



This is a peer-reviewed, final published version of the following document, © 2024 The Author(s). Published with license by Taylor & Francis Group, LLC. and is licensed under Creative Commons: Attribution-Noncommercial-No Derivative Works 4.0 license:

Bornemann, Darcy (2025) An explanatory Model, using self-determination theory, of the motivations for horse ownership. Qualitative Research in Psychology, 22 (1). pp. 168-191. doi:10.1080/14780887.2024.2329732

Official URL: <https://doi.org/10.1080/14780887.2024.2329732>

DOI: <http://dx.doi.org/10.1080/14780887.2024.2329732>

EPrint URI: <https://eprints.glos.ac.uk/id/eprint/13828>

Disclaimer

The University of Gloucestershire has obtained warranties from all depositors as to their title in the material deposited and as to their right to deposit such material.

The University of Gloucestershire makes no representation or warranties of commercial utility, title, or fitness for a particular purpose or any other warranty, express or implied in respect of any material deposited.

The University of Gloucestershire makes no representation that the use of the materials will not infringe any patent, copyright, trademark or other property or proprietary rights.

The University of Gloucestershire accepts no liability for any infringement of intellectual property rights in any material deposited but will remove such material from public view pending investigation in the event of an allegation of any such infringement.

PLEASE SCROLL DOWN FOR TEXT.



An explanatory model, using self-determination theory, of the motivations for horse ownership

Darcy Bornemann

To cite this article: Darcy Bornemann (24 Mar 2024): An explanatory model, using self-determination theory, of the motivations for horse ownership, Qualitative Research in Psychology, DOI: [10.1080/14780887.2024.2329732](https://doi.org/10.1080/14780887.2024.2329732)

To link to this article: <https://doi.org/10.1080/14780887.2024.2329732>



© 2024 The Author(s). Published with license by Taylor & Francis Group, LLC.



Published online: 24 Mar 2024.



Submit your article to this journal [↗](#)



Article views: 100



View related articles [↗](#)



View Crossmark data [↗](#)

An explanatory model, using self-determination theory, of the motivations for horse ownership

Darcy Bornemann

University of Gloucestershire, Business School, Gloucester, UK

ABSTRACT



Human–animal interaction (HAI) is a growing interest research area, especially in relation to human wellbeing. There is a lack of theoretical framework to base human behaviour in horse–human interactions, and often assumptions of ‘traditionalism’ are touted as an explanation for human choices in relation to horse activities. Twenty-one highly involved dressage horse owners ranging in age, experience, and professional affiliation with horses were interviewed in an inductive qualitative approach. Analysis resulted in two core themes centred on becoming a horse-owner and maintaining ownership. The horse ownership motivation (HOM) model is anchored in self-determination theory and explains why horse–human interactions bring psychological satisfaction; supplemented by attachment theory, achievement goal theory, and biophilia hypothesis. Consequently, the HOM model explains motivation to become an owner and maintain ownership over time, and provides a novel theoretical framework in which to base further research into human motivation, wellbeing, and experiences of human–animal interactions, and potentially the animals themselves.

KEYWORDS

Animal ownership; attachment; consumption; emotion; human–animal interaction; identity; self-determination theory; wellbeing

Introduction

Human–animal interaction (HAI) is a growing interest research area, especially in relation to human wellbeing. However, the human dynamic of HAI is the underrepresented member in the relationship, and this is especially prominent in human–horse relationships (Bornemann 2021). Often ‘traditionalism’ is touted as an explanation for human choices in relation to horse activities, especially welfare management, and resistance to new information or evidence-based practices (e.g. Robinson 1999; van Weeren 2008; Thompson and Clarkson 2019). Specifically, van Weeren (2008) argues the notion of traditionalism in equestrian culture as a barrier where ‘the essentials of horsemanship and the rules for horse husbandry *may not have changed for millennia*’ and these ‘*traditions and unchallenged dogmas ... have been passed through many*

CONTACT Darcy Bornemann  darcy.bornemann@outlook.com  University of Gloucestershire, Business School, Oxstalls Campus, Oxstalls Lane, Gloucester GL2 9HW, UK

© 2024 The Author(s). Published with license by Taylor & Francis Group, LLC.

This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives License (<http://creativecommons.org/licenses/by-nc-nd/4.0/>), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited, and is not altered, transformed, or built upon in any way. The terms on which this article has been published allow the posting of the Accepted Manuscript in a repository by the author(s) or with their consent.

generations of horsemen' (289). While concerned over what information is passed, there is a notable lack of alternative theoretical frameworks to base our understanding of human behaviour in relation to horse activities.

Robinson (1999) makes a call for a better understanding of horse owners and the 'human' side of horse-human relationship (45), and Clough et al. (2019) specifically calls for research on the motivation for horse ownership. These calls align with a tentative foray into applying Bowlby's attachment theory when using horses in animal assisted services (AAS) (e.g. Arrazola and Merkies 2020; Bachi 2013) and non-therapy horse-human relationship scenarios (e.g. DeAraugo et al. 2014; Ijichi et al. 2018), with few definitive conclusions. Attachment theory use in human-animal relationships has a more established evidence base in dog-human relationships in and out of clinical scenarios (e.g. Sable 1995; Topál et al. 1998; Beck and Madresh 2008; Zilcha-Mano, Mikulincer, and Shaver, 2012). However, arguments on the appropriate application of human-based attachment theory to animals, and thus its role in explaining the benefits in and out of AAS scenarios, remain (e.g. Lewis 2020).

The current lack of understanding of horse owners as people is likely a result of the lack of focus on horse owners as a prominent social role within the equine industry, despite their core position. Rare examples focusing on owners exist from the racehorse industry, including Case (1988), Fox (2005), and ROA (Racehorse Owners Association) (2016); Fox (2005) cites a lower social status and Case (1988) cites owners as under-appreciated. Researchers, across disciplines, focus much of their attention on the horse, the horse's response to human interactions, or continued efforts to articulate the human-horse relationship (i.e. the product).

In the United Kingdom, the owner is the legal party responsible for the animal and has a duty of care to provide the animal with basic needs (i.e. food, shelter, companionship, expression of natural behaviour, and freedom from fear, distress, and disease) outlined in the Animal Welfare Act (2006). In modern society each horse is connected to a human owner, and thus owners are the core of the £4.7 billion pound equestrian industry (BE British Equestrian 2022) – even feral horses live on lands managed by humans. Raulff (2017) speaks of the decline of the horse as its functional role in society has nearly vanished in *Farewell to the Horse*.

The persistence in horse ownership in modern society raises questions on the benefits compared to another type of companion animal. Horses are more expensive than a dog or cat, costing upwards of £800 per month for full livery services (Bevan 2024), live outside the family home (time resources), and are relatively dangerous (see Ball et al. 2007; Thompson, McGreevy, and McManus 2015).

Evidence of motivation in equestrianism

An extensive exploratory literature review (Bornemann 2021) established motivational principles and theories that have been applied in literature clusters and described as marketing and economics, companion animal literature, and horse riding. Horse riding has the most evidence including Weiner's (1972, 1985) achievement motivation (Lamperd et al. 2016), Bandura's (1982) self-efficacy (Beauchamp and Whinton 2005), Csikszentmihalyi's (2000) flow theory (Jackman et al. 2015), Deci and Ryan's (1985) self-determination theory (Mitchell 2013) and Azjen's (1985) theory of planned behaviour (Hemsworth 2012). From the sport leisure context is Stebbins' (1982) concept of serious leisure (Dashper 2017; Schuurman and Franklin 2016). However, a person does not need to own a horse to ride a horse, and despite these examples horse riding literature is dominated by physiology and biomechanical research. Overlooking the human in human-horse interactions is likely inadvertent as humans act as gateways to the horse, often the research focus, and thus humans appear involved or of interest. However, looking at the studies on human behaviour they are focused on knowledge, or descriptive behaviour toward management of the horse and conclude about management practices or horse welfare (see Boden et al. 2012; Boden et al. 2013; Wylie et al., 2013).

Horse owners experience external pressures from a variety of sources (e.g. researchers, social circles, and governments) to behave in certain ways regarding their horses. Participating in horse ownership can cost relatively large amounts of financial and time resources. Such external pressures can, in theory, thwart the motivation to participate (Ryan and Deci 2017). The evidence leads one to wonder what is it that entices consumers to become horse owners, and what then keeps horse owners motivated to continue participating despite these potentially thwarting conditions.

This article offers a model of human motivation for horse ownership that explains ways in which involvement with horses provides the antecedents and fulfils the requirements for psychological wellbeing. Additionally, understanding the deep connection with wellbeing provides an explanation of how consumption of the human-horse relationship connects with people's self-concept, and we can better understand their decision-making processes and response to social judgement. As the model is based on human motivation it acts as a platform for further explaining other species' human-animal interactions and I propose the reciprocity of self-determination theory and the HOM to model the psychological well-being of a horse (or other domesticated social animals) through their owner's voice and reports.

Methodology and method

Methodology

Credibility of the model is centred on the principles from constructivist methodology and methodological pluralism, membership of the researcher as a member of the British equestrian community, academic, and extensive conceptual mapping.

Methodological pluralism was best suited because it allowed cohesive explanatory themes to emerge, as outcomes were ‘a function of the question to be answered’ rather than adherence to boundaries of a specified methodology. It was possible to look across the methodological boundaries of the disparate existing knowledge base to connect ideas and manage the complexity of the research subject matter.

Collin (1997, 6) reminds us that ‘*reality construction is always the work of a plurality of social agents*’, and I sought to understand how the individual experiences of horse owners exposed their motivations through their words and shared concepts. Language can have historical or current meaning, and participants may use words with personal context which may have a different meaning in a social context. Consequently, basic discourse analysis was used to derive word meaning from context to support interpretation.

Protection and authenticity of the participants’ voices was a priority in the study, and thus my membership as a dressage horse owner provided insider knowledge to understand the phenomenon and gain access to the participants. Being socially undervalued at times, horse owners can be described as a hidden role within a socially hidden population. The presences of social judgment in the community (as evident in the resulting model) reiterated both the importance of trust with my participants, and why snowball sampling was effective in recruiting participants through existing trusted social connections. In protecting participant voices, anthropomorphic language was inevitable and acceptable. As Horowitz and Bekoff (2007) noted,

Among lay people, anthropomorphism is not only prevalent, it is the nearly exclusive method for describing, explaining, and predicting animal behavior—whether the animals are kept as pets, visited in the zoo, or observed in nature. (24)

Horse owners speak about their horse as an object, but also about experiences with their horse as a subject. This includes emotive language because it is the lexicon available to them, and a function of ‘affect sharing’ (Decety 2011; Franklin et al. 2013; Levin, Arluke, and Irvine 2017). When speaking about animals, anthropomorphism is normally discouraged (Serpell 2002; McGreevy and McLean 2010). One argument asserts that the inappropriate use of terminology leads to confusion in assessing animal-specific behaviour, which compromises animal welfare through poor decisions made from the assessment (Serpell 2002). This study seeks horse owner motivations, not

judgements of right or wrong in the way they characterise their experience. Their reports are their experience and their interpretation. Participants will best express their experience through being allowed to talk freely rather than expected to conform to a specific lexicon (Charmaz 2006).

Additionally, actively viewing horse ownership from various perspectives provides the opportunity for generating complementarity between the reasons for horse ownership, achievement experienced, and the objective and subjective dichotomies which people use to discuss other agents.

As the study deals with participants' motivation, the actual welfare state of the horse is less relevant than how the horse is perceived by participants. That does not mean horse welfare is unimportant, just that objective measurement of the horse's actual welfare state is not relevant to understanding why a participant owns them. Because anthropomorphism is inevitable, an implicit way in which empathy is operationalised and a key to prosocial interactions, anthropomorphic language is accepted as a genuine representation of how a participant interprets their horse's state – and any impact that has on their motivation. Accepting participants' anthropomorphic views of their horse is indicative of a critical posthumanism position. A humanist stance would constrain the interpretation of ownership experiences via exceptionalism and disregard, minimalise, or reinterpret anthropomorphic statements about their human–animal relationship. It is inappropriate in this study to impose terminology on participants, which is not theirs, to construct their experience.

Method

The study used single, in-depth semi-structured interviews designed with a responsive interview style to allow participants to speak about their horse ownership experience openly and mimic unstructured interviews. Two pilot interviews were conducted and are included in the overall results. Interviews took place in neutral locations, private homes, and livery yards. All interviews had associated field notes, were audio recorded and transcribed. Interviews averaged 45 minutes in length, ranging from 22 minutes to 1 hour 34 minutes, and transcripts were offered for member checking; no amendments were requested.

The information gleaned about horse ownership motivation from the literature is disparate and does not support one theme or construct as more explanatory or prominent over another. Although there are existing motivational theories, the volume of available theories, methods for investigating, and efforts to explain or predict behaviour, are further evidence for the need of an inclusive approach to find an explanation for horse ownership. Semi-structured interviews explored participants' meanings and were designed to avoid pre-selection, so as many concepts and themes as possible were captured and a theoretical best fit applied post analysis.

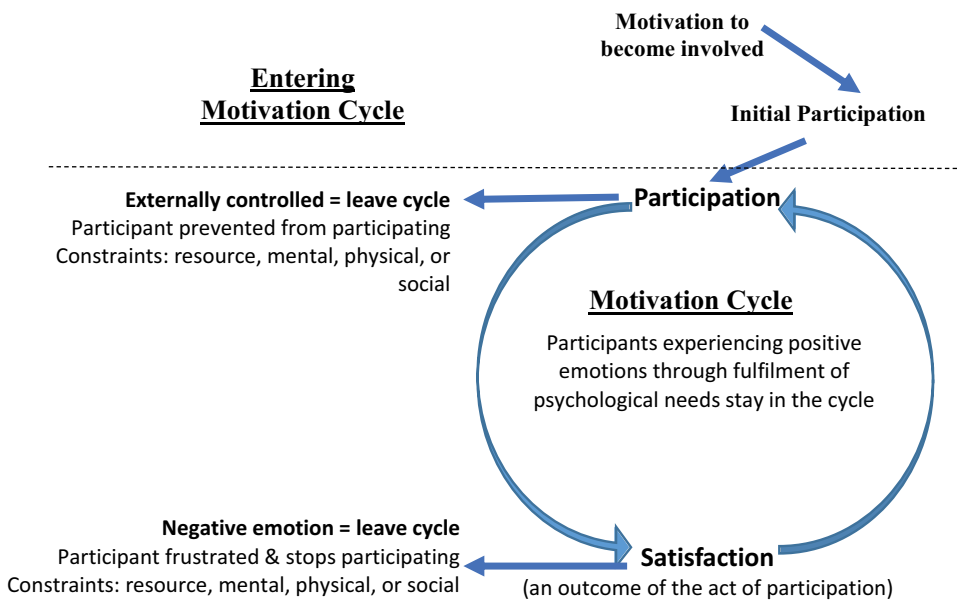


Figure 1. A cycle of motivation to participate in an activity. The conceptualisation of a positive emotions' perpetuation of behaviours and suggestions on the consequences of negative emotions (authors own).

Responsive interviewing techniques were used to elicit ownership experiences, including expression of feelings, which allow the experiences to be analysed for motivation, based on the basic conceptualisation of motivation principles that positive emotion (e.g. satisfaction) perpetuates behaviour and where negative emotions (e.g. frustration) decrease the likelihood of a behaviour (Figure 1). Questions are derived from the activities cited in equestrianism literature such as becoming an owner, ceasing ownership (e.g. ROA (Racehorse Owners Association) 2016), self-perception as a horse person, social perceptions of horsemanship, and human–horse relationships (e.g. Dashper 2014; Birke and Hockenhull 2016; Birke and Thompson 2018).

Sampling

In total, 21 interviewees were recruited from across the commonly used equine industry segmentations differing in age, profession, competitive ambition, and gender. Participants were primarily recruited using a snowball sampling method starting with the researcher's personal contacts. Contact with subsequent participants was via sharing contact (with consent) or in-person introductions. One respondent was recruited using purposive sampling (email sourced from public business page).

The sampling approach aimed to be inclusive rather than exclusive which allowed for commonalities in motivation across segments to emerge. No

participants dropped out. Equestrian populations are relatively hard-to-reach with their own hidden populations e.g. non-riding owners. In line with Henley Centre (2004) findings, there is great overlap between equestrian populations, but they are commonly segregated by competitive level or ambition, formal discipline affiliation, age, or duration of participation in the industry (owner or otherwise). Notably, the study self-segregates to dressage to make research practicable. Of the disciplines British Dressage has the largest membership population and its principles are applicable to other disciplines (British Dressage 2022).

Analysis

The analysis was inductive, using Charmaz's (2006) grounded theory analysis techniques to construct an explanatory theory. Analysis occurred in three cycles by one researcher; initial coding was done by hand and subsequently transferred to NVIVO software for code management. The first cycle went line by line through each transcript, and used *in vivo* code names wherever possible. This was repeated twice – once for ownership experience and once for emotions. The second cycle was iterative and used basic discourse analysis techniques to establish word or phrase meaning. For example, participants used the word 'pig' to describe both a physical feature and a behavior trait. The second cycle also condensed the code book and grouped themes. The third cycle created hierarchical themes and compared the owner experience codebook to the emotion codebook for relationships linking experiences with their positive or negative emotions. Complete data saturation occurred with interview 15, and themes confirmed by subsequent data analysis.

When comparing themes with literature, self-determination theory appeared the best fit in explaining horse ownership motivation. Some individual motivational themes were supplemented by explanations from biophilia, attachment theory, and achievement motivation theories. The resulting model demonstrates how motivational theories can work together similarly to the theological parable of the elephant and the blind men (i.e. each explains a part of the whole), in agreement with Dornyei and Ushioda (2011).

Results: the horse ownership model

A distinct hierarchy of themes emerged consisting of two distinct core themes (getting into horses and human–horse interactions), each composed of two motivational themes and their respective sub-themes (Figure 2). Collectively, the motivational themes work in synergy to create the 'product' of the human–horse relationship which, reciprocally, influences the motivation themes alongside two other influencing themes (human–human interactions and participant circumstances). The themes are applied to the

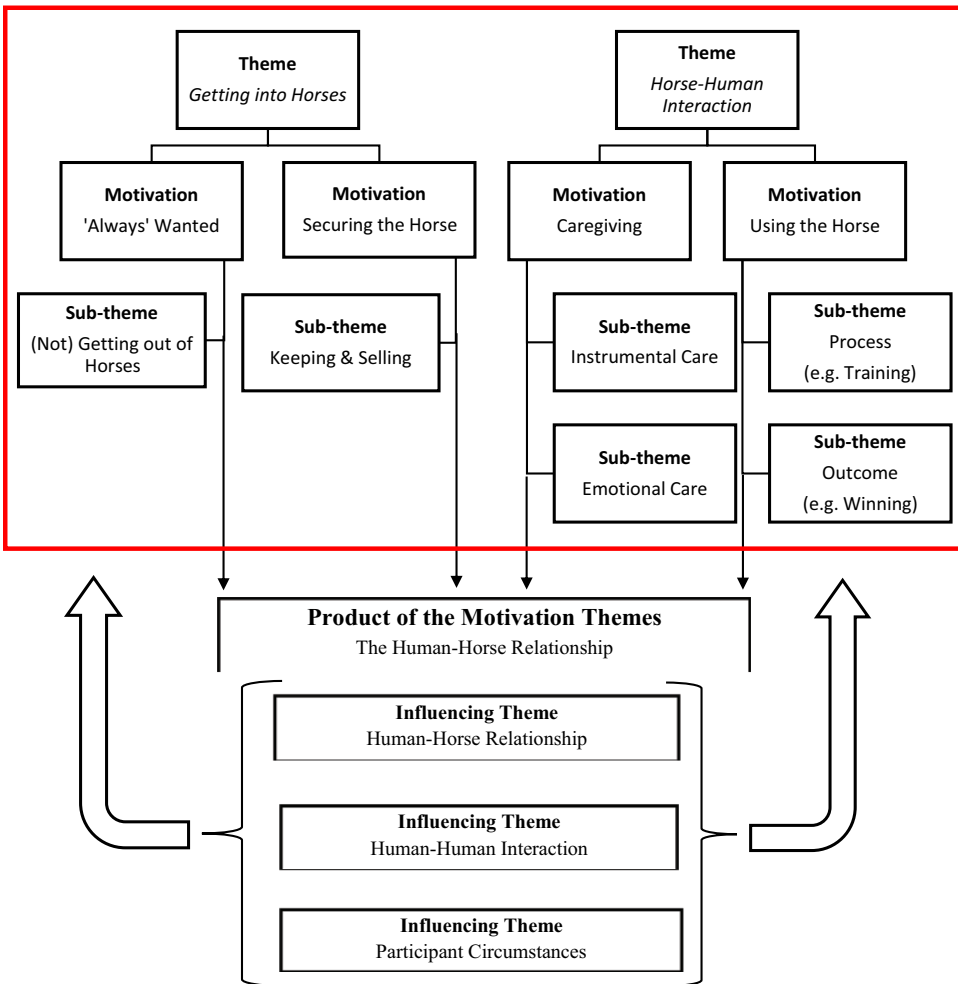


Figure 2. A theoretical hierarchy of the motivations for dressage horse ownership. Themes subordinate themes, and influencing themes of the motivation to own dressage horses.

basic motivation cycle, to create the horse ownership motivation (HOM) model (Figure 3) and subsequently underpinned by motivational theories to explain horse ownership motivation (Figure 4). The HOM model is anchored in self-determination theory and is supplemented by attachment theory, achievement goal theory, and biophilia hypothesis. Consequently, the model explains motivation to become a horse owner and the sources of satisfaction that maintain ownership over time.

Core theme: getting into horses

Getting into horses deals with both initial attraction to horses and the process of first horse ownership experiences. Biophilia is the theory used to

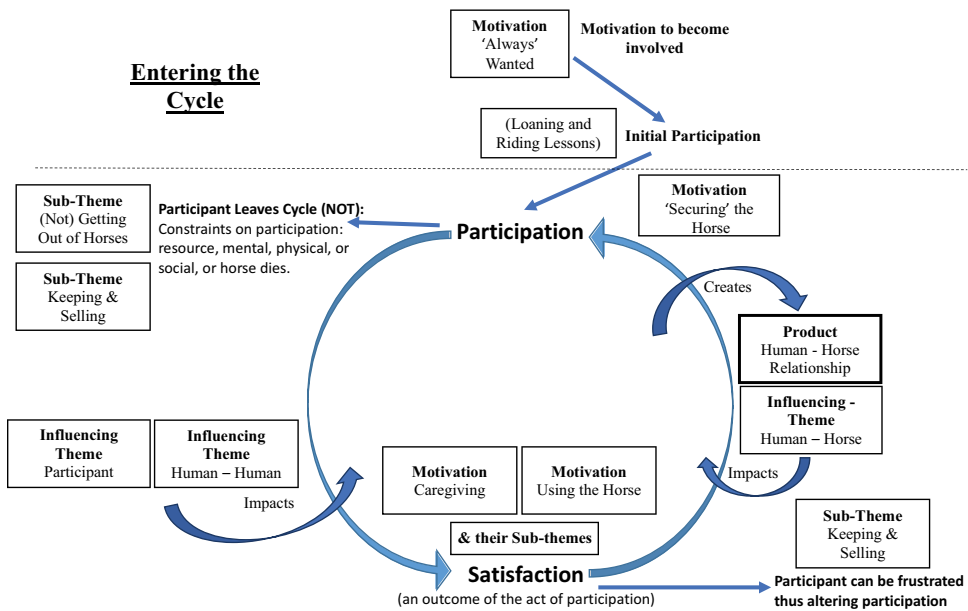


Figure 3. Cycle of horse ownership motivation for highly involved horse owners – incorporating the emergent motivation themes for horse ownership.

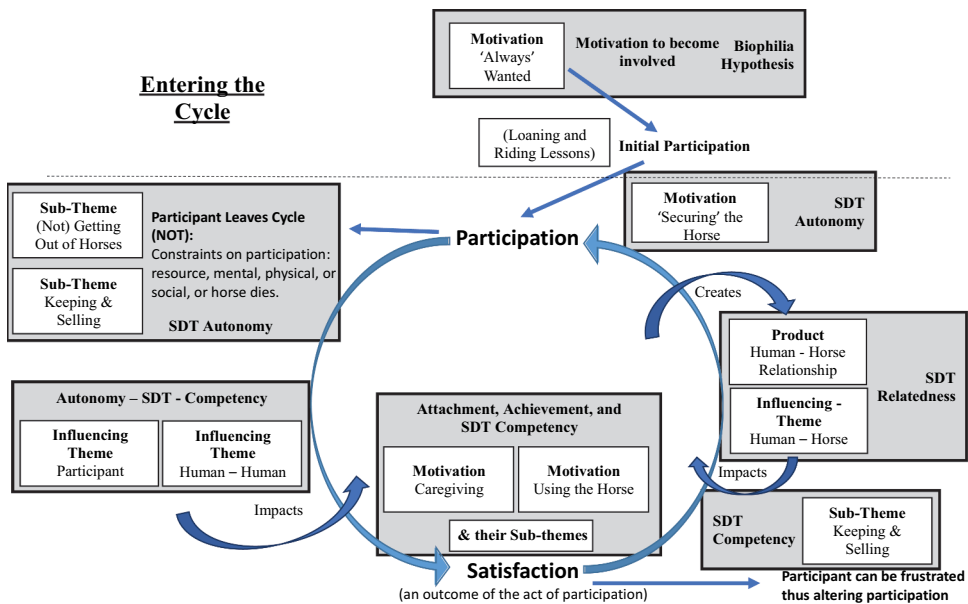


Figure 4. Cycle of horse ownership motivation for highly involved horse owners – incorporating explanatory theories self-determination theory (SDT), biophilia, achievement motivation, and attachment theory with the emergent motivational themes.

understand motivation to become involved with horses while the need for autonomy via self-determination theory explains first horse ownership.

Always wanted

All participants discussed lifelong interest, described a deep attraction, and were unable to explain what instigated their interest in horses; it was just ‘*always*’ there, and their desire persisted through life.

But I think it’s something that I always, I’d always wanted and it never wavered, it was something I just always wanted. – Bethany (31, female, horse industry professional)

It’s something I always wanted as a child. Um, I had parents that couldn’t afford lessons. Um, then I bought a shop and things moved on, children. And then my husband got MS and we couldn’t do boating anymore and I thought it was my time to, to have a go at something I’d always wanted to do. – Olivia (60, female, non-horse professional)

Securing the horse

The persistence of desire also means that once involved, participants do not give up horse ownership by choice despite acknowledging the challenges (subtheme: (not) getting out of horses).

There’ve been points over the years where the stress of everything just gets to be a lot and you wonder whether you’re missing out on the rest of life because horse ownership is so all consuming ... like the cost-benefit where the cost just seems to weigh, you know, override any benefit you’re getting from it. – Wendy (40, female, professional horse trainer)

Horses, somehow, get ‘*in your blood*’ or are ‘*a part of your DNA*’. Once in, horses are described as ‘*an addiction*’ or ‘*like a drug*’. At times horses may pass away or be sold on, but this does not discourage participants from horse ownership. Participants seek ways to maintain involvement with horses, not only through breaks in ownership but also as they age and as their circumstances change; participants actively consider how to manage the responsibility, time commitment, and physicality of participation as a horse owner.

I wasn’t a horse owner for a very short period of time after I lost the last one. And I didn’t enjoy it at all. It really felt like there was something missing for me. It took me a long time to get over losing the last one and it took me a long time to find the right next one. And it was about two years where I didn’t actually own anything myself. I was still involved with horses, still riding, but I didn’t have one myself. Um, but no I don’t think I would want to be in that position out of choice again. – Julia (47, female, horse industry professional)

I will be dead before I not have a horse. Even if I’m 90 odd I will have a doddery old something in the back garden. I, I can’t imagine ever, way too much a part of my life. – Freya (45, female, non-horse professional)

First horse ownership experience stems from a desire to have autonomy over the horse-human interaction, and decision-making and subsequent purchases tend to focus on purchasing or breeding the ‘right’ horse.

For me [ownership] was definitely the, I want more autonomy over, my, what I do with the horse and where I can take the horse and, um, what I buy for the horse. – Isabelle (28, female, student)

I always felt like I’d get to a certain point in my riding and then the horses would be sold for whatever reason, so I bought [horse 1] to secure a horse for me that would always be mine. – Graham (25, male, professional horse trainer)

Horses will always make up a part of participants’ lives through ownership or involvement in the equestrian community, demonstrating the persistence of the intrinsic attraction to horses.

Influences on getting into horses

Participant circumstances influence on getting into horses

Participant circumstances and other human–human interactions influence the desire to secure the horse, while the human–horse relationship and participant circumstances influence motivations to keep or sell a horse. The logistics of purchasing the horse requires the human to be in a position where they feel they can afford the horse and to take care of it. If from a non-horsey family, initial horse ownership occurred at the time they first perceived it was possible through an injection of cash via inheritance, generosity of relatives, a well-paid job, or securing a loan. Second horse selection involved greater consideration of the human’s circumstances in being able to manage a second horse. As more horses are acquired the maximum number of horses a person secures appears to be limited by their perception of available time to devote to the horse, because the demands of ownership become too externally regulated and less enjoyable.

... when I had six that’s when I got really stressed. Cause I just couldn’t be putting the time and energy that each of them needed at the right amount. – Freya

There does not appear to be a fixed number of maximum horses. The maximum number of owned horses ranged from 1 to 11 in this participant group; one horse is a consistent minimum required to meet autonomy needs.

Human–human influence on getting into horses

Human influence on securing the horse relates to lack of autonomy on participants in their horse interactions. For example, in riding school situations, participants learn to ride but perceive limitations on when they can ride, for how long they can ride, and general interactions with horses.

[P]revious to [ownership], I had only ridden at riding schools, so I could only ride when I paid for a lesson, whereas when I had my own horse I could ride whenever I liked. – Bethany

In a loan situation, participants find more autonomy because the owner is less likely to be involved with the day-to-day care. However, the owner retains ultimate decision-making responsibility and can take the horse back or make changes at any time, limiting participants' autonomy. For participants, their feelings of responsibility towards loan horses and relationship development were the same as for any horse they owned.

... like completely from day one I feel like he's mine. I don't think it, it's just paperwork. I think you still treat them the same, I feel the same about them. I honestly don't feel like the name on the bottom of a piece of paper determines that. – Bethany

Consequently, participant interactions with the loan horse owners resulted in feelings of sadness, fear, and frustration underpinning the desire for autonomy in decision-making.

I was like if this is my horse ... I'd look at all the aspects of her care to see what was causing her [the horse] to act in such a constantly stressed and, and defensive manner. But I couldn't do any of that because it's not my horse ... I didn't have the, the control there to look into that, so that frustrated me. – Isabelle

In professional horse trainer scenarios, where the trainer is being paid to be responsible for another person's horse, participants express being '*gutted*' when owners sell horses '*out from under*' them.

Influence of human–horse relationship on getting into horses – keeping & selling

While ownership provides the opportunity for control, the decision of what to do with the horse once it has been obtained is influenced by other factors like the horse's traits, the subsequent relationship with the horse, and social pressure to learn from or overcome difficulties.

Ownership is a progression from participants' first encounters with horses; the experience of or desire for a relationship fosters a desire for participants to have more control over the decision-making of the horse and manage the relationship. Although frustrating, loaning is beneficial for those with less horse experience because they can cease ownership responsibilities relatively easily by returning an unsuitable horse to the owner (e.g. a dysfunctional relationship).

The relationship with the horse impacted keeping and selling in two ways, which related to whether participants had a positive or negative relationship with a horse they were selling. Where negative relationships existed their actions to keep their horses are motivated through fear of an outcome for the horse, which is outside their control, once ownership is relinquished. Social judgement by other humans was of particular concern if the horse was poorly behaved.

Where positive relationships or strong bonds existed, these horses would be more likely to be kept when participants' time or finances impacted the decision on which horses to sell.

There are horses that have a home for life with me and those I am gonna do my best by and then sell them on. – Bethany

The relationship, whether desirable or undesirable, actively influences decisions for keeping and selling a horse. However, this does not always result in dysfunctional relationships ending. The impact of the human–horse relationship of autonomy of ownership demonstrates that maintaining the relationship can be internally motivated through enjoyment of the individual horse relationship, but externally motivated by fear of social judgement or loss of control over the decision-making. Additionally, the strength of a positive relationship meant ownership for some horses was prioritised over others.

Core theme: horse-human interaction

I think there's two type of bond. There's the one on the ground where he's happy to see you and he knows that perhaps you're his owner. And then there's the riding one where you're trying to become one unit, not ride a horse but together, and that gives you a different feeling altogether. – Olivia

There were two separate sources of motivation, 'caregiving' and 'using the horse', and both resulted in development of the human–horse relationship. Both required decision-making, and participants experienced competency in different ways.

Caregiving

Caregiving consisted of two ways of caregiving (instrumental and emotional). Importantly, the decision-making integral to providing instrumental care such as feeding, grooming, and veterinary attention resulted in emotional care for how the animal is perceived to feel. Where participants perceived they were keeping animals '*happy and healthy*' it resulted in participants' sense of competency. Knowing the horses were okay resulted in participants' feelings of '*well-being*', '*pleasure*', and '*a sense of inner peace*'. Participants practiced mind-mindedness which allowed them to perceive their horses as in or out of a state of well-being. Participants talked about reading the expression in their horse's face of being '*soft*' and others about their horse's behaviour being '*relaxed*' and '*calm*'.

Using the horse

Competency was also perceived in riding horses where the animals responded to training as desired and captured in the theme *using the horse*. Participants

perceived a competency through the ‘*journey*’ or ‘*process*’ of training, but also in competition outcomes. Achievement motivation theory offers the explanation for how both mastery and performance goals are motivating.

Competency and relatedness from human horse interaction

Importantly, and fundamentally, a sense of competency, whether caregiving for the horse or using the horse, was the foundation for participants' sense of relationship with the horse (good or bad). Where animals responded as expected or desired owners perceived positive relationships, and where horses were ‘*difficult*’ or ‘*aloof*’, participants reported feeling like a ‘*failure*’, implied these horses were more likely to be sold (less of a bond), and reported mismatched human–horse relationships are ‘*not a nice experience*’.

A bond (a specific type of positive relationship) was perceived when the animal initiated interactions with the participant and this elicited their strongest descriptions of positive emotions when the horse’s interaction was perceived as volitional and unconditional. Attachment theory explains the perception of these experiences and subsequent fulfilment of relatedness needs of self-determination theory. Horses engaged in what their human owners perceived as attachment-like behaviours, regardless of whether an outsider or an academic would label them as such. For example.

And he always chats to me and he doesn’t chat to anybody else. So, that’s, that’s, you know, that brings you great joy when you walk down the barn and that one horse neighs at you and he doesn’t neigh at anybody else . . . because you feel you get some love back from the thing you’re paying a fortune for. – Abigail (44, female, professional horse trainer)

Anyway, so he saw me come through the gate and he was like [imitates horse] ‘neeeeigggghhh’. And like screamed at me . . . And half of me was like really touched that he was grateful to see me. You know he did look grateful to see me, he properly yelled in my direction . . . – Carly (49, female, professional horse trainer) (the other half was annoyed due to what turned out to be an unnecessary veterinary call out fee)

When I go up to the field to, to get her more often than not, her head will go up she’ll be the one out of them responds and she’ll neigh and then she’ll come down to find me and I don’t need to have a bucket of feed for that to happen. It’s just mum’s here sort of thing and you know what, that is the most heart-warming thing. – Evlynne (50, female, non-horse professional)

Attachment-like behaviours without the sense of special treatment by the horse toward the owner do not seem to result in the same positive emotions or sense of a bond.

And sometimes I don’t feel like I have any connection with him because he just ignores me. But he hears my crutch and his ears go forward in the field and he’ll come and say ‘hi’. So, he knows who I am and that means he does kind of get who I am and that I am

his person. But he probably does that with everybody. – Kelly (35, female, non-horse professional)

Guilt was the overriding emotion for participants when horses were injured, ill, or perceived as emotionally distressed. This highlights the responsibility highly involved participants felt for *'making every decision'* to keep the horse *'happy and healthy'*. When the horse was injured it raised questions about the decisions participants made that might have led to injury or exposure to illness or distressful situations.

There were certain decisions that I had to make in consultation with the vet about the extent of the surgery. I just kept thinking, 'What if I've done the wrong thing?' You know, 'What if I've chosen the wrong procedure, what if should have never put him through the risk of the anaesthetic?' – Bethany

The frustration of not being able to respond appropriately and, when acting, questioning if those decisions are right, illustrate a feeling of incompetence in the moment. This leads to emotional extremes for participants. As Linda (53, female, professional horse trainer) stated, horses either *'put you in a wonderful mood or they can make you feel really low'*. Participants described this emotional experience of horse ownership as *'quite up and down'* or *'a roller coaster. The highs are very high and the lows are very low'*.

Managing the highs and the lows requires participants to emotionally regulate themselves. Participants recognised this within themselves and the community. They talked about horses as *'great levellers'* and described how *'calm'* is needed to *'delegate'* and *'manage crises'*. Participants talked about how horses make a person self-aware, and about the necessity of emotional regulation. They implied that one must already be in a calm place before encountering horses.

Actually, it makes me quite self-aware as well I think. Particularly with, yeah, you can't just come home stressed and take it out on the horse, you have to learn to moderate and manage emotions. – Bethany

I think having horses, they're great teachers. Because they teach you about yourself and what you, and how you react in situations and how you are, how you're going. You have to be calm. You can't, you cannot be a crazy stressed person around horses. It just doesn't work. – Isabelle

If I've come home and I'm tired and I might a bit short tempered I won't ride them because I know if they breathe wrong they might get told off. And I've, I've learned to recognise that in myself. – Freya

Horses are both a source of emotional extremes and catalysts for managing the emotional extremes. Participants' positive emotions are countered by negative emotions in the event they are unable to appropriately respond to and resolve their horse's stress or ailment. In the event of negative emotions, there is an acute emotional regulation to manage the horse's situation. However, a more

systemic emotional regulation process is evidenced through participants developing an emotional self-awareness, learned through experience. Participants appear to manage their emotional state and make specific behavioural choices before encountering their horses, in order to foster positive emotional experiences (for both human and horse), which in turn contributes to the development of their human–horse relationship, fulfilling relatedness needs.

Human–human influence on human–horse interaction

Human–human interactions impacted on participants' sense of competency, and consequently their sense of relatedness. Interaction with other humans resulted in two different experiences. One experience was their interaction in the human–human social space and building relationships with like-minded individuals with an interest in horses regardless of background or social status. The other experience was negative interference in decision-making; there was a consensus that the worst thing about horse ownership was not the horses but other people.

Where I find I have problems is negativity that comes with being around people and horses. And everyone thinking that they can give you advice. They know better than you. – Evlynne

Unlike in social norms in human society, where it is taboo to comment on another's parenting to their face, horse owners directly comment on other horse owners' behaviour and this leads to participants' sense of incompetence and subsequent disruption to their human-horse relationship.

I'd never owned a horse before and I was on a really busy yard and the, the big issues I had were there were 20 people telling me 20 different ways to manage my horse. – Freya

The worst thing for participants would be if someone thought they were a poor caregiver, and the best thing would be comments on how well a horse looked.

I'd be heartbroken if anybody thought that my horses were being neglected or anything like that. – Freya

I just love seeing them perform well I think and seeing them look well and that's a reflection of me ... When someone comes up to you and goes 'God, your horse looks amazing'. For me that's like I've done my job well, I'm pleased about that. – Harry (30, male, professional horse trainer)

Although unsolicited advice and comments influenced participants' feelings as caregivers, the human–human interaction is not able to undermine the initial attraction to horses that motivated people to get into horses in the first place. Instead of getting out of horses, participants sourced different people to be around by moving yards or developed coping strategies to receive comments and advice

on their own terms. As participants gained experience they were able to counter, as opposed to just coping with, the unsolicited advice.

Discussion

The HOM model demonstrates how the experience of ownership can fulfil the human psychological wellbeing through autonomy of ownership, competency through decision-making, and relatedness through the ability to care for another and perceive a positive response for the care activity. The satisfaction gained from care decisions perpetuates horse ownership over time. Consequently, horse ownership and management choices are more complex than mere ‘traditionalism’ and are akin to parenting. The HOM model offers foundations for further research on motivations of owners and, importantly, is anchored in existing theories which can help support positive human–human and human–horse interactions.

Through consumption literature we also understand how the consumption of the horse–human relationship is symbolic of owners’ sense of self-concept, and the actions people take to protect and perpetuate their sense of self, and thus their sense of wellbeing (Sirgy 1982). Social judgment received as advice or perceived as negative evaluation makes people feel incompetent, and where owners already feel a sense of guilt it can act to confirm this and thus create conflict with an owner’s sense of self-concept as, or desire to be, a competent caregiver (that they perceived from their daily interactions). Because competent caregiving is the mechanism for developing a human–horse relationship, negative emotions also put owners’ sense of relationship or bond with their horse in peril.

Guilt as an emotion can trigger a range of blame management strategies (Frommer and Arluke 1999; Watson and Spence 2007). As practitioners (e.g. veterinarians, academics, or behaviourists) supporting caregiving activities (i.e. welfare) or being concerned with the perpetuation of the equestrian industry it is imperative to consider how we approach our human–human interactions. There is a high risk practitioners could confirm or create guilt through advice and evaluative statements; it is critical to understand how language and behavioural choices impact, defuse, or perpetuate animal owners blame management strategies when their competency is threatened.

In situations where professionals and animal owners meet, both parties have the animal’s best interest at heart. Just as owners in this study struggled to assess if they are doing the ‘right thing’, practitioners also worry (Williamson, Murphy, and Greenberg, 2021). However, the education practitioners receive and limited interaction with an individual animal may result in perspectives on an animal’s behaviour or response different to the owner. These differences are part of the struggle of understanding the animals’ perspective, combining the owners day-to-day nuanced assessment and practitioner’s professional

assessment, along-side potential differences in language choices, interpretation, and education (Jenke et al. 2021).

One of the solutions for practitioners and academics who may have a more fixed language through studying animal behaviour is developing curiosity about how horse owners speak about their horses and trying to decode their language and behavioural choices rather than strictly applying a personal or academic meaning in all cases. The response to communication could be the difference between inviting cooperation or defence mechanisms in blame management strategies (e.g. Lowe 2008; Dickman 2010; McClaughlin, Clancy, and Cooke 2022). This requires practitioners' use of their own innate anthropomorphic mechanisms (i.e. empathy for another human, empathy for the animals, and acceptance of anthropomorphic language); this is emotionally and cognitively laborious (Williamson, Murphy, and Greenberg, 2021).

In animal welfare circles anthropomorphism is often cited as rational, a conscious choice, and undesirable (McGreevy 2007; Bradshaw and Casey 2007; Mota-Rojas et al. 2021). When observed as an innate passive human trait and engaging in curiosity for why anthropomorphism occurs, the results of this study explain and confirm anthropomorphism is a requirement for the development of human–animal bonds; in agreement with Serpell (2002), Butterfield, Hill, and Lord (2012), Macauley and Chur-Hansen (2023). Because anthropomorphism is the mechanism required for empathy and thus care-giving behaviour, owners cannot care for animals without it.

This study provides evidence that humans gain wellbeing through providing animal wellbeing; the care decisions people make and responses they interpret are similar to that of a parent to child (i.e. relatedness through caregiving). This raises interesting points about the role of the owner in assessing animal wellbeing; the owner acts as voice to the animal as a parent does to a child in human medicine (Gray and Fordyce 2020; Pun 2020). Assessment of child wellbeing is typically a holistic assessment with the child having a voice where possible, but this is difficult with animals whose 'minds are private' (Bradsaw and Casey, 2007, 149). The HOM's exposure of the connection between human wellbeing and, at least perceived, animal wellbeing in response to care decisions provides further evidence that the assessment of animal wellbeing should also be holistic and include explorations across time, context, environment, and history as told through owners' stories, regardless of the pitfalls. Pun (2020) speaks about the importance practitioner communication plays in mitigating owner distress when making critical care decisions for animals.

When listening to owners' perspectives about their experiences and decisions in relation to their horses, there is opportunity to consider the animals' well-being through decoding how owners perceive their horses' responses to their caregiving activity and tailor communication accordingly via human-behaviour change models (Michie et al. 2014), middle

of the road approach (Gray, Fox, and Hobson-West 2018) or client centred interviewing (Daniels et al. 2023). In animal training the concept of consent (animal choice) and learning response are established parts of existing animal welfare (Thomas 2016; Woods, Lane, and Miller 2019), which could relate to ideas of autonomy and competency of self-determination theory.

In conclusion, the HOM explains how owners receive satisfaction from their horses' responses to their care decisions which contributes to their psychological wellbeing; challenges to care choices have negative impacts on the owner and can impede open human-human communication which is needed for holistic wellbeing assessment. Furthermore, the principles from self-determination theory, present in owners' stories about their horses, offer a valuable understanding of an animal's experience. Wellbeing is an experience, and evaluation of that experience as positive or negative is a judgement of the agent rather than an external individual; in this case the agent is the horse. It is not possible to have a horse speak, but if owners are their animals' voices, the key assessment of animal wellbeing seems best done through the voice of their closest human relationship – in this case the highly involved horse owner.

The author recommends that effective use of owners' stories to assess animal wellbeing (not just welfare) is predicated upon practitioners and academics 1) being curious about the owner and their experience, 2) decoding meaning based on content and checking understanding with the owner, and 3) having self-awareness through reflective practice of their social impact (e.g. the risk of blame management or causing human distress as a result of social judgement when engaging in human-human interactions with animal owners).

Acknowledgements

Special thanks to supervisors Dr. Keith Donne and Dr. Alan Marvell from the University of Gloucestershire and thanks to the participants who shared so openly about their horses and their horse experience.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Notes on contributor

Dr. Darcy Bornemann is a researcher in consumer motivation for animal ownership. Her focus uses the lens of consumer behaviour to understand the psycho-social impact of human-animal

interactions for both human and animal wellbeing. Darcy has worked internationally, for 10 years as a professional equestrian and emigrated to the United Kingdom in 2009 completing both her Master of Science (University of the West of England) and PhD in Business (University of Gloucestershire). Darcy is currently a full-time researcher, investigating the aftercare of racehorses, and a visiting lecturer in marketing.

Data sharing statement

Access to the code hierarchies, anonymised participant demographics, and sample of relationships between codes can be found in the appendices D, E, H, I, J, and K of the original PhD thesis at this link <https://eprints.glos.ac.uk/10470/> (doi: 10.46289/GH93KF12). The raw data generated and analysed are not publicly available; consent was not provided by participants to share their data with third parties or retain them in repositories.

Ethical approval

The study used a non-invasive study design, and received approval via the University of Gloucestershire's project review process. No ethical committee number was provided. Participants consented to data collection via a research information and consent form and no participants are identifiable, all names within the manuscript are pseudonyms.

References

- Animal Welfare Act. 2006. *Animal Welfare Act 2006*. Accessed 26 January 2023, from <http://www.legislation.gov.uk/ukpga/2006/45/contents>.
- Arrazola, A., and K. Merckies. 2020. Effect of human attachment style on horse behaviour and physiology during equine assisted activities – a pilot study. *Animals* 10 (7):1156. doi:10.3390/ani10071156.
- Azjen, I. 1985. From intentions to actions: A theory of planned behavior. In *Action control: From cognition to behavior*, ed. J. Kuhl and J. Beckmann, 11–39. Berlin: Springer-Verlag.
- Bachi, K. 2013. Application of attachment theory to equine-facilitated psychotherapy. *Journal of Contemporary Psychotherapy* 43 (3):187–96. doi:10.1007/s10879-013-9232-1.
- Ball, C., J. Ball, A. Kirkpatrick, and R. Mulloy. 2007. Equestrian injuries: Incidence, injury patterns, and risk factors for 10 years of major traumatic injuries. *The American Journal of Surgery* 193 (5):636–40. doi:10.1016/j.amjsurg.2007.01.016.
- Bandura, A. 1982. Self-efficacy mechanism in human agency. *American Psychologist* 37 (2):122–47. <https://pdfs.semanticscholar.org/8bee/c556fe7a650120544a99e9e063eb8fcd987b.pdf>.
- Beauchamp, M. R., and L. C. Whinton. 2005. Self-efficacy and other-efficacy in dyadic performance: Riding as one in equestrian eventing. *Journal of Sport & Exercise Psychology* 27 (2):245–52. doi:10.1123/jsep.27.2.245.
- BE (British Equestrian). 2022. Annual Report 2022. BE. https://www.britishequestrian.org.uk/assets/extras/Annual%20Review%202022%20_FINAL_22.06.23.pdf.
- Beck, L., and E. A. Madresh. 2008. Romantic partners and four-legged friends: An extension of attachment theory to relationships with pets. *Anthrozoös* 21 (1):43–56. doi:10.2752/089279308X274056.
- Bevan, E. 2024. How much does a horse really cost. H and H does the maths ... *Horse and Hound*, January 24. Accessed January 26, 2024. <https://www.horseandhound.co.uk/features/how-much-does-a-horse-cost-a-month-297517>

- Birke, L., and J. Hockenhull. 2016. Moving (with) in affect. In *Affect, space and animals*, ed. J. Nyman and N. Schuurman, 123–139. Abingdon: Routledge.
- Birke, L., and K. Thompson. 2018. *(Un)stable relations: Horses, humans, and social agency*. Abingdon: Routledge.
- Boden, L. A., T. D. Parkin, and J. Yates, D. Mellor, & R. R. Kao. 2012. Summary of current knowledge of the size and spatial distribution of the horse population within Great Britain. *BMC Veterinary Research* 8 (43):1–7. doi:10.1186/1746-6148-8-43.
- Boden, L. A., T. D. Parkin, J. Yates, D. Mellor, and R. R. Kao. 2013. An online survey of horse-owners in Great Britain. *BMC Veterinary Research* 9 (188):1–11. doi:10.1186/1746-6148-9-188.
- Bornemann, D. 2021. Why Do People Own Horses: The experiences of highly involved dressage horse owners in the United Kingdom. Doctoral diss., University of Gloucestershire. Online Repository. <https://eprints.glos.ac.uk/10470/>
- Bradshaw, J. W. S., and R. A. Casey. 2007. Anthropomorphism and anthropocentrism as influences in the quality of life of companion animals. *Animal Welfare* 16 (S1):149–54. doi:10.1017/S0962728600031869.
- British Dressage. 2022. *British dressage annual report*. Accessed January 26, 2024, from <https://www.britishdressage.co.uk/media/6445/british-dressage-annual-report-2022.pdf>
- Butterfield, M. E., S. E. Hill, and C. G. Lord. 2012. Mangy mutt or furry friend? Anthropomorphism promotes animal welfare. *Journal of Experimental Social Psychology* 48 (4):957–60. doi:10.1016/j.jesp.2012.02.010.
- Case, C. 1988. Paddock rites: Integrative ritual in the racing community. *Sociological Inquiry* 58 (3):279–90. doi:10.1111/j.1475-682X.1988.tb01062.x.
- Charmaz, K. 2006. *Constructing grounded theory*. London: SAGE Publications.
- Clough, H. G. R., J. H. Burford, A. L. Roshier, G. C. England, and S. L. Freeman. 2019. A scoping review of the current literature exploring the nature of the horse-human relationship. *Veterinary Evidence* 4 (4):1–27. doi:10.18849/ve.v4i4.240.
- Collin, F. 1997. *Social reality*. London: Routledge.
- Csikszentmihalyi, M. 2000. *Beyond Anxiety and boredom*. Jossey-Bass Publishers. http://psy2.ucsd.edu/~nchristenfeld/Happiness_Readings_files/Class%207%20-%20Csikszentmihalyi%201975.pdf (Reprinted from: Csikszentmihalyi, M. (1975). *Beyond anxiety and boredom*. Jossey-Bass Publishers.)
- Daniels, J. T., D. Busby, M. Chase-Topping, and S. M. Brown. 2023. I wish he'd listen: Client-centered interviewing approaches are associated with higher compliance with behavioral modification advice in pet dog owners. *Journal of Veterinary Behaviour* 63:22–30. doi:10.1016/j.jveb.2023.03.003.
- Dashper, K. 2014. Tools of the trade or part of the family? Horses in competitive equestrian sport. *Society and Animals* 22 (4):352–71. doi:10.1163/15685306-12341343.
- Dashper, K. 2017. *Human-animal relationships in equestrian sport and leisure*. Abingdon: Rutledge.
- DeAraugo, J., A. McLean, S. McLaren, G. Casper, M. McLean, and P. McGreevy. 2014. Training methodologies differ with the attachment of humans to horses. *Journal of Veterinary Behaviour* 9 (5):235–41. doi:10.1016/j.jveb.2014.05.001.
- Decety, J. 2011. Dissecting the neural mechanisms mediating empathy. *Emotion Review* 3 (1):92–108. doi:10.1177/1754073910374662.
- Deci, E. L., and R. M. Ryan. 1985. *Intrinsic motivation and self-determination in human behavior*. New York: Plenum.
- Dickman, A. J. 2010. Complexities of conflict: The importance of considering social factors for effectively resolving human–wildlife conflict. *Animal Conservation* 13 (5):458–66. doi:10.1111/j.1469-1795.2010.00368.x.

- Dornyei, Z., and E. Ushioda. 2011. *Teaching and researching motivation*. 2nd ed. Abingdon: Routledge.
- Fox, K. 2005. *The racing tribe: Watching the horsewatchers*. London: Metro Publishing Ltd.
- Franklin, R. G., A. J. Nelson, M. Baker, J. E. Beeney, T. K. Vescio, A. Lenz-Watson, and R. B. Adams. 2013. Neural responses to perceiving suffering in humans and animals. *Social Neuroscience* 8 (3):217–27. doi:10.1080/17470919.2013.763852.
- Frommer, S. S., and A. Arluke. 1999. Loving them to death: Blame-displacing strategies of animal shelter workers and surrenderers. *Society and Animals* 7 (1):1–16. https://brill.com/view/journals/soan/7/1/article-p1_1.xml.
- Gray, C., and P. Fordyce. 2020. Legal and ethical aspects of ‘best interests’ decision-making for medical treatment of companion animals in the UK. *Animals* 10 (6):1009. doi:10.3390/ani10061009.
- Gray, C., M. Fox, and P. Hobson-West. 2018. Reconciling autonomy and beneficence in treatment decision-making for companion animal patients. *Liverpool Law Review* 39 (1–2):47–69. doi:10.1007/s10991-018-9211-4.
- Hemsworth, L. M. 2012. *The welfare of recreational horses in Victoria: The occurrence of and factors associated with horse welfare*. Doctoral diss. Monash University. National Library of Australia. <https://trove.nla.gov.au/work/189393087>
- Henley Centre. 2004. *A report of research on the horse industry in Great Britain*. BHIC and DEFRA. Accessed January 26, 2024, from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/69259/pb9255-bhic-report-040318.pdf
- Horowitz, A. C., and M. Bekoff. 2007. Naturalizing anthropomorphism: Behavioural prompts to our humanizing of animals. *Antrozōs* 20 (1):23–35. doi:10.2752/089279307780216650.
- Ijichi, C., K. Griffin, K. Squibb, and R. Favier. 2018. Stranger danger? An investigation into the influence of human-horse bond on stress and behaviour. *Applied Animal Behaviour Science* 206:59–63. doi:10.1016/j.applanim.2018.05.034.
- Jackman, P., M. Hout, A. Lane, and G. Fitzpatrick. 2015. Experiences of flow in jockeys during flat-race conditions. *International Journal of Sport and Exercise Psychology* 13 (3):205–23. doi:10.1080/1612197X.2014.956327.
- Jenke, N., J. B. Coe, T. M. Bernardo, C. E. Dewey, and E. A. Stone. 2021. Pet owners’ and veterinarians’ perceptions of information exchange and clinical decision-making in companion animal practice. *Public Library of Science One* 16 (2):e0245632. doi:10.1371/journal.pone.0245632.
- Lamperd, W., D. Clarke, I. Wolframm, and J. Williams. 2016. What makes an elite equestrian rider? *Comparative Exercise Physiology* 12 (3):105–18. doi:10.3920/CEP160011.
- Levin, J., A. Arluke, and L. Irvine. 2017. Are people more disturbed by dog or human suffering? *Society and Animals* 25 (1):1–16. doi:10.1163/15685306-12341440.
- Lewis, A. 2020. Infantilizing companion animals through attachment theory: Why shift to behavioural ecology-based paradigms for welfare. *Society and Animals* 31 (2):178–95. doi:10.1163/15685306-bja10011.
- Lowe, B. 2008. War for the seals: The Canadian seal controversy and sociological warfare. *Taboo: The Journal of Culture & Education* 12 (1). doi:10.31390/taboo.12.1.09.
- Macauley, L., and A. Chur-Hansen. 2023. Human health benefits of non-conventional companion animals: A narrative review. *Animals* 13 (1):28. doi:10.3390/ani13010028.
- McCloughlin, E., C. Clancy, and F. Cooke. 2022. Donkey discourse: Corpus linguistics and charity communications for improved animal welfare. *Applied Corpus Linguistics* 2 (2):1–10. doi:10.1016/j.acorp.2022.100019.
- McGreevy, P. 2007. The advent of equitation science. *The Veterinary Journal* 174 (3):492–500. doi:10.1016/j.tvjl.2006.09.008.
- McGreevy, P., and A. McLean. 2010. *Equitation science*. Oxford: John Wiley and Sons.

- Michie, S., R. West, R. Campbell, J. Brown, and H. Gainforth. 2014. *ABC of behaviour change theories: An essential resource for researchers, policy makers, and practitioners*. Great Britain: Silverback Publishing.
- Mitchell, S. E. 2013. *Self-determination theory and Oklahoma equestrians: A motivation study*. Doctoral diss. Oklahoma State University–Stillwater. <https://shareok.org/handle/11244/19486>
- Mota-Rojas, D., C. Mariti, A. Zdeinert, G. Riggio, P. Mora-Medina, A. Del Mar Reyes, A. Gazzano, A. Dominguez-Oliva, K. Lezama-Garcia, N. Jose-Perez, et al. 2021. Anthropomorphism and its adverse effects on the distress and welfare of companion animals. *Animals* 15 (11):3263. doi:10.3390/ani11113263.
- Pun, J. K. H. 2020. An integrated review of the role of communication in veterinary clinical practice. *BMC Veterinary Research* 16 (1):394. doi:10.1186/s12917-020-02558-2.
- Raulff, U. 2017. *Farewell to the horse: The final century of our relationship*. Trans., R. A. Kemp. London: Penguin Books.
- ROA (Racehorse Owners Association). 2016. *National Racehorse Owners Survey*. Accessed 22 January 2023 https://issuu.com/keelybrewer/docs/2_circles_survey_growing_racehorse_ownership_-_rca
- Robinson, I. H. 1999. The horse-human relationship: How much do we know? *Equine Veterinary Journal Supplement* 31 (S28):42–45. <https://onlinelibrary.wiley.com/doi/pdf/10.1111/j.2042-3306.1999.tb05155.x>.
- Ryan, R. M., and E. L. Deci. 2017. *Self-determination theory: Basic psychological needs in motivation, development, and wellness*. New York: Guilford Press.
- Sable, P. 1995. Pets, attachment, and well-being across the life cycle. *Social Work* 40 (3):334–41. doi:10.1093/sw/40.3.334.
- Schuurman, N., and A. Franklin. 2016. In pursuit of meaningful human-horse relations: Responsible horse ownership in a leisure context. In *Affect, space and animals*, ed. J. Nyman and N. Schuurman, 40–51. Abingdon: Routledge.
- Serpell, J. A. 2002. Anthropomorphism and anthropomorphic selection – beyond the “cute response”. *Society and Animals* 10 (4):437–54. doi:10.1163/156853002320936926.
- Sirgy, M. J. 1982. Self-concept in consumer behavior: A critical review. *Journal of Consumer Research* 9 (3):287–300. doi:10.1086/208924.
- Stebbins, R. 1982. Serious leisure: A conceptual statement. *The Pacific Sociological Review* 25 (2):251–72. doi:10.2307/1388726.
- Thomas, N. 2016. *Animal ethics and the autonomous animal self*. London: Palgrave Macmillan.
- Thompson, K., and L. Clarkson. 2019. How owners determine if the social and behavioural needs of their horses are being met: Findings from an Australian online survey. *Journal of Veterinary Behaviour* 29:128–33. doi:10.1016/j.jveb.2018.12.001.
- Thompson, K., P. McGreevy, and P. McManus. 2015. A critical review of horse-related risk: A research agenda for safer mounts, riders and equestrian cultures. *Animals* 5 (3):561–75. doi:10.3390/ani5030372.
- Topál, J., A. Miklósi, V. Csányi, and A. Dóka. 1998. Attachment behaviour in dogs (*Canis familiaris*): A new application of Ainsworth’s (1969) strange situation test. *Journal of Comparative Psychology* 112 (3):219–29. <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.526.4460&rep=rep1&type=pdf>.
- van Weeren, P. R. 2008. Guest editorial: How long will equestrian traditionalism resist science? *The Veterinary Journal* 175 (3):289–90. doi:10.1016/j.tvjl.2007.06.017.
- Watson, L., and M. T. Spence. 2007. Causes and consequences of emotions on consumer behaviour: A review and integrative cognitive appraisal theory. *European Journal of Marketing* 41 (5/6):487–511. doi:10.1108/03090560710737570.

- Weiner, B. 1972. *Theories of motivation: From mechanism to cognition*. Chicago: Markham Publishing Company.
- Weiner, B. 1985. An attributional theory of achievement motivation and emotion. *Psychological Review* 92 (4):548–73. doi:[10.1037/0033-295X.92.4.548](https://doi.org/10.1037/0033-295X.92.4.548).
- Williamson, V., D. Murphy, and N. Greenberg. 2021. Veterinary professionals' experiences of moral injury: A qualitative study. *Veterinary Record* 192 (2):e2181. doi:[10.1002/vetr.2181](https://doi.org/10.1002/vetr.2181).
- Woods, J. M., E. K. Lane, and L. J. Miller. 2019. Preference assessments as a tool to evaluate environmental enrichment. *Zoo Biology* 39 (6):382–90. doi:[10.1002/zoo.21566](https://doi.org/10.1002/zoo.21566).
- Wylie, C. E., J. L. Ireland, S. N. Collins, K. L. P. Verheyen, and J. R. Newton. 2013. Demographics and management practices of horses and ponies in Great Britain: A cross-sectional study. *Research in Veterinary Science* 95 (2):410–17. doi:[10.1016/j.rvsc.2013.05.004](https://doi.org/10.1016/j.rvsc.2013.05.004).
- Zilcha-Mano, S., M. Mikulincer, and P. R. Shaver. 2012. Pets as safe havens and secure bases: The moderating role of pet attachment orientations. *Journal of Research in Personality* 46 (5):571–80. doi:[10.1016/j.jrp.2012.06.005](https://doi.org/10.1016/j.jrp.2012.06.005).