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ANIMAL WELFARE SCIENCE UPDATE

Issue 90 | July 2025

The aim of the animal welfare science update is to keep you informed of developments in animal welfare science relating to the work of the RSPCA. The update provides summaries of the most relevant scientific papers and reports viewed by the RSPCA Australia office in the past quarter.

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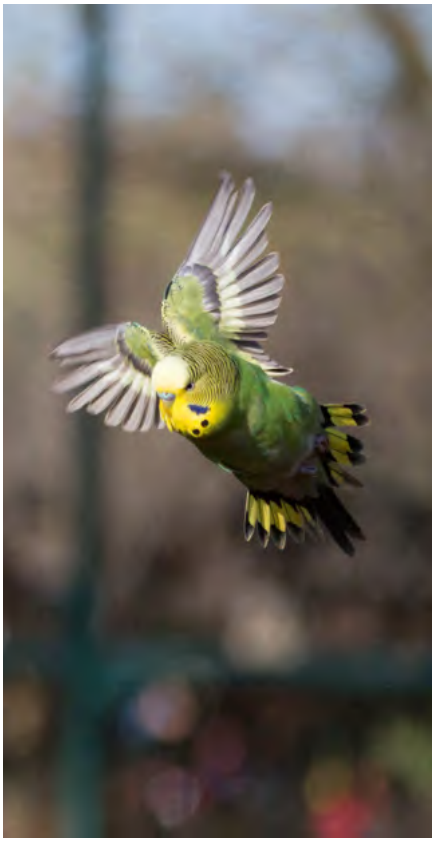

RSPCA Australia **Sybil Emslie Animal Law Scholarship 2025**

SYBIL EMSLIE ANIMAL LAW SCHOLARSHIP 2025

The Sybil Emslie Animal Law Scholarship celebrates Sybil Emslie's life-long commitment to the care and protection of animals by encouraging legal scholarship and practice dedicated to advancing animal welfare.

The $1,000 annual scholarship will be awarded to an animal lawyer or law student for contribution to animal law literature, and a commitment to the practice of animal law through active and substantial engagement with animal law and animal protection organisations and initiatives. The Scholarship is administered by RSPCA Australia with funds contributed by Sybil Emslie's family and other donors.

ELIGIBILITY CRITERIA

Applicants must:

1. Be either enrolled in an undergraduate law degree, or enrolled or aspiring to enrol in a higher research degree within an Australian law school, or be a practising lawyer within an Australian jurisdiction.

2. Demonstrate their commitment to the practice of animal law through active and substantial engagement with animal law and animal protection organisations and initiatives.

3. Demonstrate how their research or practising activity will benefit the development and application of animal law and animal protection more broadly.

For more details visit
https://www.rspca.org.au/about/scholarships/

COMPANION ANIMALS

Scratch that! Challenging the assumption that cat scratching is caused by stress

Scratching is frequently considered undesirable behaviour by cat owners and has often been assumed to be associated with stress. Undesirable behaviours such as scratching can cause frustration for owners and negatively impact pet cat welfare through the use of aversive punishments or surrender of the cat. Whilst scratching may serve biological functions including maintaining muscle tone, shedding nails, and communication, its causal factors (stress or otherwise) have not been definitively determined. Authors from the University of Lincoln undertook a survey of cat owners to gain insight into relationships between scratching and environmental dynamics and examine the potentially misguided linking of scratching with stress.

A survey distributed on social media and answered by 1797 cat owners investigated cat demographics, lifestyle and behaviours, frequency and location of scratching, and whether scratching was problematic for owners. Younger cats and female cats had higher odds of scratching than senior and male cats, respectively. The presence of pet dogs in the home reduced the odds of frequent scratching and recent removal of a human from the social dynamic was associated with increased scratching. Common locations for scratching were resting places, soft furniture, and bedrooms. Increased likelihood of frequent scratching was not found to be associated with predictors of urine marking behaviour or neuter status, nor predicted stressors such as presence of children in the home, moving house, renovations, new pets, or people. The most common behaviours demonstrated by cats within one metre of scratching were associated with positive states such as greeting people, sleeping, or play.

These findings challenge the often-assumed association between scratching and stress, with the authors suggesting that scratching may in fact be associated with positive mental states. The authors recommend further research to unveil different forms or functions of scratching and encourage new hypotheses for triggers of scratching in pet cats.

Braggs J, Mills DS (2025) Unwanted feline scratching in the home: A re-examination of its relationship with stress and marking. Appl Anim Behav Sci 287:106635

How post-adoption support can benefit dogs and owners today and boost adoption success in the future

In 2018, the Dogs Trust UK launched their Post Adoption Support project, which provides follow-up calls to adopters to discuss health and behavioural concerns at two days, two weeks, and four months post adoption. The data gathered from this project constitutes the largest prospective cohort study of dogs post adoption with intended benefits of improved post-adoption owner and dog wellbeing and reduced re-relinquishment rates.

Data from 5567 adoptions which occurred over a six-month period in 2019 is reported in this paper. Adopters were asked a standardised set of single, multiple choice, and free-answer questions relating to health symptoms and behaviours demonstrated by the dog. Over 50% of adopters at each time point were offered call-back support however the requirements for call-backs reduced over time. 1.7% of adopted dogs were returned within two days, whilst 85% remained in the adoptive home at six months post adoption. One or more dog health concern was reported by 56% of adopters at the first call, reducing to 38% at the four-month mark. Behavioural issues were reported by 50-60% of adopters throughout, with potentially aggressive behaviours (for example, growling, snapping/biting or lunging) identified by one third of adopters. Whilst the proportion of adopters leaving their dog alone increased with time post adoption, reported separation related behaviours decreased. Other commonly reported behaviour concerns included vocalising, resource-related, and toileting behaviours.

The authors suggest numerous valuable insights which can be drawn from this data and, that due to the large sample size and high completion rate, these learnings could potentially be extrapolated to the general post-adoption owner and dog population across the UK. Findings from this project can identify trends in post-adoption health and behavioural concerns that allow for pre-adoption interventions, adopter expectation setting, and proactive post-adoption support to reduce re-relinquishment rates.

Buckland EL, Giragosian K, Jordan EJ, Da Costa REP, Woodward JL, Casey RA (2025) ***New strategies of canine post-adoption support: Methods for a prospective longitudinal cohort study.*** *Animals 15(9):1232*

Beyond the cage: What do our guinea pigs need?

Despite guinea pigs being popular pets, there is limited evidence about factors impacting their welfare and whether owners are meeting their needs. Guinea pigs have specific physiological requirements, including constant access to roughage, adequate vitamin C sources, and sufficient places to hide. Guinea pigs require space to move freely, environmental enrichment, and interactions with others of their species to maintain physical and mental wellbeing.

Researchers surveyed 1181 guinea pig owners in western Europe to investigate how housing conditions and human-animal interactions influence guinea pig behaviour and overall welfare. Over 90% of guinea pigs were housed socially, with the majority living in groups of three or more. Whilst 96% of guinea pigs were provided with hiding spaces and only 2% were kept solely in cages, 35% had no exercise opportunities outside their regular enclosure. Although most guinea pigs received constant access to hay and daily green fodder, 15% of guinea pigs were reported as being ill at the time of the survey. Owners averaged one hour of human-guinea pig interaction per day, most commonly talking, handfeeding, and carrying/stroking. Broadly, owners of guinea pigs who received more frequent food enrichment and human interaction were likely to report their guinea pig displayed more affiliative behaviours and locomotor play. These behaviours were also more common when more hiding places were available and less common following recent changes in social group composition.

This study highlights scope to leverage owner education to improve pet guinea pig welfare and housing conditions. The authors recommend future studies incorporating direct observation of guinea pigs and avoiding potential limitations and bias of self-enrolled and self-reported studies. Further study exploring guinea pigs' experience of human-animal interactions such as being carried and stroked may also contribute to improved welfare.

Elsbacher T, Sommese A, Waiblinger S, Kunzel F, Arhant C, Windschnurer I (2025) ***Guinea pig (Cavia porcellus) welfare: Associations between husbandry practices, human–animal interactions, and animal behaviour****. Animals 15(8):1157*

They may be smaller, but their welfare needs are just as big: Examining welfare issues experienced by small pet mammals

With their increasing popularity as pets, the welfare of small mammals such as rabbits, rats, mice, and guinea pigs is an area deserving of further study, such that pet owners can best provide for the specific needs of these species. "Non-traditional companion animals" may receive suboptimal welfare due to lesser knowledge and evidence-based resources available to owners when compared to dogs and cats. The authors of this paper set out to identify the issues most significantly influencing the welfare of pet small mammals, such that improvement efforts are concentrated where greatest welfare benefit can be achieved.

Researchers surveyed 46 veterinarians and veterinary nurses from the UK and Europe on their perspective on the prevalence and severity of welfare issues across eight small mammal species commonly kept as pets. For each of the species, respondents ranked 14 welfare issues by severity and the proportion of the population affected on a five-point scale. Welfare concerns identified across all species in the study included insufficient space and inappropriate diet. Other common issues included inappropriate handling and social grouping, dental and respiratory disease, and constraints on expression of normal behaviours. Guinea pigs were the species found to have the highest prevalence of welfare issues, with rabbits suffering the most severe welfare impacts.

Many of the priority welfare issues identified have interrelationships with others, such as inappropriate housing and space impairing the animal's ability to perform normal behaviours, and inadequate diet leading to dental disease. Therefore, education on these priority issues is likely to have broad reaching impacts towards welfare enhancement. One key recommendation from the authors is to regulate the sale of pet enclosures, as increasing access to affordable and appropriate housing for pet small mammals is likely to significantly improve their welfare.

Fenton L, Benato L, Mancinelli E, Rooney NJ (2025) ***What are the most prevalent welfare issues for pet small mammals?*** *Animals 15(10):1423*

What's up doc? Examining veterinary treatment of rabbit dental problems

Despite being popular pets, rabbits comprise just 2% of the animals presented for treatment at veterinary clinics. Dental disease is a common health problem amongst rabbits, which causes pain and impaired ability to eat; however, symptoms are not always obvious to owners. Previous research has highlighted that veterinarians have low confidence in diagnosis and treatment of rabbits. To explore common clinical findings and approaches to dental disease in veterinary practice, researchers undertook a retrospective study of veterinary records of rabbits treated in 2019 across the United Kingdom.

2219 cases of rabbit dental disease were identified, with approximately half of these presenting without any clinical signs. Among 34 clinical signs listed in total, reduced food intake was the most common followed by reduced faecal output, ocular discharge, and lethargy. Reduced food intake can lead to gut stasis, which itself can cause pain, illness, and death. Dental disease was found to be the primary or contributory cause of death in 51% of cases. Diagnostic imaging was used in just 2.5% of cases, and the most common treatment was teeth trimming. Dietary modification as a treatment strategy was recorded in 21% of cases.

The outcomes highlight areas for further veterinarian education, such as use of diagnostic imaging and sedation to achieve more accurate diagnostics and administration of treatment with reduced stress and pain for the patient. As diet is a primary cause of dental issues, increasing the proportion of cases where diet change is recommended could reduce the overall prevalence. With rabbits making up a small proportion of veterinary clinic patients, and dental disease often occurring 'silently', the volume of pet rabbits suffering this condition may be significantly underestimated. Owner education on the importance of regular veterinary visits, appropriate diet, and subtle signs of dental disease is necessary to enhance pet rabbit welfare.

Jackson MA, O'Neill DG, Hedley J, Brodbelt DC, Burn CC (2025) ***Dental disease in rabbits under UK primary veterinary care: Clinical management and associated welfare impacts.*** *Vet Rec e5326*

Big data could bring big benefits for dog breeding

The International Partnership for Dogs' fifth International Dog Health Workshop in June 2024 brought together 106 experts to discuss current key issues impacting dog health globally. This forum explored and identified action items relating to 'Supply and Demand', 'Breeding for Health and Wellbeing', 'Big Data', and 'Breed vs Variety'.

The COVID-19 pandemic generated unprecedented demand for puppies, which was met by increased illegal trade and unethical breeding practices. Alongside this demand, societal trends for extreme conformation such as brachycephaly has perpetuated breeding for harmful physical characteristics. Growing evidence of these harms is not converting to improved pet acquisition behaviour and ineffective enforcement of legislation permits ongoing inappropriate breeding. Breed standards and closed breed registers are also leading to inadvertent selection for undesirable traits through reduced genetic diversity. The benefits of cross-breeding between similar breeds to reduce common heritable conditions within closely bred breeds was discussed as a promising pathway but requires buy-in from owners, breeders, and kennel clubs alike. Kennel clubs and veterinary databases contain vast volumes of data, which if collated and analysed by artificial intelligence could provide unprecedented insight into dog genetics and health, fast-tracking the development and implementation of estimated breeding values which can accelerate breeding of healthier dogs.

The workshop's key message was the importance of enhanced enforcement of more effective legislation against the inappropriate breeding practices and breeding of extreme conformations, as well as increasing genetic diversity in dogs. Recommendations include shifting societal and breed club focus away from pure breeds, promoting genetic diversity, adjusting breed standards, and using social pressure to discourage trends promoting harmful traits. Key strategies include education via veterinarians, kennel clubs, and animal welfare organisations, international certification for responsible breeders, centralising disease and data registries, and leveraging 'big data' to support responsible, health-focused dog breeding.

Mäki K, Llewellyn-Zaidi A, St Louis D, et al. (2025) ***Moving from information and collaboration to action: Report from the 5th International Dog Health Workshop in Helsinki, June 2024.*** *Comp Anim Health Genet 12:2*

Changing human behaviour can change the lives of companion animals

Welfare compromises can be experienced by companion animals due to inadequate provision of veterinary care and inappropriate husbandry and diet. These factors can cause health and behavioural problems that can lead to relinquishment, which is known to be distressing for owners and animals alike. Proactively identifying community-specific animal-owner needs and providing interventions prior to relinquishment decisions can keep animals with families, reducing suffering and strain on limited resources of shelters. However, this requires community engagement and a project incorporating human behaviour change models implemented by Woodgreen Pets Charity in England provides insights into a novel approach to improve companion animal welfare.

Three objectives guided the project: identifying community-specific pet-welfare challenges, exploring support needs of pet owners, and implementing a co-created solution to these. Following an initial research phase and peer to peer discussions which identified relevant community stakeholders and influencers, surveys and then interviews were undertaken with shelter workforce, pet owners, community members, and veterinarians. These explored pet owner awareness of support services, sources of advice, and factors influencing accessing veterinary care. Thematic analysis and the Behaviour Change Wheel were used to define the target behaviour of accessing annual pet health checks. Exploration of owner's capability, opportunity, and motivation to access veterinary care for their pets (COB-M model) identified barriers such as opening hours, transport, and affordability. A co-creation project was undertaken with community stakeholders to implement free health checks for pets within the community, incorporating ease of booking and access tailored to community needs.

This model demonstrates that utilising human behaviour change models and community co-creation can circumvent factors that have limited success of previous animal welfare interventions. Increasing owner knowledge to change behaviour around seeking veterinary care will more successfully improve pet welfare if barriers relevant to the community such as awareness of services, affordability, and accessibility are addressed.

Powdrill-Wells N, Bennett C, Cooke F, Rogers S, White J (2025) ***A novel approach to engaging communities through the use of human behaviour change models to improve companion animal welfare and reduce relinquishment.*** *Animals 15(7):1036*

FARM ANIMALS

What is behind the slow uptake of slow-growing broilers?

Evidence demonstrates that slow-growing broiler chickens experience significantly better welfare compared to their fast-growing counterparts. Despite this, changeover to slow-growing strains in broiler production is slow. This paper examines, from stakeholder perspectives, factors that are limiting this transition.

Interviews were undertaken with representatives from broiler breeding and producer companies, assurance schemes, retailers, welfare charities and government bodies, as well as poultry veterinarians and welfare scientists, totalling 30 participants. Despite broad agreement with welfare enhancements offered by slow-growing strains, concerns about decreased land use efficiency, increased cost and inability to meet carbon emission targets were widely expressed. Slow-growing chickens require more resource and time input to produce the same quantity of meat with producers articulating concerns about insufficient infrastructure, space and supply of slow-growing broilers to meet demand. All respondents acknowledged probable environmental implications of a transition to slow-growing strains. A consumer-citizen gap, in which citizens aspire to purchase higher welfare products yet consumer behaviour preferences affordable products, was highlighted. Despite this, social licence remains a motivator for retailers.

The article highlights that trade-offs between welfare intentions, environmental sustainability, pressure to meet net zero targets and consumer demand are likely stalling progress. Industry representatives balance reputational risks against business risks, with consumers' behaviour clearly indicating a requirement for cheap chicken despite expressing intentions to purchase higher welfare products. Participants within the welfare and science segment of the industry suggest that consumer expectations must change, and other positive impacts such as enhanced producer wellbeing, reduced disease and reduced antibiotic use will balance out sustainability concerns. They suggest the food system needs transformative change. The authors highlight an urgent need for accurate economic and environmental modelling to guide the industry on the best way forward for production sustainability and chicken welfare alike.

Abeyesinghe SM, Stanley I, Nicol CJ, Cardwell JM (2025) ***Stakeholder views on shifting UK chicken meat production to slower-growing broilers.*** *Front Anim Sci 6:1534108*

Trillions of insects deserve our attention to their welfare

Insects are the most numerous animals farmed on land, with over two trillion individuals estimated to be farmed this year, and the industry continues to grow in response to the world's need for more sustainable protein sources and food security. Whilst there is ongoing scientific debate around insect sentience, research suggests insects can experience states such as pain and anxiety. Our understanding of farmed insect welfare however lags behind the industry's growth, so this literature review examines existing physiological welfare indicators that may be suitable to evaluate insect welfare in farming systems.

Methods for assessing insect welfare were evaluated based on their usefulness, correctness (including validity, accuracy, and reliability), and feasibility (practicality for on-farm application). Physical measures such as body condition, presence of injuries or elevated body temperature were found to be useful and somewhat feasible; however, they are not comprehensive indicators of overall welfare. Physiological markers such as the production of stress-related chemicals or hormones, indicators of oxidative stress (cell damage), cytokines (immune system regulation) and haemocyte (blood cell with immune functions) counts have been demonstrated to alter in response to stress. For example, isopentyl acetate is released by stressed honeybees to elicit anti-threat behaviour, and haemocyte (blood cell) counts in crickets increase following acute stressful events such as restraint. Such markers have potential due to their validity and reliability however often only indicate negative welfare changes and their feasibility may be limited by the requirement for technical equipment, and invasive sampling or sacrifice of individuals to obtain samples.

Further research is required to understand normal or baseline measures for many of these indicators, across various species, such that they can be employed to detect deviations from normal. Existing valid and reliable indicators of insect welfare largely require laboratory testing, but these could be used to validate other operational insect welfare indicators which may become feasible for on-farm use in future.

Johnson MG, Barrett M (in press) ***Review: Exploring correctness, usefulness, and feasibility of potential physiological operational welfare indicators for farmed insects to establish research priorities.*** *animal https://doi.org/10.1016/j.animal.2025.101501*

What are ewe going to do about it? How to reduce Merino ewe mortality

Whilst Merino sheep make up the majority of Australia's female (ewe) sheep breeding population, totalling over 30 million ewes, there has been no breed-specific research into causes for ewe mortality, which has impacts on both productivity and animal welfare. The economic cost of Merino ewe mortality is expected to be significant, with loss due to dystocia (birthing difficulties) alone estimated to cost sheep farmers $81 million per year. Australian researchers provide a literature review to define the incidence and causes of mortality around the time of giving birth in Merino ewes and establish a basis for reduction strategies.

The review revealed a mean Merino ewe mortality ranging from 0.3 to 11.4 per cent around the time of lambing. Practicalities of extensive farming systems reduce accurate measurement or identification of causes, with previous research indicating mortality is underestimated approximately 50 per cent of the time. Additionally, methods used to calculate mortality rate and definitions of the periparturient period (the period around the time of giving birth) vary between reports rendering estimates poorly comparable. Dystocia is the leading cause of periparturient mortality in other sheep breeds, with pregnancy toxaemia (low blood sugar) and low blood calcium being other significant contributors to periparturient loss. These are multifactorial in cause including diet, age, and carrying more than one lamb. Older age and poorer body condition are associated with general ewe mortality, and all causes can be compounded by disease such as parasitism, foot rot and Johne's disease.

Suggested methods to reduce mortality include tailored feeding for ewes carrying twins, monitoring during lambing and enhanced flock management recording systems. The authors conclude that existing data is insufficient to clearly identify cause factors specific to Merino ewe mortality. Further research is required including national level studies with consistent methodology to define mitigation strategies. Research that defines the economic cost of Merino ewe mortality will assist in incentivising producers to implement interventions which will have a flow on effect to sheep welfare.

Kirk B, Clune T, de Looff E, Jones J, Barber S, McGill D, Rowlands L, McGrath S, Kelly J, Whale A, Jacobson C, Glanville E (2025) ***Periparturient mortality in Merino ewes in Australia: Incidence, impact and the path to mitigation strategies.*** *Aust Vet J 103:287–297*

Buddy-up: Social support reduces signs of stress in pigs participating in research studies

Despite evidence that pigs are social animals, many experimental models investigating behaviour and learning test pigs individually. With social isolation known to induce stress in pigs, this may influence test performance. One such model, the judgement bias task (JBT) trains animals to different stimuli signalling a positive or negative outcome, then assesses whether subsequent responses to ambiguous cues are optimistic or pessimistic. The JBT is thought to provide insight into animals' affective state (how they are feeling). Researchers in Austria set out to investigate the influence of social support on JBT outcomes with the hypothesis that pigs will learn faster and demonstrate more optimistic test results when they are not isolated from other pigs.

Thirty-six domestic pigs were divided into groups of six balanced for sex, each consisting of two pigs tested in isolation (ISO), two pigs tested with social contact (SOC) and two buddy pigs. During testing of SOC pigs, buddy pigs were in an adjoining pen with a meshed window allowing visual and physical contact. Alongside test outcomes, frequency and duration of pig behaviours during training and testing were recorded. Results indicated no difference in training duration or performance in the test between ISO and SOC groups, however whilst not statistically significant, a greater number of ISO pigs were unable to learn the task. Additionally, the frequency of behaviours indicative of stress such as vocalisation, freezing and escape attempts, was significantly higher in the ISO group.

To the authors' knowledge, this was the first study to compare outcomes of behaviour testing in isolation versus with social contact in a social species. Although the results did not completely support the hypothesis, other valuable conclusions can be drawn: social contact does not appear to bias test results and incorporating social contact into experiment models has scope to reduce stress-related behaviour, improving pig welfare in research. Further research with larger sample sizes and different experimental models is recommended.

Kroell M, Winckler C, Hintze S (2025) ***By your side: How social support affects training duration, task performance and behaviour of pigs in a judgement bias task.*** *Anim Welfare 34:e25*

Can keeping cow and calf in contact be conducive to improved welfare?

In dairy farming systems, allowing the calf to feed from the cow for extended periods competes with production, as such calves are typically removed at birth. Increasingly, this practice is being called in to question due to societal concerns, and from within the industry where benefits of prolonged cow-calf contact (CCC) have been observed. The authors of a qualitative review seek to explore what is known about CCC to guide future research.

Through participating in seminars and literature review the authors highlight several key concepts. CCC research faces challenges with reproducibility and validity, with much of the existing research having been performed in controlled experimental settings rather than as part of commercial farm management. Exploration of farmer perspective reveals concerns about practicalities of CCC such as increased workload and reduced profits. Further research should explore the impact of CCC on calf health and performance, udder health and milk yield. CCC is expected to provide opportunities for positive animal welfare, with existing research indicating associated increases in behaviours such as play and grooming, and that cows are highly motivated to be with their calves. Consequences of cow-calf separation after an extended period of bonding must however be explored to appreciate the holistic consequences of CCC on cow and calf welfare. The impacts of CCC on profitability, and environmental and economic sustainability must also be investigated.

The authors intend for this paper to promote further discussion about what role CCC may play in the future of dairy farming. Numerous themes requiring further research have been unveiled, which could guide development of best-practice guidelines for CCC. With evolving societal expectations both ethically and economically, the authors conclude that the dairy industry, and the animals within it, would benefit from an open-minded approach to CCC.

Whalin L, Barth K, Bertelsen M, Bokkers EAM, Ferneborg S, Haskell MJ, Ivemeyer S, Jensen MB, Johanssen JRE, Mejdell CM, Mughal M, Neave HW, Vaarst M, van Knegsel A, van Zyl CL, Wegner CS, Johnsen JF (2025) ***Invited review: Future directions for cow-calf contact research and sustainable on-farm applications.*** *J Dairy Sci 108(7):6550-6564*

ANIMALS IN SPORT, ENTERTAINMENT, PERFORMANCE, RECREATION AND WORK

For horses to learn best, humans need to learn about learning theory

Learning theory – how animals learn and develop behaviours through experiences and associations with stimuli – should form the basis of horse training methods. Existing studies however have demonstrated poor knowledge of learning theory amongst horse professionals such as coaches and veterinarians. Researchers conducted a survey in the United Kingdom to explore learning theory knowledge amongst non-professionals, and the relationship of knowledge level to perception of problem behaviours and intervention strategies.

The survey received 672 respondents, 89% of whom had over ten years' experience with horses. Respondents' knowledge of learning theory was assessed by their ability to identify operant conditioning quadrants (positive/negative reinforcement or positive/negative punishment) from various scenarios, with less than 20% identifying all quadrants correctly.

Respondents rated their likelihood of using certain descriptors for a horse demonstrating hesitant behaviour and selected from lists of potential motivators for the horse's behaviour, as well as interventions they would apply. Better knowledge of learning theory was associated with a reduced likelihood of selecting derogatory descriptors of the horse (such as "naughty" or "disrespectful"), and of selecting scientifically implausible motivations for the horse's behaviour (such as testing the rider). Only around one third of respondents indicated they would be likely to use positive reinforcement-based interventions to overcome the hesitant behaviour. With increasing years of experience, respondents self-assessed knowledge increased, however correct demonstration of knowledge in the survey did not.

This study demonstrates associations between learning theory knowledge and the perception and management of horse behaviours. Overall, the findings indicate a poor understanding of learning theory by the general equestrian population in the UK. Poor knowledge can impede understanding of the horse's experience and motivations, leading to blaming of the horse and selection of inappropriate management methods. This can impact horse welfare through the use of punishment and lead to negative emotional states. The authors call for further research to identify methods of increasing not only knowledge but also appropriate application of this knowledge in ways that improves horse welfare.

Girgis E, Shaw DJ, Heffernan D, Spence H, Pearson G (2025) ***Investigation of a potential link between UK equestrians' understanding of learning theory, and their perception of and response to a problematic equine behaviour.*** *Appl Anim Behav Sci 287:106639*

Is licensing the answer? How to improve the welfare of privately owned horses

In response to welfare concerns for the growing horse population in France, mandatory education and licencing was implemented for horse owners in 2022. This prompts examination of issues influencing horse welfare within the UK, where no structured educational strategies or regulations exist for private horse owners. Researchers from the University of Edinburgh conducted a literature review to identify the most studied factors contributing to suboptimal horse welfare, barriers and potential solutions.

The most frequently reported welfare concerns were distress, health and unwanted behaviour, with management and training significantly more commonly cited as causes compared to other factors. Management includes confinement, feeding practices and social isolation whilst concerns regarding training highlight inappropriate or ineffective methods that do not align with current knowledge on equine learning. Literature indicates that impactful barriers to improving horse welfare include owner knowledge, understanding and beliefs. Whilst further research was most cited as a potential solution, the authors acknowledge that scientific research is unlikely to translate to timely practical improvements for the welfare of individual privately owned animals. Whilst education appears a logical solution to inadequate knowledge and understanding, evidence indicates education alone does not directly result in human behaviour changes that improve the welfare of animals.

The authors conclude that enhancing horse welfare necessitates changes throughout all areas and levels of the industry. Whilst education may enhance owner knowledge, factors in addition to the owner's intentions and beliefs, such as resource constraints, may impair owner ability to provide improved welfare. The authors call for further investigation into the potential for horse owner licensing to improve welfare including examination of the outcomes of the recent French licencing program. Any structured education or licencing program for improving horse welfare requires sufficient resourcing and is reliant on owners being receptive to learning and change.

Hall-Bromley A, Dixon L (2025) ***Education and licensing of horse owners: Addressing poor horse welfare in the UK.*** *animals 15(7):1037*

Dressage's wicked problem causing dilemmas for human and horse participants

Evolving societal attitudes increasingly call into question the use of horses for dressage, with social media amplifying concerns over unethical handling and training practices. Research has also highlighted welfare implications of certain aspects of the sport. The perspective of participants in the discipline however is less clear, so a study was undertaken to explore where horse wellbeing sits within the culture of the Canadian dressage industry from the perspective of coaches and riders.

Four Equestrian Canada certified coaches participated in the study, along with four to six riders per coach. Authors used field observations and interviews for a qualitative study, through which thematic analysis revealed three main themes. The first theme examines the perceived effectiveness of systems that govern the industry such as Equestrian Canada and Fédération Équestre Internationale (FEI). The second theme highlights contradictions within the culture of dressage. Coaches or riders who undertake inappropriate training practices continue to be rewarded with competition success and judges rewarding horses who display distress behaviours or postures known to compromise welfare such as the head being behind the vertical. The third theme is the participants' dilemma due to cognitive dissonance between being motivated to train and compete whilst being aware that accepted practices, training methodology and competition requirements may impair the wellbeing of a horse they love.

From their study, the authors identified systemic issues within the Canadian dressage industry, with no definitive solution due to numerous interconnecting contributing factors. Whilst participants may have responsibility and capacity to positively influence the welfare of horses in their care, this may come at the cost of competition success. The authors call out deep-rooted systemic issues within an industry governed by a body that has implemented programs to improve welfare but fails to uphold their role in enforcing the desired changes.

Ross M, Proudfoot K, Merkies K, Lundgren C, Ritter C (2025) ***A wicked problem: Systemic issues surrounding Canadian equestrian dressage and dressage horse welfare.*** *Anim Welfare 34:e11*

A method to RaiSE horse welfare assessments

Horse welfare is heavily influenced by the ability of their carers to understand their welfare state and provide care accordingly. However, existing research indicates many horse owners are poor at interpreting their horses emotional (affective) state. Changes in horse body language such as ear position, posture and facial expressions can be indicative of positive or negative welfare state. Improving owner ability to identify and interpret these behaviours can enhance horse welfare. Researchers from Oklahoma State University set out to evaluate whether an online course (Recognizing Affective States in Equine - RaiSE) could improve owner ability in this area.

Twenty participants within the United States were recruited following participation in previous online learning about horses. 75% of participants were horse owners and the majority spent time with horses more than four times per week. Participants undertook a pre-course survey assessing their ability to correctly identify affective state valence (positive or negative) and intensity (arousal) and plotting their perception of the horse's emotional state on one of these four quadrants. This activity was repeated after completing RaiSE to assess changes in participants' ability. Findings showed a significant improvement in correct identification of horse mental state, 55% of respondents had improved quadrant selection accuracy, with an overall 70% improvement in valence interpretation, especially negative valence.

The authors conclude that RaiSE has potential to improve human ability to interpret horse behaviour. Enhancing horse owner ability to identify negative valence can improve horse welfare if owners act by adjusting the horse's care or environment which reduce the frequency or duration of negative experiences. The authors call for broader research into further development and application of tools that horse owners can utilise to understand their horse's affective state.

Wells A, Hiney K, Brady CM, Anderson KA (2025) ***Towards consensus: A pilot study in enhancing recognition of equine affective states with RaiSE (Recognizing Affective States in Equine).*** *J Appl Anim Welf Sci https://doi.org/10.1080/10888705.2025.2500979*

ANIMALS IN RESEARCH AND EDUCATION

Replacing confusion with clarity: A “Replacement Checklist” aims to reduce animal use in research

Recent focus in animal research has centred on replacement, reduction and refinement (the Three R’s). The extent of ‘replacement’ is affected by systemic challenges impeding researchers and funders to identify potential replacement options. A review presented by Replacing Animal Research examines procedural barriers to replacement and suggests a practical 'Replacement Checklist' to support both researchers and funders.

The authors highlight that replacement should be considered in the initial study design phase of a project. However, the current system requires replacement options to be considered only at the funding application stage. Too often replacement options are reviewed as an after-thought in experimental models reliant on use of animals to answer a research question, rather than a priority of experimental design from the outset. Researchers are expected to investigate a field in which they are likely unfamiliar (non-animal technologies and methods) with limited and non-specific guidelines on how to do so. The authors highlight that the suggested systemic review approach is time-prohibitive and ineffective at identifying replacement options. Likewise, funders are unqualified to determine whether sufficient interrogation of non-animal replacements has been conducted, resulting in animal-based methods being green-lighted when alternative options such as computer modelling, use of human tissues or established cell lines could have been appropriate.

The authors offer the 'Replacement Checklist' to support researchers, funders and ethics committees. The checklist incorporates six questions: what, where, when, who, how and why. Guidelines on ‘what’ and ‘where’ to search and ‘who’ to approach guide investigation outside of traditional peer-reviewed research such as ‘grey’ literature, white papers, expert opinion and networks. The question ‘when’ reminds researchers to remain up to date with the growing body of knowledge on replacement options. Researchers should also demonstrate to relevant stakeholders ‘how’ their investigation was conducted and ‘why’ replacement methods were or were not suitable.

Dukes JP, Beale A, Camp C (2025) ***Reviewing current guidance for the ‘R’ of replacement and rethinking it with the ‘replacement checklist’.*** *Altern Lab Anim 53(2):72–83*

WILD ANIMALS

Doughnuts may be a solution to bird obesity

Billions of birds are kept in captivity, which for flighted birds requires enclosure in an aviary or prevention of flight by wing-clipping or surgical methods. It is commonly accepted that preventing flight can impair bird welfare by impeding exercise, normal behaviours and freedom of choice in movement. As such, the impact of aviary design on a bird's ability to fly must be considered as a welfare concern. The authors offer insights as to how to assess potential welfare benefits offered by circular aviary designs, in which the centre of the enclosure is inaccessible resulting in a doughnut shape.

The inability for birds to change direction in the tight spaces of rectangular aviary corners discourages flight, with impediments on flight length determined by a combination of aviary size and bird wingspan. Reduced flight leads to reduced energy expenditure, risk of obesity and secondary illness. The authors suggest three experimental approaches to investigate welfare impact of aviary design: direct comparison of rectangular to circular doughnut designs, comparison of a dome to a doughnut and altering rectangular designs by removing access to the centre or placing panels in the corners. In all models, welfare parameters of birds in each design should be measured before and throughout the study, with suggested welfare parameters including behavioural and activity-bucket observations, body condition score, accelerometer measurement of flight patterns and physiological markers such as blood, feather or faecal corticosterone.

Circular flight aviaries provide potential improved bird welfare through enhanced opportunities for longer flight duration, reducing certain health risks posed by captivity and providing superior agency of movement and approximation of natural flight patterns. However, further research is required to determine if bird use of circular aviary designs achieve the intended welfare benefits.

Brereton JE, Coe JC, Fernandez EJ (2025) ***Future aviary design: The science of circular flight aviaries for avian welfare.*** *Zoo Biol https://doi.org/10.1002/zoo.21903*

Case studies reveal alarming realities of commercial wildlife trade

Billions of animals from over 10,000 species internationally are exploited for financial gain in the commercial wildlife trade for food, fashion, traditional medicine and pets. Through largely unregulated capture, farming, transport and slaughter processes, the intrinsic value of individual animals is overlooked, and for some species, demand is only increasing with the world's need for alternative protein sources and food security. This case study series examines the welfare impacts affecting ten species imposed by the wildlife trade.

The investigation studies ball pythons, zebrafish and African grey parrots captured or bred to become pets, sharks and pangolins as victims of the traditional medicine trade, crickets and frogs farmed or caught for food, crocodiles killed for their skins, and elephants and tigers exploited for tourism. Using the Five Domains Model, the authors interrogated degree, impact, duration and scale of welfare compromise. Commonalities experienced by many species include distressing capture methods, crowded confinement with insufficient space in unhygienic conditions, and inhumane slaughter. The case studies identified that the experience of these animals in the wildlife trade is overall negative, with all species examined suffering significant hunger, pain, stress, and fear.

Urgently needed solutions to reduce the immense suffering animals experience in the wildlife trade are explored, with acknowledgement of additional risks such as emergence of zoonotic diseases. While most international agreements and bodies overseeing the wildlife trade focus on regulation of certain parts of the system, this often overlooks individual animal wellbeing, focusing on animals "surviving rather than thriving". This study highlights that regulations permit continued exploitation, are often poorly enforced and risk promoting more illegal trade where suffering is intensified. The authors call for a transition away from commodification of animals, advocating non-consumptive alternatives such as herbal or synthetic substitutes for wildlife products and ethical wildlife experiences like ecotourism.

Lambert H, Elwin A, Assou D, Auliya M, Harrington LA, Hughes AC, Mookerjee A, Moorhouse T, Petrossian GA, Sun E, et al. (2025) ***Chains of commerce: A comprehensive review of animal welfare impacts in the international wildlife trade.*** *Animals 15(7):971*

TRANSPORTATION OF ANIMALS

Animal Welfare Incident Reports provide insight into animal experience during transport and at slaughterhouses

Welfare concerns for farmed animals do not cease once the animal leaves the farm. Assessing farmed animals' experience requires insight into the entire system including transport and slaughter. In Australia, regulations preclude transport of compromised animals and, once at an export slaughterhouse, animals receive a veterinary examination, with any welfare concerns reported to state authorities via a mandatory Animal Welfare Incident Report (AWIR). Researchers undertook a retrospective study of AWIRs submitted in 2021 to determine prevalence of conditions contributing to animal welfare compromise, timing of detection and actions taken.

567 AWIRs from cattle, pigs, sheep and horses were examined. Sheep were the most numerous animals transported to slaughter and had the most individuals implicated in AWIRs, constituting 3.5% of all sheep. The most common condition overall was handling problems (bruising, driver handling, or dog bite injuries), followed by pregnancy and lameness. Despite pigs suffering the highest prevalence of animal welfare incidents (11% of all transported pigs), less than one third required a corrective action, whilst 90% of affected sheep required priority slaughter or emergency killing. Across all species, animals spent a median of 11 hours at the slaughterhouse before an animal welfare condition considered worthy of report was detected, this is in addition to an average of five hours in transit. Many of the conditions reported in AWIRs were non-acute such as abscesses and cancers, which may have been present prior to transport.

In conclusion, the authors highlight the unacceptably long lag period between arrival and detection of welfare compromise and call for significant improvements in this area such as prompt inspection on arrival. The volume of AWIRs could be reduced by enhanced enforcement of pre-transport assessments and providing education for drivers to reduce in-transit injuries, with revisions to driver accreditation in progress.

Carnovale F, Arney DR, Lowe D, Phillips CJC (2025) ***Animal welfare incidents during and after transport to Australian export slaughterhouses: An evaluation of government reports (2020–2021).*** *Vet Rec 12(1):e70009*

MISCELLANEOUS

Looking below the surface: An examination of mollusc and crustacean welfare

Cephalopod molluscs (octopus, squid and cuttlefish) and decapod crustaceans (lobsters, crabs and shrimp) are recognised as sentient by the UK Animal Welfare Act and their welfare is protected to varying degrees in numerous countries including Australia. Given the recency of this paradigm shift, commercial practices involving these animals continue to operate with negligible consideration for their welfare. To identify potential welfare improvements, a group of UK researchers examined potential welfare harms posed by commercial production practices involving these species.

Multiple welfare harms were common to numerous species including injury or death through rough handling during capture and transport. Trawling poses risks of stress, injury and death for both cephalopods and decapods. Crowded confinement of usually solitary species results in stress, injury, and fighting. Declawing (to harvest claws or to prevent injury) induces a physiological stress response and impairs the animal's ability to feed, mate and defend themselves. Requirements for specific environmental parameters such as temperature, salinity, pH and oxygen saturation are rarely appropriately maintained during capture, transport and storage, resulting in physiological stress, susceptibility to disease and increased mortality. Practices such as decapod eyestalk ablation and limb removal to induce spawning or moulting (to harvest soft-shell crabs) likely induce pain and stress. Inhumane slaughter methods such as asphyxiation or clubbing occur commonly, with more humane methods either inappropriate in animals intended for human consumption, impractical on a large scale or require specific equipment or skills.

Further research is required to develop validated welfare indicators that can be applied for these species in commercial industries. Increased focus on determining and providing optimal environmental conditions would reduce welfare impairment during transport, storage and farming. The authors call for banning of declawing, eyestalk ablation and limb removal, and highlight the urgent need to identify humane yet practical slaughter methods for decapods and cephalopods.

Browning H, Burn C, Schnell AK, Crump A, Birch J (2025) ***Animal welfare risks from commercial practices involving cephalopod molluscs and decapod crustaceans.*** *Anim Welfare 34:e24*

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