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What Matters Most: The Horse's Experience of the Experience

Short Summary

This paper describes the development of a welfare-centred, species-appropriate handling model through three case studies. By emphasising low-stress, trust-based interactions, the model aligns with current high welfare standards, prioritising individualised care and highlighting the reciprocal, relationship-building aspect of the human-horse dynamic to enable successful interactions across different environments.

Summary

This paper describes the development of a welfare-centred, species-appropriate model for human-horse interactions across diverse contexts using three case studies: a zoo-kept takhi *(Equus ferus przewalskii)*, a free-living pony on a conservation reserve, and a domestic horse (the latter two were both *Equus caballus*). These cases demonstrate innovative approaches to enriching horse welfare by prioritising each horse's individual subjective experience through low-stress, trust-based interactions.

With increasing emphasis on aligning equine welfare practices with scientific and ethical standards, the proposed model offers a flexible, context-sensitive approach that adapts to varied environments to meet these evolving expectations. Each case study focused on long-term welfare goals, including administering a microchip, carrying out hoof trimming, and introducing human proximity and touch, while minimising stress and encouraging cooperative, trust-based relationships. This approach highlights the reciprocal aspect of the human-horse relationship, illustrating how individualised care can meet the diverse needs of both horses and handlers across different settings.

The approach bridges the gap between many current practices and the higher welfare standards increasingly expected by scientific research and public opinion. By focusing on ensuring 'a good life' for horses (Farm Animal Welfare Council, 2009), this model advances a paradigm evolution by encouraging practitioners to adopt a shift in the focus of human-horse interactions which has relevance across all equid care settings (Muhammad et al., 2022).

Table 1: Definitions

Word	Definition
Welfare	The state of the animal's body and mind, and the extent to which their nature is satisfied (Fraser et al., 1997).
Well-being	Welfare covers the full spectrum from bad to good experience, whereas the focus of wellbeing is on the positive experiences of the animal's life that enables it to thrive and flourish (Yeates and Main 2008; Webster 2021; Williams 2021; Colditz 2022).
Horse-Human	Interactions initiated by the horse.
Human-Horse	Interactions initiated by the person.
Telos	Species-specific characteristics. Genetically embedded behavioural responses.

Umwelt	Unique sensory and cognitive experiences of each individual animal; their perceptual world.
Trust	An ongoing process earned through positive interactions that create a sense of safety, requiring proximity, time, and curiosity about the other, where positive experiences serve as deposits and negative experiences act as withdrawals in a relational “account".
Equid	Any member of the family Equidae including horse, zebra, donkey, and wild ass.
Holistic	The belief that an equid's well-being is interconnected, with their physical, emotional, and social aspects being understood only in relation to the whole animal.

Learning Outcomes

1. Describe a welfare centred human-horse interaction model, which we have called the Holistic Equid Learning Plan (HELP) Model, that integrates scientific principles with considered care to meet each horse’s social, emotional, and physical needs.

2. Prepare an individual equid learning plan (HELP Wheel) that considers their natural behaviours (telos) and unique sensory interpretation (umwelt).

3. Adopt an approach that aligns with high welfare standards, supporting the physiological and psychological needs for equids by addressing species-specific and individual requirements, thereby contributing to a paradigm shift in equid welfare practices.

Why are these Cases of Value?

These case studies exemplify the application of our HELP Model, demonstrating how a transition to individualised, welfare-centred horse care and training is mutually beneficial for both horse and handler. By using the case studies to refine and enhance the framework, the paper highlights its value, uniqueness, and applicability across varied contexts. The approach used in all the case studies integrated the core principles of telos (species-specific needs) alongside considering their individual umwelt (each horse’s unique worldview). Through the examination of real-world applications, it underscores the model’s ability to address both species-specific and individualised needs, showcasing its potential to advance diverse human-equid interactions by fostering approaches that prioritise and achieve positive welfare outcomes.

This focus also aligns with the One Welfare framework, which emphasises the interconnections between animal welfare, human well-being, and environmental health (Garcia Pinillos, 2018;

Lönker et al., 2020). By fostering trust and minimising stress through tailored handling methods, the approach reflects One Welfare principles that advocate for enhancing the well-being of both humans and animals within shared environments (Mellor et al., 2020).

Background and Context

Historical Context and Evolution of Welfare Concept

Historically, horse welfare has concentrated on addressing basic needs and preventing physical discomfort (Fraser, 2008). However, as both public and scientific awareness of animal sentience has developed, there is a growing need to address not only the physiological but also the psychological and social dimensions of animal welfare. The UK Animal Welfare (Sentience) Act of 2022 represents this shift, acknowledging that animals experience emotions and possess distinct personalities. This legislative development underscores the requirement for welfare approaches that extend beyond merely preventing harm, to actively fostering positive experiences (Animal Welfare [Sentience] Act, 2022).

This broader approach is exemplified by the Five Domains (5D) Model, which provides a framework for assessing animal welfare by examining factors that influence their positive and negative experiences, or affects (Mellor et al., 2020). Welfare reflects the balance of these experiences, shaped by internal states and external conditions. By understanding these influences, the 5D model guides the provision of resources and opportunities to minimise negative impacts and promote positive welfare outcomes (New Zealand Thoroughbred Racing, 2019).

Using the 5D approach, welfare is assessed across five different areas known as domains. The first three domains (1 Nutrition, 2 Physical Environment, 3 Health) are linked with survival needs and highlight essential provisions necessary to meet their basic needs for health, safety, appropriate nutrition, hydration and shelter. The fourth domain (4 Behavioural Interactions) can be influenced by a combination of external factors including responses to (4a) environmental stimuli, (4b) interactions with other non-human animals, and (4c) which highlights how interactions with humans can have a profound influence on animal welfare.

Domain 5 evaluates an animal's mental and emotional state, specifically the positive (e.g. comfort, pleasure) and negative (e.g. fear, pain) affects that arise from their experiences which are shaped by conditions in domains 1to 4. By prioritising subjective well-being through focusing on fostering positive experiences rather than merely preventing harm, it ensures animals thrive, making the model a useful tool for improving the standards of animal care in diverse contexts (Mellor et al., 2020). It is this prioritisation of the animal's subjective experience that differentiates the 5D model from welfare assessment tools that primarily focus on providing basic survival needs (Cousquer, 2023; Maurício et al., 2024; Veasey, 2017).

This paper focuses specifically on Domain 4c (interactions between horses and humans), emphasising the importance of positive, affiliative human–horse interactions that foster trust

and significantly contribute to enhancing the overall welfare of horses. This domain was the main focus of this study and was explored through investigating the role of human proximity and behaviour as a primary influence on the behavioural and affective responses of horses, underscoring the potential for such interactions to elicit welfare-enhancing positive affects. The three studies explore how tailored, low-stress handling methods can support and enrich both the welfare of horses and humans.

The Associated Risk of Working with Unhandled Equids

In a survey of UK equine veterinarians, 95% reported working with difficult horses at least once a month, and 81% had sustained at least one injury due to a horse within the past five years (Pearson et al., 2021). This risk is compounded in zoological settings and conservation grazing projects, where working with unhandled equids in environments that require precise handling practices can further threaten the safety of both handlers and the animals (Kelly et al., 2021; Veasey, 2022). Kiley-Worthington (2012) highlights how a lack of understanding of natural behaviours and inappropriate handling methods can exacerbate these risks, underscoring the necessity of cooperative, welfare-centred approaches to ensure safety for both animals and handlers. Merkies and Franzin (2021) furthermore stressed the importance of education for owners and handlers to better recognise behavioural indicators in horses.

Through the application of our HELP Model, handlers can become more attuned and responsive to these indicators, preventing potentially hazardous situations from escalating. This approach not only prioritises safety but also helps horses and handlers build a more cooperative and rewarding relationship.

Introducing the Case Studies

This paper presents three case studies that highlight the common threads, applicability, and adaptability of a welfare-focused approach to human-horse interactions, grounded in Domain 4c of the Five Domains Model. When referring to the case studies we use the word horse, but the model is equally applicable to all equids. In each case, a consistent approach was fundamental to the sessions, ensuring a shared understanding among all participants. Expectations and specific goals were clearly articulated, and progress was systematically tracked through video recordings, written records, and collaborative team discussions, emphasising the significance of small, incremental steps toward a specific goal. This structured method was instrumental in achieving the desired outcomes while maintaining alignment with shared objectives and prioritising welfare-centred practices.

The original aim was to describe the behaviour of three different horses and to identify any consistencies across the three different situations in which they were kept. It soon became apparent from watching the videos and systematically describing behaviour, that common themes were emerging. The focus of the study was subsequently revised with the aim of developing a defined model (HELP Model) and a usable tool (HELP Wheel).

Table 2. Introducing the Three Case Studies

	Oyun	Ted	Red
Setting	Wildlife Park	Conservation Reserve	Domestic
Breed	Takhi (Przewalski)	Konik	Welsh x TB
Age	2	16	8
Sex	Filly	Gelding	Gelding
Medical History	• Body condition 2/5 • No prior history of illness or injury. Front right hoof medial twist.	• Body condition 2/5 • Split Hooves	• Body condition 2/5 • Unknown history of illness or injury
Behavioural History	Unhandled by humans.	Unhandled. Anxiety and resistance to changes in environment & human handling	• Frightened of people • Would bolt or flinch if humans initiated proximity or touch
Social Situation	• Stable social group, stallion, mares & siblings • Close relationship with a mare (not her mother)	Stable social group of 10 other horses (mares & geldings)	Stable social group of 5 other geldings.
Environment	• 80 acres of highland pasture • Rocky outcrops, meadow pasture, bog & hard standing road running through the space	• 50 acres of marsh land & meadow pasture • Varied terrain, marsh in summer and frozen hill pasture in winter.	• 30 acres of hill pasture • Varied terrain rocky outcrops and boggy areas • 24/7 access to pasture & shelter.

Continued on next page...

	Oyun	Ted	Red
Management	• Mainly free-living • 1-2 hrs in enclosed pens 2-3 times/ week • Visual health checks	• Free-living • Visual health checks	• Living in a domestic herd • 24/7 access to communal barn (working space for people) • Visual health checks
Long-term goal	Micro-chipping	Hoof trimming	Human proximity & touch

Two Core Principles Embedded in the Case Studies

Telos, rooted in Aristotle's philosophy, refers to the intrinsic purpose and natural behaviours and characteristic of a species (Barnes, 1999; Rollin, 2007). This paper uses telos in relation to survival-critical affects, which primarily reflect compelling motivations that drive genetically embedded behavioural responses (Mellor et al., 2020). For horses, fulfilling their telos involves engaging in instinctive behaviours such as socialisation with conspecifics, grazing, and movement, which are essential to their physical and psychological well-being. The alignment with telos complements the 5D assessments, ensuring that welfare strategies promote a life that meets these fundamental needs.

To expand the scope of the species-specific focus of telos, we use the concept of umwelt which describes the unique sensory and cognitive experiences of each animal (Martelli and Krishnasamy, 2023; Von Uexkull, 1934). Recent work has expanded on umwelt, emphasising the fluid and dynamic nature of an animal's perceptual world as shaped by their life experiences (Bridle, 2022). By considering umwelt, welfare practices can be tailored to address each horse's specific preferences, fears, and comfort levels. Telos and umwelt underscore the importance of fostering an environment that encourages conscious decision-making and support of the horses' agency and autonomy, and acknowledging both concepts enhanced our ability to develop welfare and learning plans that addressed both the species-specific and the individual needs of each horse. Aligning interactions and interventions with the horse's natural instincts and respecting their individual needs ensured a holistic approach to their care and well-being.

Addressing Misconceptions

Recent years have seen horse welfare thrust into the public eye, with high-profile incidents drawing significant attention to welfare concerns (Williams et al., 2023). Unfortunately, this spotlight often perpetuates flawed perceptions of horse care and training. Misconceptions

about horse social behaviour persist even within experienced communities and, as Birke (2007) notes, outdated beliefs about dominance hierarchies frequently lead to inappropriate training methods and human-horse interactions, resulting in practices that may not support the horse's welfare effectively.

Additionally, many established training methods suffer from inconsistent definitions, with terms like equine ethology and ethological training applied with the idea that they are working from the horse's perspective, when in fact the opposite is true (George et al., 2024; McGreevy and McLean, 2007). In a study by Bourjade et al. (2015), horses demonstrated no consistent leader in groups, and instead appeared to rotate leaders depending on an individual horse's intrinsic motivation rather than rank. Their study reinforced the idea that the concept of leadership in horses may be both unreliable and unhelpful.

Method

Introducing and Defining the HELP Wheel

All models and tools were developed iteratively, building upon the Horse-led Approach, which had been applied informally by one of this paper's authors (Mealand) for several years as a guiding framework for interactions and decisions in horse care and interactions. Writing this paper provided a valuable opportunity to critically analyse and refine the Horse-led Approach by comparing the selected case studies. As patterns and themes emerged across the cases, the process allowed the identification and articulation of its foundational elements, culminating in the Four Pillars which serve as the core principles of the HELP Model.

These principles were then formalised into the HELP Model to address the need for a comprehensive framework for human-horse interactions that support welfare. To bridge the gap between theory and practice, the HELP Wheel was developed as a practical tool to translate the model into actionable strategies. The Wheel offers a structured yet flexible framework for decision-making and implementation, ensuring that welfare-centred practices can be applied consistently and effectively in diverse contexts.

The following Table 3 defines the Horse-led Approach, The Four Pillars, the HELP Model and the HELP Wheel.

Table 3: This Paper's Models and Tools (next page)

The iterative nature of the HELP Wheel reflects the adaptability of this approach, prioritising each horse's unique needs and subjective experiences at every stage. The term "holistic" was intentionally chosen to emphasise the whole-horse approach as being central to the model, highlighting the interconnectedness of each horse's social, emotional and physical and well-being. Similarly, "learning plan" was included to underscore the ongoing, collaborative process of supporting horses as they learn, adapt, and thrive. Together, the holistic equid learning plan serves as a map, providing clear guidance for handlers to navigate the complexities of horse welfare and training while prioritising each horse's species-specific needs and autonomy.

Table 3: This Paper's Models and Tools

Word	Definition
A Horse-led Approach	A gentle and low stress handling approach based on a philosophy that prioritises the horse's emotional state and subjective experience.
The Four Pillars	The fundamental and foundational concepts used in a horse-led approach and then formalised into the core principles of the HELP model.
Holistic Equid Learning Plan Model **HELP: Model**	The conceptual framework that emerged from the process of writing paper. A guide for welfare-centred, individualised care and handling for equids.
Holistic Equid Learning Plan Wheel **HELP: Wheel**	A tool for the practical application of the HELP model.

Key components of the method:

1. **Case Study Selection:** Three horses from different environments were selected to represent different welfare needs and to provide examples of a Horse-led Approach in action. Videos of the goals being achieved for each specific topic were also available, providing visual documentation.
2. **Stakeholder Collaboration:** Handlers, veterinarians, zookeepers and wildlife wardens worked together to understand and address each horse's needs.
3. **Data Collection:** Observations were made of regular interactions, with progress tracked through notes, discussions and videos. Data collection for two cases was facilitated by staff from the Royal Zoological Society Scotland (RZSS) and the Royal Society for the Protection of Birds (RSPB) who granted permission to use data from their Wildlife Park and reserve for this project.
4. **Session Planning:** Plans were discussed at the start of each session, considering safety, environmental factors and necessary and practical considerations.

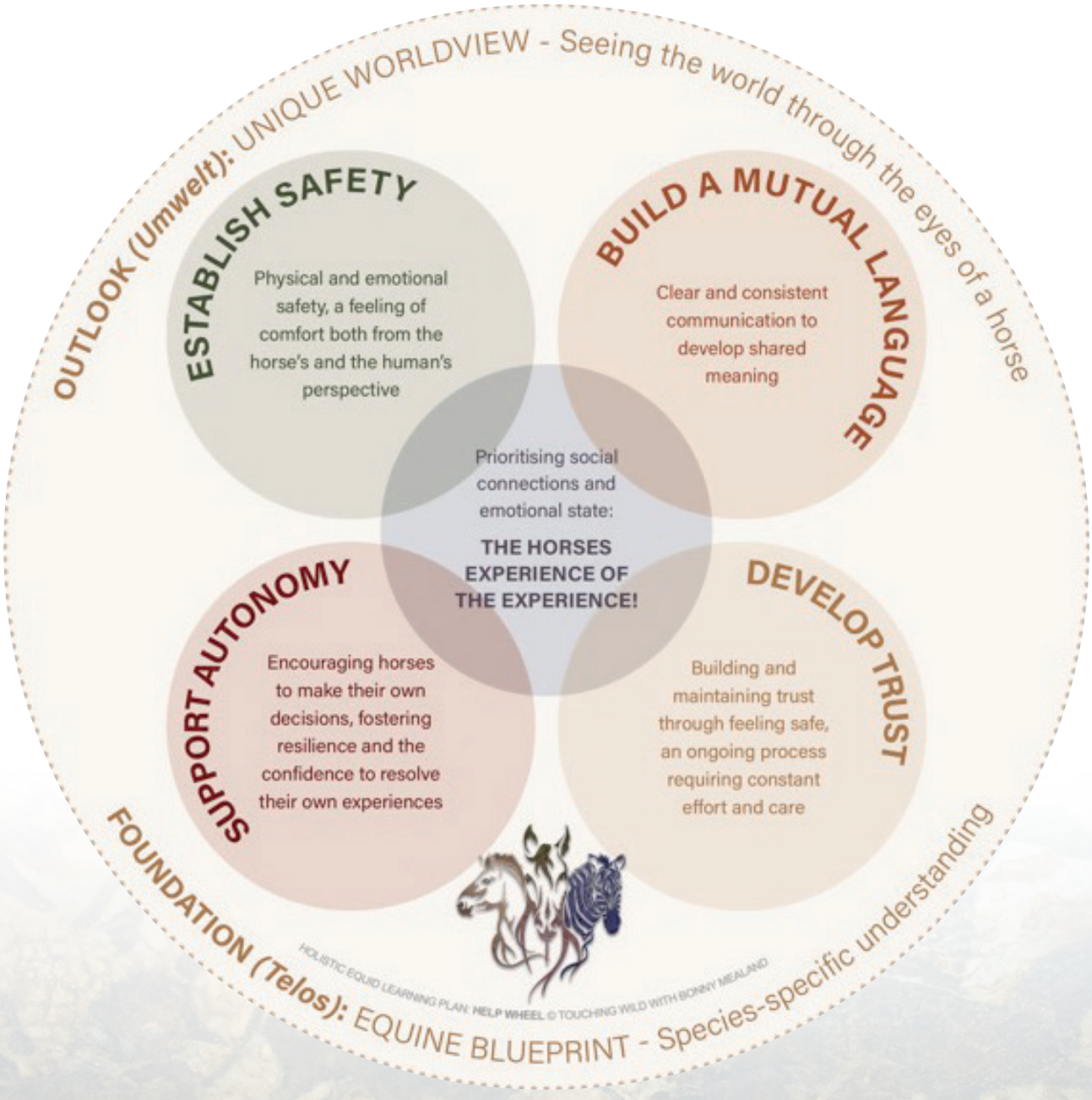
Towards a Holistic Model

There is a pressing need for a scientifically rigorous and empathetic model that genuinely reflects the horses' nature and individual needs within a structured framework. This paper aims to demonstrate a horse-centred welfare practice that promotes both compassionate

ethical handling and enhanced horse-human and human-horse experiences. The proposed model ensures low-stress environments where interventions can achieve desired outcomes with empathy, respect, and minimal distress.

The HELP Model prioritises each horse's emotional state and acknowledges that their experience of the experience, rather than achieving short-term, specific behavioural outcomes, is the primary consideration. To establish a mutual understanding with horses using a shared unspoken language, it was recognised that an approach rooted in compassion, curiosity, and care was necessary, rather than one driven by command and/or coercion (Cousquer, 2023). These qualities are represented in four pillars which are the fundamental concepts that became clear during the process of writing this paper, and which we then developed into the HELP Model (Figure 1).

Figure 1: The Four Pillars of The HELP Model



Foundation: (Telos). Equine Blueprint. Species-specific understanding. Anchored in the innate biology and natural adaptive behaviours of horses, the concept of the Equine Blueprint provides a species-specific understanding based on the compelling motivations that drive genetically embedded behavioural responses (Mellor et al., 2020; Rollin, 2007).

Pillar 1 - Establish Safety: Safety is defined as a feeling of comfort both from the horse and human perspective. This incorporates both physical and emotional safety, where extrinsic needs (environment, freedom from injury and harm, space, grazing, water, social contact) and intrinsic needs (conspecific social support, movement, freedom for individual expression without the fear of negative consequence, opportunity to resolve one's challenges) are satisfied to the best of one's ability (Carroll et al., 2022; Kahn, 1990).

Pillar 2 - Develop Trust: Trust is not something we can demand from a horse; it is earned by being someone they feel safe with. It is not a one-time achievement but an ongoing process, comparable with managing an account where positive interactions are deposits and negative ones are withdrawals (George, Holmes and Smith, 2024; Martin, 2013). Notably, trust takes proximity, time, and an open sense of curiosity about the other. Proximity is defined as the space between horses. Within one horse length (or within kicking or biting distance) is considered 'close proximity' (Kieson et al., 2023; Wolter et al., 2018).

Pillar 3 - Build a Mutual Language: Establishing clear and consistent communication is essential for effective working relationships, reducing confusion and stress, and creating the conditions for effective, mutually beneficial interactions. This process involves building understanding through careful observation, recognising each horse's communication cues, and responding consistently to both individual horses and groups. Horses primarily communicate through body language, and interpreting these cues accurately is essential. For example, a horse pawing the ground may signal frustration, anxiety, discomfort, or pain (Knapp et al., 1978). Developing a shared non-verbal language fosters mutual understanding and respect, promoting cooperation rather than control. It is important to approach communication through an evolutionary and not an anthropomorphic lens. Horses should have the freedom to withdraw from interactions when needed, and humans are encouraged to step back if they feel overwhelmed, returning only when they are in a calm, optimal state.

Pillar 4 - Support Autonomy: Encouraging horses to make their own decisions is a key factor in building resilience and trust. When horses are given the freedom to choose, they become more engaged, learn to cope with challenges, and develop problem-solving skills (Henry et al., 2017; Christensen et al., 2021). This sense of control is aimed at empowering them to feel safe with the goal of increasing their confidence, helping them become more adaptable and resilient in new or stressful situations, developing the ability to resolve their own problems.

Outlook (Umwelt) - Unique Worldview: This cultivates the ability to see the world through the eyes of a horse and encourages empathy as well as enhancing our ability to interact with them in ways that resonate with their world view. We strive to understand the horse's unique perceptual world, shaped by their sensory experiences and cognitive framework which has been shaped by their experience of life.

The implementation of the Four Pillars prioritised social connections and emotional state: the horse's experience of the experience.

Applying the HELP Model to the Three Case Studies

Implementation of the HELP Wheel

Following the development of the conceptual model we created a tool to facilitate its practical application, which we called the HELP Wheel. Figures 2,3, and 4 show how the HELP model Wheel was implemented for each of the three case studies.

Figure 2: HELP: Oyun

Figure 3: HELP: Ted

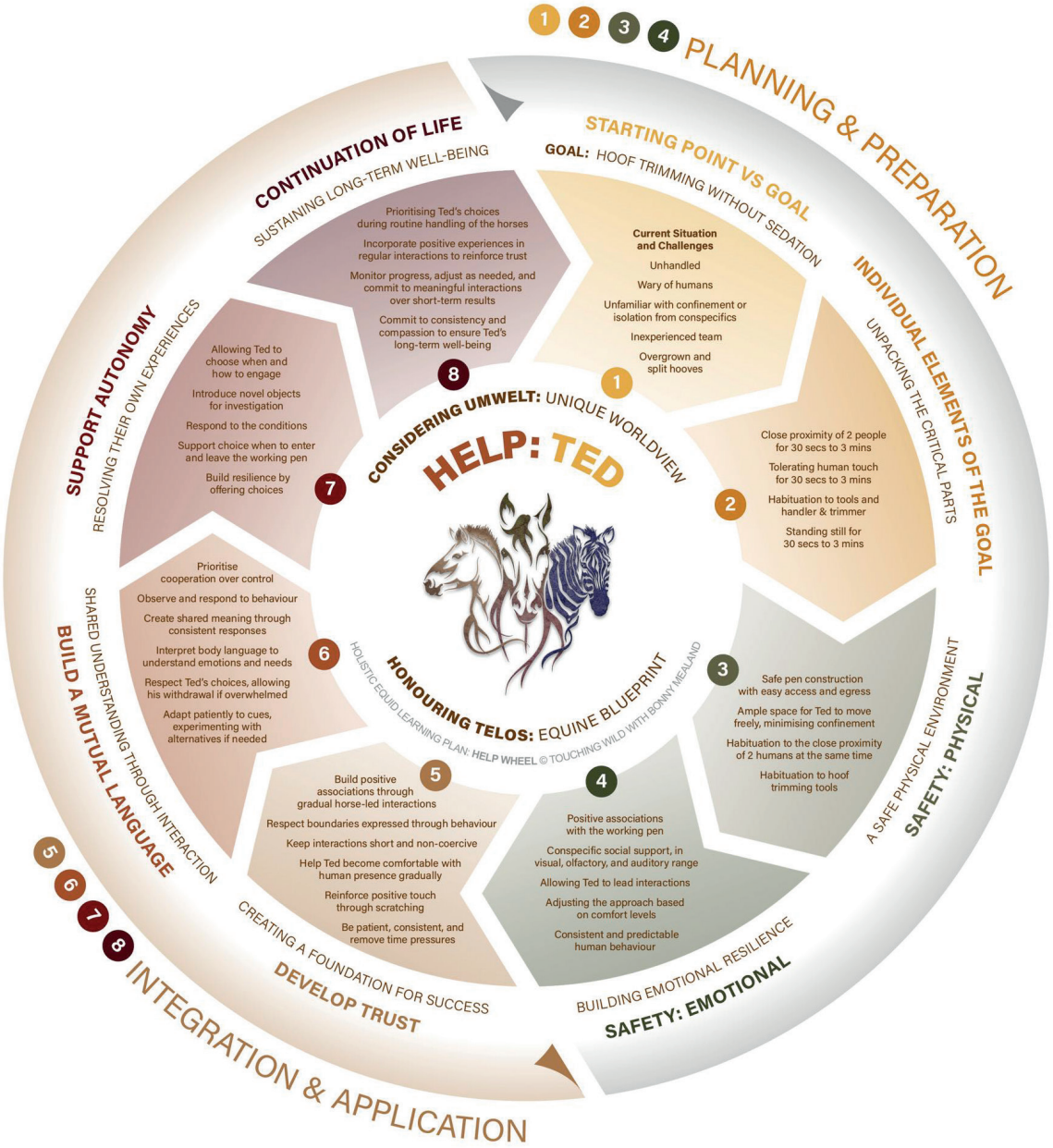
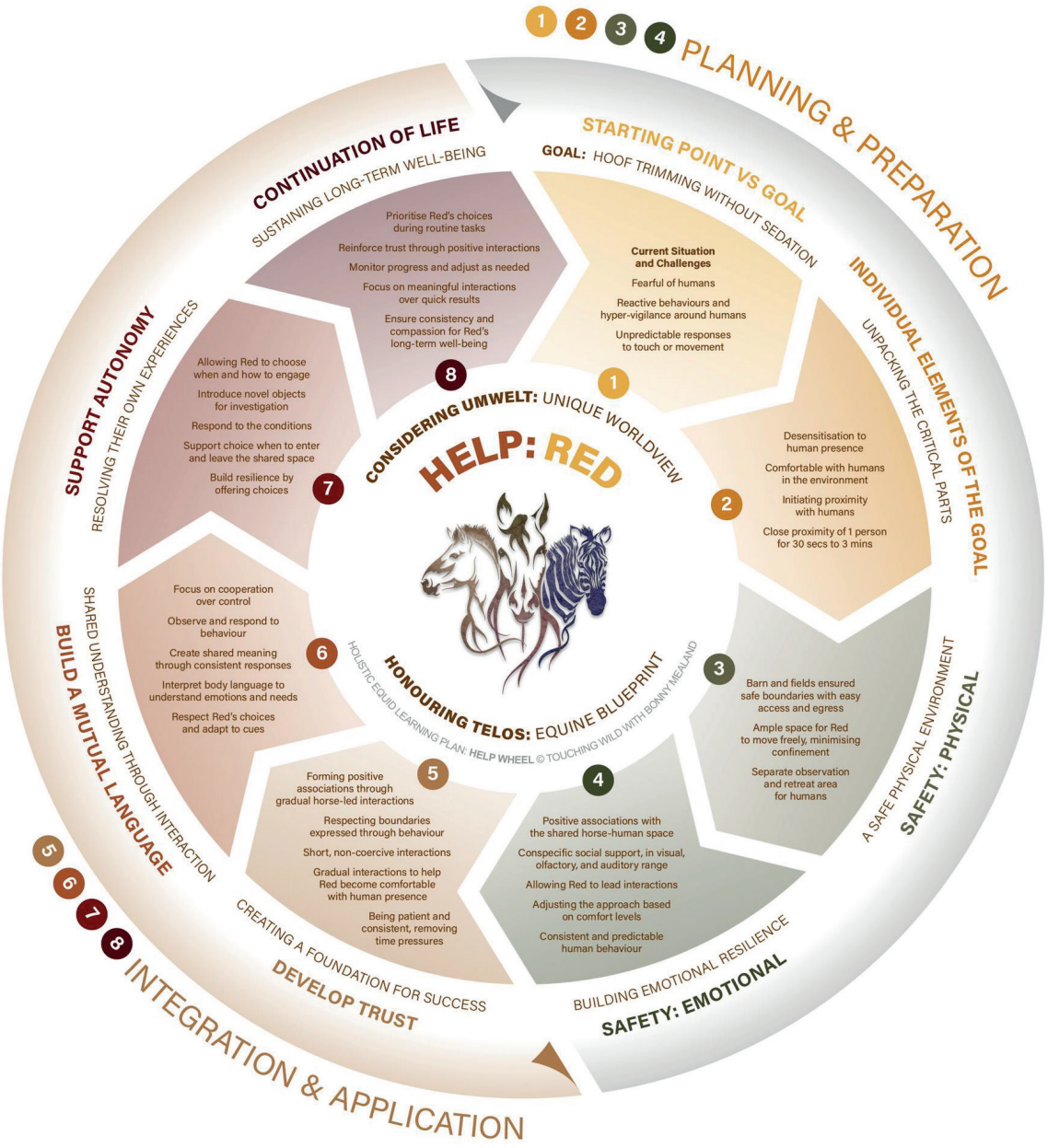


Figure 4: HELP: Red *(Next page)*

Videos of the Three Cases Highlighting the Specific Goal

The following three videos document achieving the specific goal for each case. For Oyun *(Vid 1)* we see her being microchipped without need for sedatives or the use of a camel crush to restrain her. Ted *(Vid 2)* is observed being trimmed for the first time, with minimal signs of stress during the interaction. For Red *(Vid 3)* we see him guiding the interaction based on his comfort levels, engaging with scratches voluntarily and without external pressure or restraint.

Figure 4: HELP: Red



Discussion Points

Development of the HELP Wheel

A clear pattern emerged across the case studies, highlighting several consistent elements: the importance of species-specific understanding, the recognition and consideration of individual needs, the support of social bonds, the cultivation of trust-based relationships, flexibility in approach, the minimisation of stress, a holistic focus on welfare, and the adoption of incremental, responsive learning practices.

This highlights the necessity for a model capable of effectively addressing diverse situations and ensuring adaptable, context-specific application. This in turn led to the development of a flexible tool (the HELP Wheel) that can be applied in many situations. It is important to note

that the tool prioritises the horse's subjective experience. Furthermore, whilst the aim is to facilitate a specified goal, this is not a linear approach and reaching the outcome should not compromise the horse's overall well-being.

The practical application of the HELP Wheel is exemplified through potentially stressful procedures such as microchipping and hoof trimming. In these situations, creating an environment that prioritises the horse's subjective experience allows for low-stress habituation and handling. By integrating principles from Domain 4a, which focuses on external factors and responses to environmental stimuli, the approach ensures a situation and space conducive to learning as the horse's needs are incrementally met. The use of open, unpressured space and time fosters a flexible environment where horses can freely communicate their preferences. These moments of two-way interaction are intentionally designed to help horses recognise that their preferences are valued, reinforcing positive experiences that can be generalised to future interactions *(Christensen et al., 2021; McGreevy et al., 2018; McGreevy and McLean, 2007).*

Role of Social Bonds in Welfare

By addressing Domain 4b (interactions with other animals), we created a situation where the horse is better placed to learn as both their physical and psychological needs were met. In each case, stable social structures and support were prioritised to recognise the role of social bonds in welfare.

Horses were kept within a visual, olfactory, and auditory range of their group members, reducing stress and supporting emotional security (Mellor et al., 2020). When stress indicators appeared, such as head raised above wither height, pawing, or seeking the exit, team members supported the horse's indicated preferences to the best of their ability. This approach was intended to help each horse maintain a sense of autonomy, resulting in stronger trust and cooperation over time. These outcomes highlight the model's potential to promote welfare through relational, rather than purely procedural, handling practices.

Incremental and Responsive Training

The concept of "taking time to make time" aligns well with this flexible framework, emphasising that investing time and attention in the present often leads to better long-term outcomes. Rather than falling into "trainer tunnel vision" with a narrow focus on specific milestones, handlers can engage in iterative, individualised learning. This gives them the opportunity to observe, assess, and adjust their methods based on the horse's responses. Studies suggest that considered, responsive training focused on welfare values not only prevents distress but also enriches the quality of learning (McGreevy and McLean, 2007; Thompson et al., 2018).

Observing and adapting to each horse's needs fosters a more empathetic, adaptive approach, allowing handlers to move forward when progress aligns with the goals, or to pause to adjust and refine their methods when it does not. Considering Domain 4a (external factors including responses to environmental stimuli) helps to create a situation and space where the equid is better placed to learn as their physical and psychological needs are taken into consideration (Mellor et al., 2020).

Meaningful Over Measurable

Throughout the case studies, team members were encouraged to "zoom out", as Heleski and Anthony (2012) suggest, considering both the broader context and the finer details of each interaction. This shift enabled team members to remain responsive to the horse's internal state and to engage in an open-ended, collaborative process rather than a results-focused agenda. Veasey (2022) reinforces this approach by advocating for "the meaningful over the measurable" to foster an environment that values the animal's subjective experience and promotes respectful, sustainable interactions.

The adaptability of this approach is also evident in its compatibility with various team structures and handling protocols. Whilst in these case studies the method was applied by a single practitioner, the success of this approach across three diverse contexts highlights its applicability in different environments. Different teams - including zoo-keepers, conservation reserve wardens, veterinarians, and caregivers - were able to successfully implement the key elements, demonstrating that the approach can be adapted to different handling styles.

In horse-human interactions, having a specific long-term goal provides essential direction without rigidly dictating each interaction. This broader focus acts as a guiding compass, allowing flexibility and creativity as handlers work toward the goal while adapting to the horse's current physical and emotional state.

Discussion Questions

1. How can individualised equid learning plans be systematically integrated into standard training practices across various equestrian disciplines?
2. What are the best practices for training less experienced handlers in recognising and responding to non-verbal cues from horses?
3. How can the HELP Wheel be validated through studies, and what indicators should be used to measure its success?
4. What infrastructure or resource requirements are necessary to implement the tool effectively in different environments, from small yards to large conservation reserves?
5. What are the long-term benefits of incorporating the HELP Model on equid well-being, behaviour, and overall welfare?

Limitations and Considerations

Although the approach used in this study offers valuable contributions to horse welfare, it does have limitations. Firstly, it is not suited to high-pressure situations that demand immediate outcomes, such as emergencies, financially constrained settings, or strictly results-oriented training scenarios. The HELP Wheel's reliance on long term goal focus, safe working space,

and communication requires flexibility, which may be impractical in situations with rigid timeframes or limited resources.

Furthermore, whilst the steps used in this study are inherently economical, implementing the model optimally requires certain infrastructure, and ideally, the support of a dedicated team. Although one person can apply the HELP Wheel, a team-oriented approach enhances the tool's effectiveness, allowing for richer observations and greater consistency in application. Resource dependency and infrastructure requirements may also pose limitations in settings without access to dedicated spaces or materials needed to foster open environments for horse-human interaction.

The case study design also introduces potential bias, as it represents one of the lower forms of evidence within scientific literature. The retrospective, targeted selection of case studies, combined with the involvement of a single consistent practitioner, means that the findings were based almost exclusively on the observations of one person. Additionally, moments of success were intentionally selected for analysis, which, while informative, do not provide a fully objective account of the model's application.

Prognosis

The application of the HELP Wheel is likely to result in enhanced long-term welfare outcomes for horses and all equids, particularly through its emphasis on trust-based, low-stress interactions. By prioritising the individual's needs and subjective experience, the model is expected to lead to more cooperative and less stressed individuals, reducing behavioural issues and promoting a higher quality of life for all equids.

Conclusion

The findings from these examples suggests that a multidimensional perspective, in conjunction with the Five Domains model, is needed for equid welfare to actively promote positive experiences through considering human interactions with equids. By integrating the social, psychological and physiological dimensions, we can better understand how equids experience human interactions and how these interactions shape their overall welfare.

The HELP Model exemplifies a practical, welfare-centred approach that is both structured and adaptable, while the HELP Wheel provides a practical framework that is sufficiently flexible to ensure that the approach is tailored to each individual equid and their specific context. This empowers equid handlers to prioritise the emotional state of their animals and foster mutually beneficial interactions.

By combining the concepts, model and real-world applications, this approach offers a profound yet practical shift in thinking, demonstrating a welfare-centred approach that is both feasible and effective and which encourages considering equine welfare from a more empathetic viewpoint. This marks a progressive step in animal welfare science and can deepen our understanding of how equids experience and respond to human care.

Further Reading

- **Applying the Five Domains Model to the Welfare Assessment of Sport and Recreation Horses:** This online program focuses on horse care, management, and welfare, integrating the concept of telos to emphasise the natural behaviours and purposes of horses. This connection enhances understanding of a fulfilling life for domestic horses and aids practitioners in delivering compassionate care. For more information about the online program, visit: UNE Equine Course on OpenLearning.
- **Bridle, J. (2022) Ways of Being: Animals, Plants, Machines: The Search for a Planetary Intelligence.** London: Allen Lane. This book explores diverse intelligences across animals, plants, and machines. He examines umwelt as the unique sensory world of each species, showing how it shapes their perception and challenges human-centric views of cognition.
- **Rollin, B.E. (2006). Animal Rights & Human Morality. 2nd ed. Durham:** The Rowman & Littlefield Publishing Group. This book explores the moral responsibilities humans have toward animals, emphasising their intrinsic value and nature.
- **Rollin, B.E. (2016). Animal Welfare: A Global Perspective. 1st ed. Oxford:** Wiley-Blackwell. This book delves into animal welfare issues worldwide, focusing on the importance of understanding animals in the context of their natural behaviours and purposes.
- **Rollin, B.E. (2012). A Plea for the Animals: The Moral, Philosophical, and Practical Issues Surrounding Animal Rights. 1st ed.** New York: The Center for Animal Welfare. In this book, Rollin argues for recognising the natural purposes of animals as essential for ethical treatment and improving welfare practices.

Acknowledgments

We would like to extend our sincere gratitude to RZSS for granting us permission to use data from their zoo in this project. Their collaboration has been crucial in showcasing safe and low-stress handling techniques for wild equids in a zoo environment, providing valuable insights into best practices for equid welfare in captive settings.

We would also like to acknowledge the support from the LIFE 100% for Nature Project, funded by the LIFE programme of the European Union, NatureScot and RSPB, that has enabled trial grazing of Konik ponies on the Fen at Insh Marshes. Support through this project has enabled us to explore safe and low stress human-horse interaction, contributing valuable insight into human-horse interactions and welfare practices in these situations.

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Our thanks go to Jean Sinclair for permission to use her photograph capturing the interactions between Bonny and conservation grazing ponies.

Special Thanks

Written thanks may mean little to the horses themselves, but it feels important to acknowledge their role. Oyun, Ted, and Red each shaped this work in their own way through their responses, choices, and willingness to engage. This paper is dedicated to their experience, and to all the equids I've had the privilege of interacting with. May this work honour all equids and support better ways of listening and responding.

References

Animal Welfare [Sentience] *Act. 2022*. *https://www.legislation.gov.uk/ukpga/2022/22/enacted*

Barnes, J. *(1999)* Aristotle on Perception. Cambridge: Cambridge University Press.

Birke, L. *(2007)* 'Learning to speak horse: The culture of "Natural Horsemanship"', Society & Animals, 15(3), pp. 217-239. *https://doi.org/10.1163/156853007X217177.*

Bourjade, M., Thierry, B., Hausberger, M. and Petit, O. *(2015)* 'Is leadership a reliable concept in animals? An empirical study in the horse', PLoS One, 10(5). *https://doi.org/10.1371/journal.pone.0126344.*

Bridle, J. *(2022)* Ways of being: Animals, plants, machines: The search for a planetary intelligence. Penguin.

Carroll, S. L., Sykes, B. W. and Mills, P. C. *(2022)* 'Moving toward fear-free husbandry and veterinary care for horses', Animals, 12(21). *https://doi.org/10.3390/ani12212907.*

Christensen, J. W., Ahrendt, L. P., Malmkvist, J. and Nicol, C. *(2021)* 'Exploratory behaviour towards novel objects is associated with enhanced learning in young horses', Scientific Reports, 11(1), pp. 1428. *https://doi.org/10.1038/s41598-020-80833-w.*

Cousquer, G. *(2023)* 'From domination to dialogue and the ethics of the between: transforming human-working equine relationships in mountain tourism', Australian Journal of Veterinary Sciences, 55(1), pp. 35-60. *https://doi.org/10.4067/S0719-81322023000100035*

Farm Animal Welfare Council 'Farm Animal Welfare in Great Britain: Past, Present and Future.'

Fraser, D. *(2008)* 'Understanding animal welfare', Acta Veterinaria Scandinavica, 50(Suppl 1).

Garcia Pinillos, R. *(2018)* One welfare: A framework to improve animal welfare and human well-being. CABI.

George, F., Holmes, M.-L. and Smith, S. *(2024)* Applied Equine Psychology: The Art and Science of Helping Horses. 5m Books Ltd.

Heleski, C. R. and Anthony, R. *(2012)* 'Science alone is not always enough: The importance of ethical assessment for a more comprehensive view of equine welfare', Journal of Veterinary Behavior, 7(3), pp. 169-178. *https://doi.org/10.1016/j.jveb.2011.08.003.*

Henry, S., Fureix, C., Rowberry, R., Bateson, M. and Hausberger, M. *(2017)* 'Do horses with poor welfare show 'pessimistic' cognitive biases?', The Science of Nature, 104(1), pp. 1-15. *https://doi.org/10.1007/s00114-016-1429-1.*

Kahn, W. A. *(1990)* 'Psychological conditions of personal engagement and disengagement at work', Academy of Management Journal, 33(4), pp. 692-724. *https://doi.org/10.5465/256287.*

Kelly, K. J., McDuffee, L. A. and Mears, K. *(2021)* 'The effect of human–horse interactions on equine behaviour, physiology, and welfare: A scoping review', Animals, 11(10), pp. 2782. *https://doi.org/10.3390/ani11102782.*

Kieson, E., Goma, A. A. and Radi, M. *(2023)* 'Tend and befriend in horses: Partner preferences, lateralization, and contextualization of allogrooming in two socially stable herds of quarter horse mares', Animals, 13(2), pp. 225. *https://doi.org/10.3390/ani13020225.*

Kiley-Worthington, M. *(2012)* Exploding the Myths: Mammal Welfare, Handling and Teaching. Xlibris Corporation.

Knapp, M. L., Hall, J. A. and Horgan, T. G. *(1978)* Nonverbal Communication in Human Interaction. Holt, Rinehart and Winston New York.

Lönker, N. S., Fechner, K. and Abd El Wahed, A. *(2020)* 'Horses as a crucial part of one health', Veterinary Sciences, 7(1), pp. 28. *https://doi.org/10.3390/vetsci7010028.*

Martelli, P. and Krishnasamy, K. *(2023)* 'The role of preventative medicine programs in animal welfare and wellbeing in zoological institutions', Animals, 13(14), pp. 2299. *https://doi.org/10.3390/ani13142299.*

Martin, S., Friedman, S.G. 'The Power of Trust', The IAATE Conference *https://www.behaviorworks.org/files/articles/The%20Power%20of%20Trust.pdf.*

Maurício, L. S., Leme, D. P. and Hötzel, M. J. *(2024)* 'The Easiest Becomes the Rule: Beliefs, Knowledge and Attitudes of Equine Practitioners and Enthusiasts Regarding Horse Welfare', Animals, 14(9), pp. 1282. *https://doi.org/10.3390/ani14091282.*

McGreevy, P., Berger, J., De Brauwere, N., Doherty, O., Harrison, A., Fiedler, J., Jones, C., McDonnell, S., McLean, A. and Nakonechny, L. *(2018)* 'Using the five domains model to assess the adverse impacts of husbandry, veterinary, and equitation interventions on horse welfare', Animals, 8(3), pp. 41. *https://doi.org/10.3390/ani8030041*

McGreevy, P. D. and McLean, A. N. *(2007)* 'Roles of learning theory and ethology in equitation', Journal of Veterinary Behavior, 2(4), pp. 108-118. *https://doi.org/10.1016/j.jveb.2007.05.003.*

Mellor, D. J., Beausoleil, N. J., Littlewood, K. E., McLean, A. N., McGreevy, P. D., Jones, B. and Wilkins, C. *(2020)* 'The 2020 five domains model: Including human–animal interactions in assessments of animal welfare', Animals, 10(10), pp. 1870. *https://doi.org/10.3390/ani10101870*

Merkies, K. and Franzin, O. *(2021)* 'Enhanced understanding of horse–human interactions to optimize welfare', Animals, 11(5), pp. 1347. *https://doi.org/10.3390/ani11051347*

Muhammad, M., Stokes, J. E. and Manning, L. *(2022)* 'Positive aspects of welfare in sheep: current debates and future opportunities', Animals, 12(23), pp. 3265. *https://doi.org/10.3390/ani12192582.*

New Zealand Thoroughbred Racing *(2019)* 'Thoroughbred Welfare Assessment Guidelines', New Zealand Thoroughbred Racing: Petone, New Zealand. *https://nztr.co.nz/sites/nztrindustry/files/2023-07/NZTR2019AnimalWelfareGuidelines.pdf.*

Pearson, G., Reardon, R., Keen, J. and Waran, N. *(2021)* 'Difficult horses–prevalence, approaches to management of and understanding of how they develop by equine veterinarians', Equine Veterinary Education, 33(10), pp. 522-530. *https://doi.org/10.1111/eve.13354.*

Rollin, B. E. *(2007)* 'Cultural variation, animal welfare and telos', Animal Welfare, 16(S1), pp. 129-133. *https://doi.org/10.1017/S0962728600031833.*

Thompson, K. R., Clarkson, L., Riley, C. B. and van den Berg, M. *(2018)* 'Horse husbandry and preventive health practices in Australia: An online survey of horse guardians', Journal of Applied Animal Welfare Science, 21(4), pp. 347-361. *https://doi.org/10.1080/10888705.2018.1428099.*

Veasey, J. S. *(2017)* 'In pursuit of peak animal welfare; the need to prioritize the meaningful over the measurable', Zoo Biology, 36(6), pp. 413-425. *https://doi.org/10.1002/zoo.21390.*

Veasey, J. S. *(2022)* 'Differing animal welfare conceptions and what they mean for the future of zoos and aquariums, insights from an animal welfare audit', Zoo Biology, 41(4), pp. 292-307. *https://doi.org/10.1002/zoo.21677.*

Von Uexkull, J. *(1934)* A stroll through the worlds of animals and men: A picture book of invisible worlds. Walter de Gruyter.

Williams, J. M., Berg, L. C., Clayton, H. M., Kirsch, K., Marlin, D., Randle, H., Roepstroff, L., Oldruitenborgh-Oosterbaan, M. S. v., Weishaupt, M. A. and Munsters, C. *(2023)* 'A delphi study to determine international and national equestrian expert opinions on domains and sub-domains essential to managing sporthorse health and welfare in the olympic disciplines', Animals, 13(21), pp. 3404. *https://doi.org/10.3390/ani13213404*

Wolter, R., Stefanski, V. and Krueger, K. *(2018)* 'Parameters for the analysis of social bonds in horses', Animals, 8(11), pp. 191. *https://doi.org/10.3390/ani8110191.*