

Conditionality in the Equestrian World: A Preliminary Approach

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Abstract

The theory of conditionality originates from the field of social thinking, specifically from the study of normative aspects that are considered conditional. It examines legitimate transgressions and has numerous applications, particularly in road safety. The originality of this study lies in applying this theory to the equestrian world to highlight "normative latitudes" and the risks associated with the human-horse relationship. The main tool used was a Conditional Scripts Questionnaire (CSQ), based on scenarios and situations adapted to the equestrian world. This tool consisted of 7 scenarios: riding helmet, protective vest, riding boots, riding pants, snaffle bridle, protective horse boots, and safety rules. In each scenario, several conditional situations were evaluated, such as "The equine partner belongs to a riding club." A link to an online questionnaire was completed by 46 riders recruited using the snowball sampling technique. The results of the CSQ, analyzed through chi-square testing and quartile analysis, revealed a significant difference in the ordinal distribution of the seven scenarios when considered collectively. The scenario with the lowest conditionality was wearing riding pants, while the scenario with the highest conditionality was the use of a protective vest. Although each scenario varied in its level of conditionality, the degree of intra-scenario conditionality remained consistent across all situations. Additional measures related to risk perception suggested that certain contexts, such as riding one's horse, tended to increase conditionality.

Keywords

Equine psychology; human-horse relationship; animal welfare; theory of conditionality; Conditional Scripts Questionnaire; safety prevention

1. Introduction

The theory of conditionality, developed from fundamental and applied research on the peripheral aspects of social representations [1], aims to demonstrate that any system of rules is negotiable. It shows that the social rule reflecting actual practices can be more or less distant from the legal rule. The more the legal rule is subject to debate, the more conditionality is observed. This theory, used to explain the risks involved in mobility, particularly in driving behavior, refers to "calculated risk-taking" [2].

The particularity of the equestrian world relates to issues concerning safety and health for both the rider and the horse. As in driving, the equestrian world faces numerous injuries and fatalities [3]. According to the Brain Injury Association of Missouri [4], horseback riding is a more dangerous activity than skiing and motorcycling. In 2023, 74.83% of horse-related deaths were caused by head and neck injuries, and the main causes of riding injuries (83.4%) were falls from the horse. Research indicates that the well-being of horses and human safety are interconnected [5]. Horses are managed by humans and are sensitive to human behavior [6,7].

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These elements lead us to question the issue of conditionality concerning the practice of horseback riding, given that the uniqueness of this activity lies in the relationship between humans and horses.

2. Theoretical Framework

The theory of conditionality falls under the field of social representations [8–14]. Research initiated on normative aspects within the field of social thinking [15] led to the development of the theory of conditionality [2], particularly in its application to road safety. This theory advocates for the role of normative latitudes within the system and the existence of shared conditionality [2,16].

A good illustration of this theory can be found in the field of road safety. To study these legitimate transgressions, the Conditional Scripts Questionnaire (CSQ) was developed [16], working from the concept of "script" [17], based on scenarios (for example, speed limits or red lights) and circumstantial situations that can justify transgressions (for example, not respecting the speed limit when going to work). These studies revealed the existence of two normative systems: the system of social norms and the system of legal norms (the Highway Code). While the speed limit appears to be the most conditional scenario, with a significant gap between the two systems, at the other extreme, wearing a seatbelt is the least conditional. In this case: "The fact that the drivers find no circumstance to justify not wearing the seat belt (in the front) attests to the integration of a formal rule in the representation" [2].

As conditionality defines legitimate transgressions within representations, it could quite easily be compared to "calculated risk-taking." The objective of revealing conditionality is not to identify groups who commit violations, as the author wrote: "The aim of the research described in this paper is not to identify the groups which commit violations nor the types of drivers who are potentially dangerous, but to study the representation of driving using a normative approach" [16].

Conditionality has also been studied with pedestrians [18] and motorcyclists [19,20]. Additionally, conditionality has been examined alongside other theoretical frameworks, such as the locus of control [21] and decision-making theory [22]. While most research based on the theory of conditionality and the Conditional Scripts Questionnaire has been conducted in the field of road safety, other areas, such as agriculture [23] or tanning behavior in China [24], have also been explored.

The human-horse relationship has a long history and spans across the ages. There is a connection between these two entities that encompasses both respect and trust [25]. Over the years, this relationship has evolved, from one of predation to one of collaboration (war, farming, etc.), and later to one of artistic and sporting pursuits (leisure, artistic performances, circuses, equestrian competitions, etc.) [26]. As it is written: "...horses became progressively important 'tools' for transportation and, like other domestic animals, they are currently more and more used as companion animals [27,28]." Horses are social beings, capable of sensing

human emotions [7,29]. It is important to foster a positive relationship with horses, as understanding these aspects can help improve their well-being [30]. Several factors, such as diet, stables, social contact, and training methods, must be considered in the human-horse relationship. The term "relationship" refers to a series of interactions with a particular partner, for whom we develop expectations for future interactions, whether positive or negative. Therefore, it is essential to balance "negative" interactions to minimize their impact on the relationship with the horse. As a result, the risk of accidents can be reduced by increasing the number of interactions with one's equine partner, and establishing a relationship of trust is essential [31,32]. Additionally, many studies have shown that interactions with horses have a positive effect on humans' emotional and physical well-being [33,34]. The relationship established between humans and horses can facilitate the expression of emotions, motivate people to change, and foster bonds [35]. Equipment is also important to maintain contact with the animal or to protect against injury (e.g., snaffle bridle, protective horse boots).

Horseback riding is considered a dangerous activity (listed among the top 10 most dangerous sports) due to the potential consequences and injuries that can result from a fall [36,37]. When it comes to human-horse relationships, accidents and incidents involving horses affect both professionals and non-professionals alike [28]. Some studies have indicated that accidents, especially those involving kicks, are more related to the frequency and intensity of interactions with horses rather than the level of skill. For example, the authors wrote: "risk of serious injury appears to be a function of cumulative exposure to horses, not level of expertise. Experience is not protective; helmets are" [38]. In the same vein, it has been suggested that the risk of serious injury depends more on how often someone is around horses than on how experienced the rider is [39].

The present study distinguishes between short interactions, whether with a familiar or unfamiliar horse (e.g., a veterinarian), and long-term relationships (e.g., an owner). This study aims to analyze equestrian conditionality to better understand and prevent risks, as well as to improve equine welfare.

General Hypothesis 1 - The use of safety equipment in horseback riding depends on the circumstances.

- H1 - Wearing a riding helmet is conditional.
- H2 - Wearing a safety vest is conditional.

General Hypothesis 2 - The use of equipment to improve comfort (for the rider or the horse) when riding depends on the circumstances.

- H3 - Wearing riding boots is conditional.
- H4 - Wearing riding pants is conditional.
- H5 - Using a snaffle bridle is conditional.
- H6 - Using protective horse boots is conditional.

General Hypothesis 3 - The regard for safety rules when riding depends on the circumstances.

- H7 - Compliance with safety rules when riding is conditional.

3. Methods

3.1. Ethical Statement

In accordance with French regulations, this online survey study involved no physical or psychological intervention and posed minimal risk to participants. Participants were informed of the study's aims, guaranteed confidentiality and anonymity, and provided free and informed consent prior to participation. Given the non-interventional nature of the study and the absence of personally identifiable data, formal approval by a Comité de Protection des Personnes (CPP) was not sought.

3.2. Sample

The recruitment technique of "snowball sampling" was used; in this method, research participants were asked to help identify other potential participants. This approach facilitates access to a hard-to-reach population. For this preliminary study on conditionality in the equestrian world, the inclusion criterion was that participants must practice horseback riding. A link to the online questionnaire (Google Form) was initially created and sent to relevant respondents. The resulting sample consisted of 46 riders: 39 women (84.8%) and 7 men (15.2%).

3.3. Questionnaire

The questionnaire included a section for gathering sociodemographic characteristics, questions on perceived risks associated with horseback riding, and the Conditional Scripts Questionnaire (CSQ) adapted to the equestrian context (see **Supplementary Materials** for the full French and English versions of the questionnaire).

Following its initial design [16], the CSQ adapted to the equestrian world is based on several scenarios and situations. The number of scenarios and situations is not methodologically constrained; however, the formulation of the items is. In the initial study [16], there were 8 scenarios encompassing 127 situations.

In this study, we included seven scenarios covering 90 situations. The conditional situations originated from two sources: (1) a phone interview conducted with an equestrian instructor, and (2) informal exchanges with riders at a riding club to better understand the context. Additional situations were adapted from the initial study on road risks (e.g., being with friends, knowing the route, or riding in good weather conditions).

The first six scenarios assessed conditionality regarding the use of equipment (for safety and comfort): riding helmet, safety (or protective) vest, riding boots, riding pants, snaffle bridle, and protective horse boots (or leg gear).

The same 14 situations were applied to these six scenarios (see **Supplementary Materials**, Appendix 1). For example, in the helmet scenario, one proposed situation was: "You sometimes ride a horse without wearing a riding helmet if you go for a short ride..."

These were assessed using a Likert-type ordinal scale with six levels, ranging from absolute compliance (absolutely never) to absolute transgression (absolutely all the time), with four intermediate levels.

The seventh scenario assessed conditionality regarding safety rules (e.g., not standing behind a horse). This last scenario is based on six situations following the same principle (e.g., "you sometimes do not respect safety rules if you trust your equine partner..."; see **Supplementary Materials**, Appendix 2).

3.4. Analysis Strategies

Following the initial method [16], and given that the distributions are ordinal, contingency tables were constructed, first including all scenarios and the six response categories, and then scenario-by-scenario tables. A Monte Carlo chi-square test (χ^2 test with a Type I error rate of 0.05) was performed, followed by quartile analysis.

Quartile analysis involves dividing the population into four equal parts. As in all conditionality studies, the focus was on the third quartile (Q_3 or $q_{0.75}$) of the ordinal distribution, where approximately 75% of the data points lie below Q_3 and about 25% above it. As explained [16], a higher third quartile indicates a more conditional situation, reflecting a greater deviation from the virtuous position of rule adherence. Since 1 corresponds to absolute respect and 6 to absolute transgression, a third quartile close to 1 indicates a low level of conditionality. In the initial study [16], the scenario involving wearing a seatbelt in the front of the vehicle was the only one for which respondents reported absolute compliance with the rule ($q_{0.75} = 1$).

4. Results

4.1. Sociodemographic Characteristics

The average age of the respondents was 28.8 years ($SD = 7.04$). All respondents were horseback riders. In this study, 31 participants were experienced riders, representing 67.4% of the sample. Thirteen participants (28.2%) were at a confirmed level, and two participants (4.3%) were at an intermediate level¹. The majority of riders owned their own horse (see **Supplementary Materials**, Appendix 3 for details).

¹Experienced riders have the level "Gallop 5 and above," confirmed riders have the level "Gallop 3 and 4." https://www.ffe.com/system/files/cavalier/documents/pdf/PROGRAMME_OFFICIEL_GALOPS_EQUITATION_TRAVAIL_1a7.pdf

4.2. Perception of Risks When Horseback Riding

The questions designed to assess the perception of risks when horseback riding revealed responses that were divided between awareness of the risks and less easily controlled factors related to the horse (Table 1).

4.3. The Conditional Scripts Questionnaire

The questionnaire demonstrated a good level of internal consistency [40]; Cronbach's alpha values ranged from 0.83 (safety rules scenario) to 0.98 (protective vest, riding boots, snaffle bridle, and horse boots scenarios) (Table 2).

4.3.1. Calculation Including All Scenarios

The ordinal distributions of the seven scenarios were significantly different from each other, with a Type I error risk of 0.05 ($\chi^2 = 1,720.572$; $p < 0.0001$).

4.3.2. Scenario-by-Scenario Analysis

The scenario-by-scenario analysis did not show significant differences according to the chi-squared test between circumstantial situations and the six response categories.

The least conditional scenario was wearing riding pants, and the most conditional scenario was wearing a protective vest (Table 3).

4.3.2.1. Conditionality of Wearing a Riding Helmet

The ordinal distributions of the fourteen circumstantial situations were not significantly different from each other ($\chi^2 = 75.762$; $p = 0.710$). In this scenario, the q0.75 values ranged from 1 to 3. Most situations had a q0.75 of 1, indicating low conditionality; this was the case for 10 out of 14 situations. The situation with the highest conditionality was "taking your horse from the stable to the arena" (q0.75 = 3). Good weather conditions, familiarity with the route, and going out with one's own horse accounted for slightly more conditionality (in these three cases, q0.75 = 2).

4.3.2.2. Conditionality of Wearing a Protective Vest

The ordinal distributions of the fourteen circumstantial situations were not significantly different from each other ($\chi^2 = 32.762$; $p = 1.000$). This scenario was highly conditional, unlike the previous one, since all 14 situations had a q0.75 of 6. This indicated that this scenario represented an absolute transgression of the rule.

4.3.2.3. Conditionality of Wearing Riding Boots

The ordinal distributions of the fourteen circumstantial situations were not significantly different from each other ($\chi^2 = 41.064$; $p = 1.000$). In this scenario, the q0.75 values ranged from 2 to 4. Within a club riding context, riding a horse that did not belong to the rider ("the equine partner belongs to a riding club" or "the equine partner has been

loaned") and experiencing unfavorable weather conditions generated less conditionality (q0.75 = 2). Conversely, going for a short ride resulted in higher conditionality (q0.75 = 4). The other nine situations had a q0.75 of 3.

4.3.2.4. Conditionality of Wearing Riding Pants

The ordinal distributions of the fourteen circumstantial situations were not significantly different from each other ($\chi^2 = 41.662$; $p = 1.000$). In this scenario, the q0.75 values ranged from 1 to 3. This scenario was the weakest in terms of conditionality, as indicated by the number of situations in which the q0.75 was equal to 1 (N = 11). As in the previous scenarios, the most conditional situation was "going for a short ride" (q0.75 = 3). Taking your horse from the stable to the arena, or favorable weather conditions, accounted for slightly more conditionality (q0.75 = 2).

4.3.2.5. Conditionality of Using a Snaffle Bridle

The ordinal distributions of the fourteen circumstantial situations were not significantly different from each other ($\chi^2 = 31.446$; $p = 1.000$). In this scenario, the q0.75 values ranged from 2 to 3. Similar to scenario 4 (wearing riding boots), riding in a club context, where the rider does not ride their own horse, and adverse weather conditions resulted in lower conditionality (q0.75 = 2). Other situations also exhibited reduced conditionality, such as being in the company of friends, having the route be known to the horse, going for a horseback ride, and riding on a trail in good condition (eight situations).

Six situations led to higher conditionality (q0.75 = 3): taking the horse from the stable to arena, going for a short ride, being the horse owner, practicing, the rider having previous knowledge of the route, and favorable weather conditions.

4.3.2.6. Conditionality of Using Protective Horse Boots

The ordinal distributions of the fourteen circumstantial situations were not significantly different from each other ($\chi^2 = 33.302$; $p = 1.000$). In this scenario, the q0.75 values ranged from 4 (for 5 situations) to 5 (for 9 situations); therefore, it can be stated that this scenario demonstrated greater conditionality than the previous ones. Lower conditionality was observed when riding in a club context (regardless of whether the rider was the owner or not) and during practice.

4.3.2.7. Conditionality of Compliance With Safety Rules

The ordinal distributions of the six circumstantial situations were not significantly different from each other ($\chi^2 = 41.870$; $p = 0.231$). In this scenario, the q0.75 values ranged from 2 to 4. The most conditional situation was trusting one's equine partner (q0.75 = 4). The least conditional situations were those related to forgetting or not knowing the rules.

Table 1: Perception of risks when horseback riding.

1. I believe that riding regularly reduces the risk of having an accident.				
1 (Strongly disagree)	2	3	4	5 (Strongly agree)
24% (N = 11)	17% (N = 8)	26% (N = 12)	26% (N = 12)	7% (N = 3)
2. I believe that self-confidence reduces the risk of having an accident.				
9% (N = 4)	11% (N = 5)	17% (N = 8)	46% (N = 21)	17% (N = 8)
3. I believe that trusting my equine partner reduces the risk of having an accident.				
11% (N = 5)	13% (N = 6)	33% (N = 15)	35% (N = 16)	9% (N = 4)
4. I believe I would take fewer risks when horseback riding if...				
Statement	Strongly disagree	Disagree	Agree	Strongly agree
...my equine partner belonged to me.	6 (13%)	16 (35%)	18 (39%)	6 (13%)
...my equine partner belonged to a riding club.	10 (22%)	20 (43%)	15 (33%)	1 (2%)
...my equine partner was loaned to me.	18 (39%)	22 (48%)	4 (9%)	2 (4%)
5. As a rider, do you consider horseback riding to be a dangerous sport?				
Yes = 82.6% (N = 38)		No = 17.4% (N = 8)		
6. In your opinion, what are the potential risks associated with horseback riding?				
Risk factors		Percentage		Number
Falls from horseback		80.4%		N = 37
The horse's behavior (biting, trampling, fear, hoof kicking, unpredictability, etc.)		30.4%		N = 14
Consequences of equestrian risks (minor injuries, serious injuries, quadriplegia, and death)		23.9%		N = 11
The rider's behavior (lack of control, mistreatment, non-compliance with safety rules)		13%		N = 6
Environmental risks (trail conditions, weather, third parties, vehicles, etc.)		8.7%		N = 4
7. In your opinion, what are the most effective ways of reducing the risks associated with horseback riding? (Multiple answers possible)				
Experience 82.6% N = 38	Habits 23.9% N = 11	Self-confidence 21.7% N = 10	Trusting one's equine partner 58.7% N = 27	
Equipment 67.4% N = 31	Training and supervision 76.1% N = 35	Environment 65.2% N = 30	Other 10.9% N = 5	
(See Supplementary Materials , Appendix 4)				

5. Discussion

In this study, for the first time, the concept of conditionality was adapted to the equestrian world, which faces numerous injuries and fatalities [3]. Thus, the theory of conditionality was applied to the man-horse relationship, involving two entities to be protected. Horses are not passive recipients (like vehicles); they are social beings capable of feeling human emotions [7,29]. Several hypotheses were proposed regarding the conditionality of wearing equipment (for safety and comfort; H1 to H6) and the conditionality of compliance with safety rules (H7). In line with these hypotheses, the

results from the CSQ applied to the equestrian world demonstrated that all scenarios were conditional. The concept of conditionality [14,41] links the notions of prescription and condition, enabling the development of normative flexibility. The approach of conditionality in the field of social thinking opposes an absolute conception of norms and advocates for the existence of conditional normative variations [1,2].

A significant difference was observed in the ordinal distribution when the seven scenarios were grouped

together. This confirms the existence of differences in conditionality depending on the scenario. On the other hand, the scenario-by-scenario analysis showed that there were no significant differences in the conditionality of circumstantial situations. These results can be interpreted as reflecting very homogeneous data, as 5 out of 7 scenarios had a p-value of 1. This indicates that intra-scenario conditionality is consistent across all situations, which are more or less conditional.

Among the seven scenarios, wearing an equestrian helmet was one of the two scenarios with the lowest conditionality. However, it does not guarantee absolute compliance with the rule, as is the case for wearing a seatbelt in the front seat of a car [16]. Therefore, Hypothesis 1 was validated. It should be noted that wearing an equestrian helmet is highly recommended but not mandatory, except for minors. The main situations justifying not wearing a helmet were: good weather conditions, prior knowledge of the route, being the horse's owner, and transporting the horse from the stable to the arena. As can be seen, riders expose themselves to risks, since head injuries are responsible for horse-related fatalities [4,36,37,42,43]. In April 2023, the International Equestrian Federation established a new working group: the "FEI Helmet Working Group," with the goal of developing strategies to reduce the risk of serious head injuries.

In contrast, the scenario involving wearing a protective vest was the most conditional. The results largely support Hypothesis 2, as the third quartile was consistently at 6 across all situations. In this scenario, we observed an absolute transgression, which has never been seen within the context of conditionality, unlike the absolute compliance observed with wearing a seat belt in the front seat of a car [16]. Such vests protect the rider's chest by softening and absorbing the impact in the event of a blow or a fall from horseback. A protective shell encases the wearer's body, offering good protection for the back, spine, ribcage, and abdominal organs. Despite these benefits, riders claimed to be aware of the risks involved in horseback riding, with 82.6% stating that riding was a dangerous sport and 67.4% believing that equipment helps reduce these risks. Wearing a safety vest did not appear to be a practice among the riders in this sample, even though it can enhance their safety [44]. This result may also be attributed to the fact that this vest was originally designed for the cross-country phase of the eventing competition [45].

Table 2: The number of situations in each scenario and the internal consistency index.

Scenario	Number of situations	Cronbach's alpha
Riding helmet	14	0.95
Protective vest	14	0.98
Riding boots	14	0.98
Riding pants	14	0.97
Snaffle bridle	14	0.98
Protective horse boots (or leg gear)	14	0.98
Safety rules	6	0.83

Table 3: Scenarios ordered by increasing quartile q0.75 (from least to most conditional).

Scenario	q0.75
Riding pants	1.286
Riding helmet	1.357
Snaffle bridle	2.429
Riding boots	2.786
Safety rules	2.833
Protective horse boots (or leg gear)	4.643
Protective vest	6.000

Hypothesis 3 addressed the conditionality of wearing equestrian riding boots. Although today it is common for riders to wear mini-chaps and ankle boots, wearing riding boots remains essential for maximum protection of the rider's legs and the comfort of the animal. They reduce constant friction against the saddle, prevent stirrup straps from pinching, and provide proper leg stability. It is important to note that wearing riding boots is primarily a matter of comfort. The results confirmed our hypothesis. The most common reason for not wearing riding boots was going for a short ride. Conversely, the least conditional situation was when the horse belonged to a riding club.

The conditionality of wearing riding pants was also verified (Hypothesis 4), but it was not assumed that the conditionality would be weakest in this scenario. Riding pants are a necessary piece of clothing for riding, as they make it easier to sit comfortably in the saddle and reduce discomfort (e.g., chafing, rubbing, etc.). However, it can be noted that some beginners are rather reluctant to invest in riding pants, preferring to ride in leggings or jeans. Eleven out of the fourteen situations had a q0.75 of 1, which corresponds to absolute compliance with the rule (i.e., the riders questioned are not beginners). In this scenario, the situations that most accounted for not wearing riding pants were: taking the horse from the stable to the arena, going for a short ride, and good weather conditions.

The hypotheses related to the horse's equipment were also verified (Hypothesis 5 and Hypothesis 6). A snaffle bridle is a harness designed for horses that secures the bit and reins, allowing the rider to maintain contact with the horse's mouth. This enables the rider to regulate the horse's gait and direction. The situations in which a snaffle bridle was most often not used were: when taking the horse from the stable to the arena, going for a short ride, owning the horse, and during practice. The situations least conducive to transgressions were when riding in a pony club with a horse that did not belong to the rider, and when in the company of friends.

The use of protective horse boots is primarily a measure to safeguard the horse's legs during various sporting disciplines, but also to protect the horse from itself, as it is not uncommon for horses to injure their own limbs. This situation was highly conditional, and the main reasons for not using protective horse boots were: going for a short ride;

the trail being in good condition; and the horse and rider being familiar with the trail.

Protective vests, helmets, and riding boots help reduce the risk of serious injuries and offer essential safety. For the horse, well-fitted bridles, saddles, and protective leg gear prevent injuries and discomfort². In this study, the use of equipment appeared to be conditional, for example, when the rider rode their own horse. Whether the rider is the owner or not, the horse must be protected. A study showed the associations between horse behavior and the equipment used [46]. A key aspect of equine rehabilitation therapy is ensuring the comfort and well-being of the horse. During the rehabilitation phase, the right boots can significantly reduce the stress and discomfort experienced by horses³.

The conditionality observed in most situations is similar to that found in driving situations, while the interaction in the present study is based on the man-horse relationship rather than the man-vehicle relationship. Indeed, road conditionality also depends on weather conditions, route familiarity, road quality, the length of the journey, the presence of friends, the vehicle driven (for scenarios 1 to 6), or even the perception of the rules as unnecessary (scenario 7) [16,19].

Overall, our findings indicate that riding with one's own horse generates more conditionality, while riding with a horse belonging to a riding club generates less conditionality. The interpretation of these results is twofold. First, in a riding club context, certain rules become mandatory. Second, riders are more confident when riding their own horse, allowing them to take more "normative latitudes" [2,16]. This is a typical case of risk homeostasis [47]. According to the Risk Homeostasis Theory, if an individual perceives the level of risk as relatively low, they may modify their behavior and increase their exposure to risk. Conversely, if they perceive a higher level of risk, they may become more cautious. The importance of confidence perceived in the animal illustrates the indelible rider/horse bond that has strengthened over time [26]. Whether or not the horse belongs to the rider, certain measures, such as those promoting the well-being of the animal (e.g., equipment to improve comfort), should be widely adopted. If horses contribute to human mental health [33–35], then humans must also contribute to animal welfare.

The animal is not a passive recipient, and it is essential for those engaging in activities with horses (companionship, sport, etc.) to consider the tactics used to "create a positive experience for the horse" [30]. Since they are managed and trained by humans, horses are sensitive to human behavior [6]. The well-being and abilities of the horse, as well as the safety of people, can be impacted by stressful situations that generate emotional overexcitement [48]. Additionally, links have been established between horse welfare and rider satisfaction [49]. Another parallel can be drawn regarding

horse transport, as the stress experienced by humans during transportation [50] is also experienced by horses [51]. Just as the analysis of the road context must incorporate various variables (human, vehicle, and environment), the equestrian context requires a systemic approach. A study has looked into the application of the Workplace Health and Safety Framework (WHS) in work and non-work equestrian environments [3]. The analysis considers the various dimensions of risk during human-horse interactions. According to the findings, this framework can help reduce horse-related human injuries and deaths by fostering a proactive culture of equine safety. Another study identifies four aspects of horse-related risk: the risk itself, the horse, the rider, and the cultural context in which equestrian activities occur [52].

This preliminary approach to conditionality in the equestrian environment provides insights into what riders consider legitimate to transgress regarding comfort and safety rules. The Conditional Scripts Questionnaire, through its contextualization design, allows for the highlighting of these legitimate transgressions within the representation. An advantage of this questionnaire is that it was designed to circumvent the issue of social desirability [2,16], a key concern in surveys. For example, when examining perceptions of horse welfare, a gap has been identified between riders' public statements and private beliefs [53].

6. Limitations

Nevertheless, this study has certain limitations, particularly regarding the population and its relationship with practices. The question of practices within the field of social representations is crucial: "Practices are necessarily linked to social representations, which defined as guides for action or 'representational actions' [1]." Several studies on conditionality are based on small samples, and in the field of social thinking, the criterion of representativeness is generally not considered relevant [16,21,23], once a criterion of population homogeneity is established, specifically, the practice of horseback riding in our case. However, in this study, the only inclusion criterion was the practice of horseback riding. Nevertheless, this practice can vary significantly, especially if the respondents are involved in competitions, for example. It is evident that these situations could be further explored in this context.

For instance, considering the example of wearing protective vests which, in our sample, indicates an absolute transgression, a cross-country situation among practitioners might lead to adherence to the rule. Similarly, in the road sector, we know that conditionality is influenced by sociodemographic variables such as age and gender, and these variables are systematically taken into account. Most respondents in our study are experienced riders. Young people tend to be more conditional than older motorists or motorcyclists, but very young drivers on probationary licenses may be less conditional than young drivers overall [19,21].

In the equestrian field, some studies have explored the links between novice riders and accidents. It has been shown that novice riders are much more likely to get injured than more experienced riders. They are three times more likely than

²<https://www.huntleyequestrian.com/blogs/press/how-to-choose-the-perfect-equestrian-gear-for-comfort-and-safety#:~:text=Protective%20vests%2C%20helmets%20and%20sturdy,move%20freely%20and%20perform%20optimally>

³<https://sbleathers.co.uk/the-role-of-riding-boots-in-equine-rehabilitation-therapy/>

intermediate riders, five times more than advanced riders, and nearly eight times more than professional riders [54]. In this study, the majority of respondents are women, who tend to have a different relationship with risk compared to men [55], and are generally more empathetic in their interactions with others [18]. As studies on conditionality suggest, one might expect a predominantly male sample to exhibit higher levels of conditionality [20,21]; therefore, it would be relevant to verify this hypothesis. In a study [56], men were 2.2 times more likely than women to be included in the fatal sample.

Finally, it seems relevant, as is common in the field of driving, to record experiences of injuries and accidents that could influence the conditionality and context of the practices of the riders in question.

7. Conclusion

Following these results, to prevent risks and improve equine welfare, we can focus on false beliefs, risk perception, and cognitive dissonance mechanisms [47,57]. Regarding the first point, riders believe that there are fewer risks when they practice with their own horse, take a short journey, or when the weather is good. These false beliefs are also observed in road safety, where, for example, more accidents occur during good weather, on straight roads, on familiar routes, and when seat belts must be worn even on short trips. Horses, whether they belong to us or not, have feelings.

Concerning the second point, riders state that they are aware of the risks and that equipment can help mitigate those risks, but their use is often conditional. With horse welfare as a priority, riders need to be more aware that their beliefs and practices do not always align with the animal's well-being. Just as riders are weakly conditional regarding their own comfort (for example, wearing riding pants), they should also be attentive to the comfort of the animal (such as using protective horse boots).

Supplementary Materials

The Supplementary Materials include the full French and English versions of the questionnaire used in the study, as well as four appendices providing additional data. Appendix 1 and Appendix 2 present the conditional scenarios and situations explored in the questionnaire. Appendix 3 details the sociodemographic characteristics of the respondents and their equine partners. Appendix 4 includes participants' open-ended responses regarding effective strategies for reducing horseback riding risks.

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Authors' Contributions

SG: Conceptualization, Formal analysis, Validation, Writing – Original draft, Writing – Review & Editing. FB: Conceptualization, Exploratory interviews and questionnaire administration, Writing – Original draft.

Data Availability

All data supporting the findings of this study are available within the article and its **Supplementary Materials**.

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Conflicts of Interest

The authors declare that they have no conflicts of interest.

Ethical Approval

In accordance with French regulations, this online survey study involved no physical or psychological intervention and posed minimal risk to participants. Participants were informed of the study's aims, guaranteed confidentiality and anonymity, and provided free and informed consent prior to participation. Given the non-interventional nature of the study and the absence of personally identifiable data, formal approval by a Comité de Protection des Personnes (CPP) was not sought.

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