

The role of Gender for Human-Horse Domination: a mixed-method approach from Switzerland

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Abstract: Social scientists increasingly call for a more egalitarian approach to our relationships with horses. In order to explore what impact gender has on the human-horse relationship, we use the survey data of 1800 non-professional horse keepers and two sequences from in-depth interviews which are analyzed by objective hermeneutics. The qualitative analysis first illustrates possible differences in approaches to horses, treating them as active subjects or mere objects. It is then shown that responses about the role of obedience, practices of natural horsemanship methods of horse training, equestrian traditions and the link to nature differ significantly between genders. We provide evidence that women have an attitude towards horses that is more adapted towards most contemporary ethicists' demands than most attitudes by individuals read as men.



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HIGHLIGHTS

- Among horse-keepers, there is considerable disagreement to questions like the right of horses to refuse orders.
- For such and similar questions, men tend to have a rather authoritarian and traditional approach when compared to women.
- Our results show that women will have to play a central role in re-shaping human-horse relationships

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INTRODUCTION

Human relations with non-human animals may be in the process of undergoing significant changes. The consciousness that “human and non-human beings are positioned within shared ecological, social, cultural, and political spaces” (Danby et al., 2019; 291) is increasingly emergent and may impact our diet, our professional lives and leisure activities.

However, it is not necessarily a coincidence that the above quote comes from a team of three scientists who identify as female. There is a strain in the literature of human-animal studies that rather downplays differences between genders (Urbanik, 2012; Bertuzzi, 2020; Broad, 2020), but it has repeatedly been indicated that women have a different attitude towards animals than men: Dowsett et al. (2018) have shown that they reduce their sympathy for eating meat when being exposed to the link to animals, whereas the opposite effect applies to men. Mariti et al. (2018) and Martens et al. (2019) reported more empathy with animals from female respondents than from male respondents. Because of their unequal and exclusionary position in society, the status of women and animals would be considered similar by Midgley (1983), “not because their logic is necessarily similar, but because their history is”. The discovery of a shared liberation may be the result of the relationship between woman and animal, with the woman-horse bond in particular acting symbolically as a liberating and empowering force politically, socially, but also intimately for women (Savvide, 2011; Hagström, 2015).

While gender differences are rather well explored when it comes to the use of agricultural animal production and meat consumption (Sanchez-Sabate and Sabaté, 2019; Ritzel and Mann, 2021; Rosenfeld and Tomiyama, 2021), this cannot be said about the effect of gender on human-horse relations. The objective of this paper was to shed more light on the differences between men and women in their relationships with horses and how they perpetuate the domination of horses. While the overall equestrian world can be divided into four specific segments (racing and sport, leisure, work and meat; Vial, 2009), we use the realm of leisure to explore differences between men and women in dealing with horses.

For this purpose, Section 2 provides an overview of the state of knowledge about human-horse relationships with particular emphasis on gender. Section 3 then introduces a mixed-method approach, of which qualitative results are presented in Section 4 and quantitative results are presented in Section 5. Section 6 concludes.

Gender differences in human-horse relations: theoretical framework

While horses exhibit an even gender distribution, the human population involved with them is predominantly female, with approximately 80% being women (Birke, 2008; Burr, 2007; Pierson, 2000; Agroscope 2021). Despite this gender imbalance, the qualitative dimensions of human-horse interactions warrant further exploration: when spending leisure time with horses, interaction forms towards a relationship (Hausberger et al., 2008). Dashper



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(2016; 2020) emphasised that human-centric goals and priorities shape these relationships and eventually some horses and humans have a servant-master relationship. But does this apply to men more than to women?

Understanding the current dynamics also requires a look back at historical developments in different regions. Along with the loss of the horse's economic and military importance, men lost their dominance in the saddle in many regions of the world, depending on the region either in the course of the 19th or of the 20th century (Bossak-Herbst and Glowacka-Grajper, 2022). This was an important event in feminist terms (Savvide, 2011). More recently, Burr (2007) stated that women have a special affinity for horses and indicated that women are less likely to be aggressive towards these animals than men, ideas similarly expressed by Robinson (1999). Such attentiveness and understanding cannot rely solely on an emotional bond. It requires effort, courage and discipline to engage with horses. It is also not easy to go against a hierarchical approach towards animals and break through the ideology, or to recognize the endemic and extensive domination of horses in the past (Donovan and Adams, 2007). Nevertheless, despite highly developed ideas on these issues in feminist animal literature in what Latimer and Birke (2009) call Euro-American culture, its narrative related to horses scarcely provides hard evidence.

Birke and Brand (2009), for example, found different cultural narratives of human-horse relations, such as natural horsemanship, English riding and little girls and their ponies. While the latter two of them are largely self-explanatory, natural horsemanship is a philosophy of working with equids based on the animals' natural instincts and methods of communication, with the understanding that an equid does not learn through fear or pain but rather through pressure and the release of pressure (Savvides, 2012). A dissertation on human-horse relations by Chalmers (2014) was another case in point. It described the relational component in more detail in the American environment. Despite the positive attributes associated with women and horses,, the spitting, swearing cowboy is still a role model against which women have to assert themselves, indicating the dominance of horsemanship (Birke, 2007; 2008). Savvides (2011) used a feminist theory and a discursive analysis of interview material gathered from twenty-two female Australian horse owners to analyse the tension between feelings of love and familiarity, as well as conflict between humans and their horses, and demonstrated that power plays in their relationships can hinder the ability of humans and animals to get along.

Even though horse-human relationship stereotypes are gender-specific, these stereotypes can transform to the other gender. Williams (2018), for example, focused on a participant observation of cowgirls, indicating how they take up male role models. Conversely, and based on interviews with a group of young riding boys, Linghede (2019) voiced the hope that horses can contribute to transforming dominant gender discourses in their relationship with men and boys. She saw the material engagement of male persons as a unique opportunity to challenge traditional role models.

Building on these theoretical insights and cultural narratives, our empirical



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work aimed to add factual evidence to the differences between genders in their approaches to horses. Based on the evidence in the realm of other animals' relation to gender and on the narratives cited above, the following hypotheses were suggested:

Hypothesis 1: Men try more often than women to get and maintain a dominant role in their relationship with horses.

Hypothesis 2: Women are more open than men to new ethical and environmental approaches to horses.

METHODS

This research is based on a mixed-method approach using quantitative and qualitative data. To sharpen our hypotheses and formulate the most relevant questions in the survey, we started with the qualitative part, using the AGATE address database of horse holders of the Swiss Federal Administration to conduct interviews loosely prestructured by a manual. The interviews with the horse owners were carried out with one man and 11 women and transcribed. The interviews were biographically structured, but much room was given to the priorities of respondents to choose subjects relevant to them. Prior to the interview, we informed each person that they could stop the interview whenever they wished and that the information shared would be confidential and anonymous.

All interviews were coded. After coding the interviews, we applied the method of objective hermeneutics to analyze the data, a method that focuses on specific sequences from the interviews. Two sequences from two interviews were chosen for this purpose. This method does not make any standardised statements about the text in the sequences. According to its founder, Ulrich Oevermann (2004), standardisations miss the goal of research to the degree to which the object itself is not standardised. Instead, an attempt was made to explore the lowest level of the social substance. This exploration is not claimed to be representative, but the authenticity of the case to be analysed is important. Social scientists concerned with objective hermeneutics have repeatedly emphasised that, unlike in the natural sciences, a description of what is happening is not a meaningful tool (Oevermann et al., 1976; Konecny, 2008; Starck-Ottkovitz, 2016). They focus on reconstructing reality. The main instrument for collecting social realities is the records of interviews; however, artwork or pictures have also been used for the purpose of reconstruction. The records used for analysis can come from narrative or semi-structured interviews, but certainly not from standardised questionnaires.

For a possible illustration of a possible male and a possible female position towards keeping horses, we only used one sequence each for the (only) male respondent and one for the female respondents. The selected cases were similar in cultural respects in terms of age (both persons were in their 40's), origin (both were Swiss, living in the Western Swiss countryside) and riding experience (more than 10 years). While the other ten interviews were also analysed, the method's necessary focus on little material did not give the



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opportunity to include these interviews in the current paper.

Following the qualitative phase, we proceeded to the quantitative component of the study to further explore the research questions. For this purpose, the AGATE database was also used to extract 5,000 addresses of horse owners in Switzerland. This sample size was considered as a generous base to detect significant connections by testing the hypothesis, so that the entire sample was approached with a standardised questionnaire. With 1,800 returned answers, we received a fair response rate of 36%. The questionnaire comprised the characteristics of the animals, some attitudinal and behavioural variables, the costs and the demographic characteristics of the owner. The variables used to test the hypotheses are depicted in Table 1.

In the quantitative phase, we identified four dependent variables that reflect different dimensions of the human-horse relationship that the respondent preferred and stand in accordance to the hypotheses developed above. This includes the required obedience of the horse as a straightforward indicator of a hierarchical versus a cooperative human-horse relationship. Natural horsemanship is one of the alternatives to the traditional, hierarchical approach towards horses, and the attitude to this formed the second dependent variable, as it also describes openness towards new human-animal relations. The respondents' attitudes towards such a traditional role model were used as the third dependent variable. Finally, an equal relationship with the horse may be a step towards a more equal relationship with nature. Therefore, the fourth dependent variable was opinions about such a relationship. Using an ordered logit model because of the ordinal nature of the four dependent variables, we explained them using several independent variables to be described subsequently.

The respondents' genders were, of course, the focus of interest and therefore the most important independent variable. To ensure the validity of our findings regarding the dependent variables, we also included several control variables that have been shown to influence attitudes and behaviors. Education, for example, has been shown to impact egalitarian values (Lyness and Judiesch, 2013) and therefore was included. Similar effects have been found for the level of income (Kahan et al., 2009); therefore, this was also considered.

In addition, our analysis took into account the fact that the respondents' practical relationships with their horses would also shape their attitudes towards the animals. Participation in competitions is a case in point. The high pressure around horse competitions (King et al., 2021) will probably make it more difficult for riders to develop an egalitarian relationship with horses than in a leisure-based environment, so that both types of occupations of horses were used as explanatory variables. The horse's price was also included as a variable, as a high price for the horse may contribute to considering it a tool instead of a living being. In addition, frequent interactions are likely to have the opposite effect; they may make it more likely to develop a relationship at the eye level.



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Variable	Meaning	Measurement	Mean
Dependent variables			
Obedience	Answer to “Does the horse have the right to refuse your orders?”	1. Yes, mostly 2. Yes, in exceptional situations 3. No	1.9
Natural horsemanship	Answer to “What do you think of so-called natural horsemanship practices?”	1. I practice natural horsemanship and wish that it’s widespread 0. I don’t practice or know what it is and I am not interested in this method	0.5
Equestrian traditions values	Answer to “Respecting certain equestrian traditions (such as shoeing and breaking in at 3-years) is not something that is very important to you”.	1. Strongly disagree 2. Disagree 3. Neither disagree nor agree 4. Agree 5. Completely agree	3.2
Link to nature	Answer to “You find that your passion for horses fits well with your desire to care for nature and the environment”.	1. Strongly disagree 2. Disagree 3. Neither disagree nor agree 4. Agree 5. Completely agree	3.8
Independent variables			
Gender	Answer to “Your gender”.	1. Men 0. Women	0.3
Education	Answer to “What is your level of education?”	1. Obligatory school 2. Professional school 3. High school degree 4. Professional degree 5. University degree	???
Average income	Answer to “In which bracket does your household or monthly income fall (Swiss francs)?”	1. 0 to 4,500 2. 4,501 to 7,500 3. 7,501 to 10,000 4. 10,001 to 15,000 5. More than 15,000	2.1
Competition practice	Answer to “What are your main activities with your horses?”	1. Competing 0. Not competing	0.10
Hiking and walking practice	Answer to “What are your main activities with your horses?”	1. Walking and hiking 0. Not walking or hiking	0.30
Purchase price of the horse	Answer to “What was its price (Swiss francs)?”	1. 0 to 3,000 2. 3,001 to 7,000 3. 7,001 to 10,000 4. 10,001 to 15,000 5. 15,001 to 20,000 6. 20,001 to 25,000 7. more than 25,000	2.0
Frequency of visits	Answer to “How often do you visit your horse?”	1. Never 2. On weekends 3. About three times per week 4. Between three and six times a week 5. Every day	3.25

Table 1. Descriptive statistics



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RESULTS

Qualitative results

The male case study

S is a man in his sixties who has owned a horse for more than 10 years. He has a family but is currently living alone in the countryside and still works as an independent artist. We contacted him as we were looking for men to participate in the study and one of us had known him for a long time. He agreed to an interview, but only as a quick conversation online. Therefore, the interview with him was conducted online and not at his home. The following is the beginning of the interview, and the first question was the same for all participants.

I: "We would like you to introduce us in how horses came into your life?"

S: "Well, from the beginning, since I was born, I had horses in my head, OK? It has always been a passion. The only problem was that I was born so early, and at the time, it was extremely expensive to ride. My parents refused to pay for lessons. I used to go to friends' houses in Basel, and there, the garbage collection was done on horseback and a cart and I used to ride with them to be with the horses. That was my first step with horses. Then I gave up because there was no money and I played football. In fact, I started riding again the day my daughter told me, 'I want to ride'. And I said, 'Ha, if you do it, I do it too'. We started both at the same time in X's riding school. She stopped pretty quickly. She was always falling. And I kept going. At one point, I fell and crushed my sciatic nerve, which was quite problematic. However, I got back on and I don't know why, but a few years later I stopped again. I was in an environment where nobody talked about horses and everything, so I gave it up. It was when I met my second wife that I got back in the saddle. She had a horse that we shared".

The interviewer asked a question in which horses were the subject and S was the object in whose life the horses would intrude. In terms of content, S took this on by acknowledging that the horse must have entered his head at birth. Grammatically, however, S turned the interviewer's suggestion around. Now, it is he who has horses in his head. This notion was underlined by S, who defined "the beginning" as his own birth. This clarifies that S himself is the centre of his narrative. This tendency was continued in the second sentence of the answer by not naming it "my passion" but rather "a passion". S saw his own passion as omnipresent. From this emotion-based passion, however, S quickly switched to the family budget that prevented him from living his passion. In this context, it is noteworthy that S totally abstracted from the horse when he mentioned how his parents would not pay for lessons. It was only the context that revealed that horse-riding lessons were probably debated in their household.

This pattern largely continued when S began to outline how he eventually managed to get into closer contact with horses. "Going to friends' houses" usually does not contain horse riding experiences. From the context, however,



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it is fair to assume that his friends would have had access to horses, which they would also offer to S. At that stage, the narrative became somewhat more explicit when he mentioned the “horsebacks”. However, this part of the horse’s body is far from the horse as the subject. It is only from the next sentence that it becomes apparent that S may have participated in collecting trash because he wanted to be “with the horses”. This does not really turn the horse into a subject, but it was still the first time after the horses in S’s head that the animals appeared. The unqualified plural, though, was still not allowing the subjectivity of a single horse.

The reader can only guess that riding on the cart was not fulfilling in the long run and this was the reason why the absence of money led to a shift of S’s leisure time. However, the substitution of the horse through playing football once more emphasised that it was not the relational component that shaped S’s interaction with horses. S apparently focused on self-realisation by practising a hobby so that a dead football did as much this job as a living horse.

The inexistence of the horse as a subject was not due to the fact that S is too self-centred. This became clear when S’s daughter entered the stage and was not only introduced as a subject who voiced her will (even though apparently also without mentioning any particular horse or at least horses in general, but only the activity of riding), but also motivated her father to take up riding again. The notion that horses are not acting subjects was also maintained when outlining the short riding career of S’s daughter. She “fell”—this way of putting it neglected the share the horse might have had in the incident. Eventually, the father repeated the example of his daughter, even regarding the (preliminary) end of his riding. He fell and gave up. We did not hear anything about the animals involved.

Another proof of the claim that S was still dependent on other humans was the end of the sequence. The third termination of S’s riding was not fully reflected by S, but in a second attempt he found out that his environment played a crucial role; nobody talked about horses and this discouraged S. This showed as much of S’s dependence on his human environment as his fourth riding start, which was encouraged by his second wife. His attitude towards horses remained constant to the very end. S told us about getting back into the saddle, an absolute negation of the living being underneath the saddle. And again, a horse was something that people “had”, as they have a car or a fridge.

The female case study

Our female interview was with L, who identified herself as a woman living alone in the countryside of Switzerland. She has had horses since childhood, as her grandfather was a farmer and had land. She is a teacher in her forties and now has three horses. She is one of many women who answered our invitation on the social media of Swiss National Stud Farm to participate in this study. The interview was conducted at her home during the spring and lasted two hours. Afterwards, she proposed showing us the horses she lived with. There, she was asked to describe how she feels now about past experiments with horse dressage, showing the evolution from her point of view:



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I: "Okay, well, if it's a traditional riding experience like Nuno Oliveira's, how do you feel about it?"

L: "It's evolved well. It's impressive. Everything I learned in the riding school, nothing made sense, no time to work on the ground, all that, so it was my horse that taught me and brought me to other approaches to horses. I discovered another world and the more time goes by, the more I can't accept things anymore and I'm perfecting and documenting myself in more alternative approaches than the ones they teach us in the riding school. Feeling that has brought me to a more ethological approach...for 10 years anyway. With Orion, I have done some free work, I have developed and I have a lot of pleasure and less desire to compete, even if I bought it for that. It's easy, but... I don't feel like doing using approaches".

In order to interpret the second sequence appropriately, it is necessary to provide a brief reference to Nuno Oliveira. He was an influential riding teacher (Hofmeyr, 2009) who emphasised the importance of the love of the individual horse when practicing the art of riding. The interviewer's question revealed that L must have used this school of riding as a reference. In terms of content, the question may have referred to the horse as a subject. In terms of grammar, however, the interviewer did not really include the horse as a subject in the question but rather focused on L's emotional experience of riding.

The form of the question suggested an answer in the first person ("I..."). However, L steered away from this subjective perspective, judging that "it" had evolved well and was impressive. L evades any notion of subjectivity with the first two sentences of the answer. Then, she started to adopt the first-person perspective. From this perspective, she does not refer to her riding experience, but instead to her riding lessons, which must have taken place before the Nuno Oliveira-related experience. These riding lessons were apparently a particularly bad experience. However, this is not told in a fact-based manner. The notion that "nothing made sense" illustrates a general uneasiness with the setting of the riding lessons. The same applies to "all that," which did not provide reasons for the lessons' failure, but anticipated a set of general problems connected with the framework of riding lessons.

At that point, a better teacher appeared to have shown up, which was the horse itself. The structure of the sentence with its use of "it was" emphasises that the necessary knowledge did not come from any human teacher who was never mentioned in the sequence. It came from the horse, which thus turned into an active subject. It became a subject that was even able to change its approach. After this was made clear, L was ready to go back to talk about herself again. The fact that she discovered another world, however, seemed to be related to the horse's lessons, indicating the wealth of new insights provided by the animal.

In L's story of self-development, it was left open to what extent the development she described could still be attributed to the horse's lessons and to what extent she was now learning by herself. At any rate, L draws a powerful



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counterimage to the mainstream riding lessons she had already criticised. By not only pointing to the perfecting but also to the documenting of her own alternative approach, she also emphasised the sincerity with which she pursued her path. While explaining this, her teachers become even less personal than her horse and are merely described as “they”.

Her horse, however, was now introduced as Orion, without an apparent need to explain who Orion is. Her description was one of “we”, even though she spoke a lot about herself and the pleasure she derived from this relationship. It turns out that there was a change of plan: she bought a horse to take part in competitions, which she did not do now. It is likely from L’s answer that it was Orion, the horse, who taught her that this change of plan was due. If this was the case, L internalised the hint because it led to “less desire” to compete.

The end of the sequence was not entirely in the logical flow of her narrative; grammatically, the subject (what is easy?) is not entirely clear. It is likely, however, that L here described the overall approach of being guided by her horse, compared this to alternative ways of dealing with horses and preferred the choice she had made.

Qualitative findings

It is never possible to verify hypotheses by the qualitative results, but it is possible to illustrate how different approaches to horses can be. However, the fact that it was a man who displayed a view of his horse rather as an object, and the fact that it was a woman who considered her horse certainly as a subject, should not be overinterpreted. The heterogeneity within genders is, of course, tremendous (see, for example, Kyeyune and Goldey, 1999), and personal factors like age often play a larger role than gender (McLennan, 2006). It is therefore likely that similar cases could have been found also at the opposite gender. It needed the qualitative part of the study to fully understand in which different ways horses can be perceived. It will need a quantitative part to examine whether there are systematic differences between sexes.

Quantitative results

A first glance at the responses to the four questions treated as dependent variable in Table 1 displays a nuanced image of public perceptions. In the case of obedience and natural horsemanship, the average respondent is rather undecided, as also illustrated by Figure 1. However, most respondents have a relaxed relation to equestrian traditions and consider the relationship to their horse as part of their relation to the environment.

The ordered logit analysis explained four variables describing the respondents’ relation to horses with gender and a set of control variables as described in the previous section. Table 2 depicts the results of the four models. It should first be noted that the gender variable has the predicted sign in all four equations: it is positive for the obedience variable, indicating that women are more willing the men to tolerate disobedience, and it is negative for the other three dependent variables, indicating that men are less open to natural horsemanship, rely more



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Independent variable: Obedience of the equid (n=1792) Does the horse have the right to refuse your orders?						
Dependant variables	Coefficient	Standard error	z	P > z	95% Confidence interval	
					Inferior	Superior
Age	0.06	0.04	1.47	0.140	0.02	0.13
Gender	0.37	0.11	3.43	0.001	0.16	0.58
Education	-0.05	0.04	-1.35	0.178	-0.13	0.02
Average income	-0.02	0.05	-0.43	0.665	-0.11	0.07
Competition practices	0.26	0.16	1.68	0.093	-0.04	0.57
Leisure practices	-0.10	0.11	-0.97	0.333	-0.31	0.10
Purchase price of the horse	0.12	0.04	3.44	0.001	0.05	0.19
Frequency of visits	0.04	0.06	0.72	0.469	-0.07	0.15
Independent variable: Ethology (n=756) What do you think of so-called natural horsemanship practices?						
Dependant variables	Coefficient	Standard error	z	P > z	95% Confidence interval	
					Inferior	Superior
Gender	-1.45	0.19	-7.71	0.000	-1.82	-1.08
Education	0.28	0.07	3.94	0.000	0.14	0.41
Average income	0.24	0.08	2.96	0.003	0.08	0.40
Competition practices	-0.93	0.27	-3.37	0.001	-1.46	-0.39
Leisure practices	0.20	0.19	1.08	0.279	-0.16	.567813
Purchase price of the horse	0.20	0.06	3.39	0.001	0.08	0.31
Frequency of visits	0.06	0.10	0.58	0.560	-0.14	0.26

Table 2. Results of the multivariate model



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on traditions and less on nature. This means that neither of the two hypotheses can be rejected: men tend to have a dominant role towards horses, whereas women are keener to incorporate novel, egalitarian approaches. This shows high significance in the four equations.

However, it is also worthwhile to examine the other influencing factors of the four independent control variables. The age of the respondents, for example, is weakly significant in one equation and strongly significant in another. Older horse-keepers emphasised the link to nature more strongly, but may have been more reluctant than young people to adapt to natural horsemanship approaches. Education, however, works in an egalitarian direction. It may be important to note that our education variable did not refer to the riding lesson towards which L seemed to have a negative attitude and which still may teach a traditional model of the human-horse relationship. Here, it is general education

Independent variable: Equestrians traditions (n=1709) Respecting certain equestrian traditions (such as shoeing and breaking in at 3-years) is not something that is very important						
Dependant variables	Coefficient	Standard error	z	P > z	95% Confidence interval	
					Inferior	Superior
Gender	-0.25	0.10	-2.54	0.011	-0.44	-0.06
Education	0.11	0.04	3.05	0.002	0.04	0.18
Average income	0.02	0.04	0.39	0.693	-0.07	0.10
Competition practices	-0.24	0.14	-1.66	0.098	-0.51	0.04
Leisure practices	0.06	0.10	0.57	0.566	-0.14	0.25
Purchase price of the horse	-0.05	0.03	-1.57	0.116	-0.11	0.01
Frequency of visits	-0.01	0.05	-0.22	0.826	-0.11	0.09
Independent variable: Link to nature (n=1747) Do you find that your passion for horses fits well with your desire to care for nature and the environment?						
Dependant variables	Coefficient	Standard error	z	P > z	95% Confidence interval	
					Inferior	Superior
Gender	-0.45	0.10	-4.46	0.000	-0.65	-0.25
Education	-0.18	0.04	-4.86	0.000	-0.25	-0.11
Average income	0.01	0.04	0.20	0.845	-0.08	0.10
Competition practices	0.12	0.15	0.79	0.429	-0.17	0.41
Leisure practices	-0.08	0.10	-0.85	0.397	-0.28	0.11
Purchase price of the horse	0.07	0.03	2.21	0.027	0.01	0.13
Frequency of visits	0.08	0.05	1.47	0.143	-0.03	0.18

Table 2. Results of the multivariate model (cont.)



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that contributes to considering the horse as a conscious subject. The exception to this rule is the role of traditions. Apparently, more information (which better educated people receive) may also induce a positive attitude of traditional and therefore old ways to perceive horses.

Income and education were often correlated (Chen et al., 2020), which also led to similar signs in the four regressions in Table 2. However, the impact of income was only significant at one stage. Better-off people are also more open to natural horsemanship methods, whereas demanding obedience, for example, is not a matter of being rich or poor. The results of using horses for competition mostly showed the same sign as gender, which showed that they followed their intended role. However, there were only two weak significant relations and one strong one. In the latter, horse owners who use their horses for competitions do not have a high opinion of natural horsemanship approaches. It is also more

than 90% likely that participants in competitions demand obedience and rely on traditions.

Not every variable could be confirmed to significantly contribute to the attitude towards horses. The frequency of visits did not have a significant effect on the four dependent variables. The intensity and the character of the human-horse relationship seem to be largely independent of each other.

CONCLUSIONS

The mixed-method approach followed in this study allowed us to first illustrate and then confirm the differences between men and women in their approach to horses. If we acknowledge the scientific consensus among ethicists and biologists that horses are sentient beings and should be treated accordingly rather than merely using them for human purposes, then most men should be able to learn from most of their female co-horse holders and develop in a more egalitarian direction.

Struggles to ensure the advancement and improvement of horses' welfare are often carried out by women who come from an equestrian leisure background because these individuals are frequently experts on issues that affect equid quality of life. Second, even within a very progressive sphere towards animal welfare, there are many differences in sensitivity, especially regarding the amount of work that horses can endure and the way they are expected to be obedient (i.e. the issues that touch on dominance). Even so, it is likely that the conflicts that develop around riding and care practices will have a gender-differentiated impact, as equestrian leisure is characterised by segregated gender roles. In education and sports, it will be crucial to demonstrate that all genders are able to develop egalitarian, empathetic and supportive approaches towards horses and that many women may already act as role models in this respect.

There are, of course, limitations of this study. Methodologically, the method of ordered logit analysis rests on the assumption that for each term included in the model, the 'slope' estimate between each pair of outcomes across two response levels are assumed to be the same regardless of which partition we consider. This has not been tested. In terms of content, our sample, albeit large, was not balanced in terms of gender which may have distorted results. It is limited to Switzerland where gendered role models may differ from other parts of the world. And with regard to human-animal studies, it would be important to know to which extent the findings in terms of gender differences can be confirmed for other species. Are there gendered differences when it comes to keeping dogs? Or even in the treatment of pigs on a farm? There is ample room to engage with future empirical studies in this field.



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STATEMENT ON ETHICAL APPROVAL

The internal ethics committee of the submitting organization has waived an external application in a decision made February 23, 2022

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