; with capital letters A', B', ... differ significantly at $P \leq 0.01$.

Objaśnienia:

Wartości w kolumnach oznaczone tymi samymi małymi literami: a, b, ... różnią się istotnie przy $P \leq 0,05$, dużymi literami: A, B, ... różnią się istotnie przy $P \leq 0,01$.

Wartości w wierszach oznaczone tymi samymi małymi literami: a', b', ... różnią się istotnie przy $P \leq 0,05$, dużymi literami: A', B', ... różnią się istotnie przy $P \leq 0,01$.

for leisure got worse in a situation when a stranger was coming closer in the equestrian center organizing two-week summer camp horseback riding. Consequently, the mean score for horse behavior dropped from 4.6 to 3.5 pts in the summer season. Whereas in the center where the horses carried different riders at the holiday period, their behavior towards a stranger moving nearer did not change and kept at the level of 4.9 pts. It is possible that the horses in the riding summer camp center got used to their riders and therefore became anxious when exposed to people unfamiliar to them. It is noteworthy however, that Przybyłowicz et al. [2013] reported the increased mean score for horse behavior at approaching a stranger from 4.08 at the holiday season start up to 4.5 at the holiday end. Wolińska et al. [2012] highlighted the most common undesirable bad habits of recreational horses in response to a strange man entering a stall (chosen centres in the Pomeranian and Warmia-Pomeranian Province). They include ears pinning flat (30% of horses observed) and tur-

ning rump to man (27%), while attempted bites are infrequently observed (13%). On the whole, most of the horses under the present study displayed friendly or neutral reactions. The authors are of the opinion that undesirable behaviors are actually due to their previous negative experience with humans, so friendly and neutral reactions of horses are likely to stem from a lack of the negative past human-horse experience. The aforementioned authors observed a number of bad habits occurring at the grooming routine. Over one third of the horses under study did not demonstrate any unwanted behaviors, whereas those presented most frequently included ears pinned back (39%), circling, weaving (33%), pawing ground, an attempt to kick out (23%) and bite (22%) [Wolińska et al. 2012].

As Figure 1 indicates, in the present research the lowest mean scores for the behavior at the cleaning-related chores were given to the noble horses for recreational use. This fact can be attributed to their more sensitive

skin as compared to primitive horses and consequently, being more responsive to the grooming activities performed by inexperienced beginner riders. The behavior of horses used for leisure was found to worsen at the holiday season, the noble horse group by 0.3 pts and ponies by 0.5 pts, while the maximum mean scores earned by the sporting horses did not change in the period under study. Walendowska and Nowicka-Posłuszna [1991] analyzed horse responses to a daily grooming routine and noted that the horses for recreational purposes and those of higher sport class (Class C and CC) were given the lowest scores. These authors imply that sport horses facing high and still increasing demands may lose the trust in the rider and thus, trigger escalated reactions. As for the recreational horses, such reactions may arise from the presence of too numerous stable staff that are strangers to animals.

Ignor et al. [2011] and Przybyłowicz et al. [2013] reported the lowest behavior scores for horses used in leisure at leg grooming activities when the summer holiday season started. Figure 1 shows that in the present research assessing the recreational horses at holiday season, the highest decrease was observed for this score as compared to other behavior elements analyzed, it dropped by 0.9 and 0.6 points. The differences, however, were not confirmed statistically. It is actually the result quite opposite to that obtained by Przybyłowicz et al. [2013] whose studies highlighted an increase in the mean score for recreational horses behavior at the holiday period, that is from 3.67 pts during the observation I up to 4.17 pts at the holiday end. Whereas inconclusive results were presented by Ignor et al. [2011] who observed horses used recreationally in 2 different centers during holiday season. The horses from the center organizing a two-week summer camp riding displayed a slightly worse behavior at the leg grooming routine at the season onset and their behavior improved over the holiday despite the fact that they worked three times harder than horses in the other center. The horses from the other center (no riding sessions) were scored higher and horses' behavior at leg grooming did not change during that period analyzed. It is likely that this result was positively affected by the riders progress in performing a proper horse cleaning over the summer riding camp in center 1. The present authors think that the low score given for the horse behavior at the cleaning activities and worsened behavior during the holiday season was due to a lack of experience of beginner riders and their mistakes made when cleaning a horse. Leg grooming proves to be a challenge for a learner-rider and undesirable behaviors of horses exhibited at improper handling activities can quickly develop into bad habits. The mean score for behavior at grooming of all the horses observed, those for recreational use and sport horses, was 4.68 pts at the holiday season start followed by a decline to 4.16 pts in

observation III (Table 1). Although this difference was the highest among the mean scores presented in Table 1 (over 0.5 pt), it was not confirmed statistically.

Graph 1 indicates that behavior of horses used for leisure worsened markedly at saddling, too. The mean score declined by 0.5 pt during the holiday season in both, noble group and primitive horses and ponies. This result differs from that obtained by Przybyłowicz et al. [2013] who reported improvement of recreational horses' behavior from 3.92 up to 4.17 pts during the holiday period. Whereas Ignor et al. [2011] noted that horses' behavior at saddling activities did not change noticeably during the holiday season.

Wolińska et al. [2012] pointed out the most common horseback riding problems that recreational riders contend with: rushiness and bolting (35 and 25%, respectively), high head position (23%) and bucking (21%). Besides, there were also observed attempts to bite and kick other horses (15 and 13%) during horseback riding. The authors report that 30% of horses do not cause any problems to the riders. In the present studies, the behavior of recreational horses at riding under saddle was scored maximum in the noble horse group and it did not get worse markedly. While in the group of primitive horses and ponies, the worsening of behavior was noticeable over the summer season and as a result, the mean score in the last observation was lower by 0.45 pts. The studies of Przybyłowicz et al. [2013] demonstrated that the under saddle behavior was the lowest evaluated element and it did not change during the summer period.

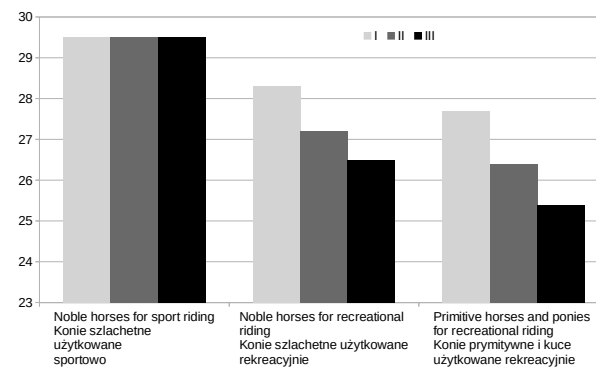


Fig. 2. Overall average rating earned for behavior of observed horse groups, points; I, II, III – for explanations see Fig. 1

Rys. 2. Łączne średnie oceny za zachowanie uzyskane przez obserwowane grupy koni, w pkt; I, II, III – objaśnienia jak w Rys. 1

The total of mean behavior scores earned by horses at particular observations and significance of differences between the scores are presented in Figure 2 and Table 2. Each horse could obtain the maximum of 30 pts for all the behavior elements analyzed. As the graph depicts, noble sporting horses were given the highest scores and their behavior did not change throughout the summer se-

ason. The horses carried permanent riders and work intensity in this season did not differ from other months. However, the responses of recreational horses was found to be significantly worse compared to sporting horses and it predominantly worsened significantly over the summer season. Both, noble horses as well as primitive and ponies used for recreation worked generally twofold longer in the season than out of it. It was also connected to a higher number of riders of varying skill levels. The primitive horses and ponies were scored significantly higher than noble horses for recreational purposes.

CONCLUSION

The observations have indicated that intensive work of horses used recreationally over the summer season is likely to worsen horse behavior at the activities related to this form of utilization. Most problems occur at leg grooming in both groups, noble horses and primitive along with ponies. The group of primitive horses and ponies showed apparent worsening of behavior at the cleaning chores and under saddle as against noble horses, while the behavior at saddling actually worsened to the same extent in both groups. Lower behavior scores obtained by primitive horses and ponies may be attributed to the fact that these horses being low in height and of calm temperament accept and carry all riders, even those most inexperienced. In order to prevent and reduce the development of equine stereotypic behaviors, especially in horses used for leisure, it is essential to provide constant control and didactic assistance of instructors or other professionals at grooming chores and saddling activities as well as regular correction of ridden horses.

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ZACHOWANIE KONI W SEZONIE WAKACYJNYM W ZALEŻNOŚCI OD SPOSOBU UŻYTKOWANIA I TYPU MORFOLOGICZNEGO

STRESZCZENIE

Celem pracy była ocena wpływu sposobu użytkowania koni szlachetnych oraz kuców i koni prymitywnych, utrzymywanych w tych samych warunkach środowiskowych, na ich zachowanie podczas różnych czynności związanych z użytkowaniem wierzchowym, w sezonie wakacyjnym. Analizie poddano zachowanie 4 koni szlachetnych użytkowanych sportowo, 6 koni szlachetnych użytkowanych rekreacyjnie oraz 9 koni prymitywnych i kuców użytkowanych rekreacyjnie. Wszystkie konie utrzymywane są w tym samym ośrodku jeździeckim. Obserwacje przeprowadzono trzykrotnie: na początku wakacji, w środku sezonu wakacyjnego oraz po wakacjach. W skali od 1 (odmowa/zachowanie negatywne, niepożądane) do 5 pkt (zachowanie całkowicie poprawne, bez zastrzeżeń) oceniano zachowanie koni podczas: zbliżania się obcego człowieka, czyszczenia, pielęgnacji kończyn, zakładania ogłowia, siodła i jazdy pod siodłem. Natężenie pracy koni użytkowanych sportowo w sezonie wakacyjnym nie odbiegało

od intensywności użytkowania poza wakacjami (średnio 1–2 h dziennie). Konie te miały swoich stałych jeźdźców. Konie użytkowane rekreacyjnie pracowały z większym natężeniem w sezonie wakacyjnym (średnio 4 h) oraz użytkowane były przez jeźdźców o różnym poziomie umiejętności. Zachowanie koni szlachetnych użytkowanych sportowo nie uległo zmianom podczas sezonu letniego. Zachowanie koni użytkowanych rekreacyjnie okazało się istotnie gorsze w odniesieniu do grupy koni użytkowanych sportowo i uległo istotnemu pogorszeniu w czasie sezonu letniego. Najwięcej problemów obserwowano podczas pielęgnacji kończyn, zarówno w grupie koni szlachetnych jak i prymitywnych i kuców. W grupie koni prymitywnych i kuców zauważono wyraźniejsze pogorszenie zachowania podczas czyszczenia i jazdy pod siodłem w porównaniu z końmi szlachetnymi, natomiast zachowanie podczas siodłania uległo pogorszeniu w tym samym stopniu w obu grupach koni. By zapobiegać i ograniczyć kształtowanie zachowań niepożądanych u koni, zwłaszcza w przypadku koni użytkowanych rekreacyjnie, konieczna jest stała kontrola i pomoc dydaktyczna instruktorów bądź innych doświadczonych osób podczas zabiegów pielęgnacyjnych i siodłania oraz regularna korekta koni pod siodłem.

Słowa kluczowe: zachowanie koni, użytkowanie wierzchowe, konie szlachetne, prymitywne, kuce