

ANIMAL WELFARE SCIENCE UPDATE

Issue 95 | October 2026

The aim of the animal welfare science update is to showcase recent animal welfare science publications that are relevant to the work of the RSPCA. The update provides summaries of some of the scientific papers and reports viewed by the RSPCA Australia office in the past quarter.

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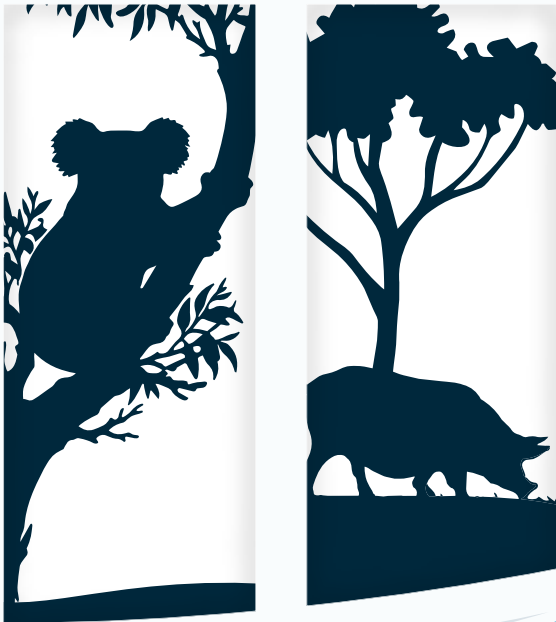
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RIPPLES AND WAVES: HUMAN BEHAVIOUR SHAPING THE LIVES OF ANIMALS

Animal Welfare Seminar 2027

Online | February 24-25

ANIMAL WELFARE SEMINAR 2027

RSPCA Australia's Animal Welfare Seminar is an annual event - with much lively debate - bringing together key experts in animal welfare research.

Each year features a different theme, and provides a forum to explore pressing animal welfare issues through diverse perspectives.

Join us in 2027 for ***Ripples and waves: Human behaviour shaping the lives of animals.***

There are few, if any, animals on Earth whose lives remain untouched by human choices. Animals are used for food, as companions,

for entertainment, as transport, and for research. Even free-living animals navigate human-generated challenges in the form of tourism, vehicles, disappearing habitats, and a changing climate. Every day, humans influence the lives of animals through their actions. The effects can be direct or indirect, beneficial or damaging, acute or long-lasting, and localised or widespread. For better or for worse, humans are the most impactful species on the planet.

The RSPCA Animal Welfare Seminar 2027 will explore how human behaviour shapes animal welfare

outcomes. With experts from a range of fields, we will examine the drivers behind human actions, delve into the science of behaviour change, discuss the importance of bridging divides between people and culture, and consider how best to support individuals and communities who live and work with animals.

For more details visit
<https://www.rspca.org.au/learn/animal-welfare-seminar/>

COMPANION ANIMALS

The FelQoL shows promise as a user-friendly cat QOL assessment

Accurate assessment of quality of life (QOL - an animal's overall wellbeing) helps owners and vets to make informed decisions about animal care, treatment and euthanasia. In cats, indicators of QOL include changes in activity, mood and sociability. These behaviours can be hard to assess in a clinical setting, where cat stress or fear may alter their usual behaviours. Owner observations at home are therefore an important source of QOL information. Questionnaires have been developed to assess cat QOL previously, but lengthy completion times mean most are not routinely used in practice.

This two-part study developed and tested the FelQoL, a 37-item cat QOL questionnaire. Questionnaires were completed by 1,324 USA and UK cat owners, with a subset of 385 owners repeating the questionnaire two weeks later. In Part 1, Factor analysis was used to identify QOL domains and create an algorithm for scoring the FelQoL. The robustness and reliability were also assessed. In Part 2, validity was inferred by comparing FelQoL scores against factors known to influence QOL including age, health and living environment. Reference scores for each domain were generated for each age group by using the lowest 5% of scores among owner-reported healthy cats as a cut-off point.

Seven domains associated with cat QOL were identified and incorporated into the FelQoL. These domains covered physical wellbeing (activity, mobility), emotional wellbeing (relaxation, sociability), meal satisfaction (satisfaction, appetite) and communication (talkativeness). Most participants completed the questionnaire in under ten minutes, indicating it was practical for owners to complete. FelQoL showed good internal



consistency, produced robust results across subsets of the study data and was generally reliable when reassessing the same cat two weeks apart. Part 2 results showed initial, but limited, support for FelQoL as a measure of QOL. While scores for activity, mobility and sociability declined with age, were lower in cats with specific health conditions and higher in cats with access to a perch, only age-related differences were large enough in magnitude to be considered meaningful, and four domains (appetite, talkativeness, satisfaction, relaxation) showed no significant association with any of the disease categories tested. Lower activity and satisfaction scores were associated with access to a garden/cat-flap. However, the authors suggest this may reflect the greater difficulty of observing the behaviour and feeding habits of cats with outdoor access, rather than indicating a poorer quality of life. The findings suggest FelQoL may be a user-friendly assessment alternative that may provide some insight into feline QOL. However, it's important to note that the inclusion

of talkativeness as a QOL domain may warrant further investigation. Vocalisation patterns vary considerably between individual cats and breeds, and vocalisation is not necessarily a positive welfare indicator in every context. The study is also limited by its use of pooled data to test robustness and consistency within subsets of the same dataset. Additional evaluation using independent datasets and testing across different cat populations and management contexts is needed to further establish the validity and clinical usefulness of the FelQoL.

Albergante L, Harding A, King T, Schoeman T, Blackwell E, Spofford N, Einerson N, Davey E, Patterson-Kane J, De Risio L (2026) A new generic feline quality of life (FelQoL) questionnaire: Part 1 – development and validation. J Feline Med Surg <https://doi.org/10.1177/1098612X261448700>

Albergante L, Harding A, King T, Schoeman T, Blackwell E, Spofford N, Einerson N, Davey E, Patterson-Kane J, De Risio L (2026) A new generic feline quality of life (FelQoL) questionnaire: Part 2 – initial evaluation of clinical utility. J Feline Med Surg <https://doi.org/10.1177/1098612X261447559>



Environmental enrichment practices for companion parrots may not meet welfare needs

Environmental enrichment (EE) aims to promote welfare by providing captive animals with the necessary resources to meet their social, physical, nutritional, cognitive and sensory needs. EE is particularly important for species such as parrots because captive environments may restrict opportunities to perform behaviours such as flocking, foraging and flying. Research into EE for parrots has historically focused on zoological and research settings and often overlooks companion parrots. A global online survey of 619 parrot guardians was used to investigate common EE practices, behaviour problems, guardian motivations, and gaps in EE practice for parrots within home environments.

Responses came primarily from the USA (71%), with conures, cockatiels,

and African greys the most commonly reported species kept. Most participants reported providing some type of EE for their parrots. Websites were the most common source of EE information, with only 7.5% learning about EE from their veterinarian. Less than half of participants provided enrichment through flight, foraging, or positive reinforcement training, indicating these beneficial forms of EE are underutilised by many guardians. Many companion parrots did not live with another bird, and some had guardians who worked long hours, suggesting social isolation may be a concern. Fearfulness was the most common behaviour problem, often reported alongside aggression (lunging, biting) and compulsive behaviours

(self-injury, weaving, pacing). Among participants who reported interactions between their parrot and predatory species, such as cats and dogs, just over half allowed direct contact, risking serious injury and chronic stress. Many parrots also had sub-optimal diets, with almost 20% primarily given seeds and some fed items outside their natural diet including meat and dairy. These findings highlight several areas of concern for companion parrot welfare and provide a foundation for evidence-based environmental enrichment strategies.

Grier E, Ogata N, Weng H-Y (2026) [A survey of environmental enrichment practices from guardians of companion parrots](https://doi.org/10.1080/10888705.2026.2689962).

J Appl Anim Welf Sci 1-17 <https://doi.org/10.1080/10888705.2026.2689962>

Caregiver guilt is associated with psychological distress in owners of dogs with behaviour problems

Dog ownership has been associated with owner benefits including social support and reduced likelihood of depression or anxiety. However, it also increases demands on an owner's time and finances, can create logistical challenges, and may lead to distress when animals become sick or pass away. Behaviour problems such as aggression and separation anxiety can further complicate the experience of dog ownership. Research indicates that owners of dogs with behavioural problems experience increased stress, anxiety, depression and reduced life satisfaction. This distress may be associated with caregiver guilt, defined as feelings of having fallen short in caring for their dog.

A survey of 565 dog owners investigated links between caregiver

guilt and the psychological, social, and decision-making experiences of dog owners managing behaviour problems. The survey included measures of problem behaviours, caregiver guilt, life satisfaction, caregiver burden, social stigma, support-resource use, veterinary communication quality, and screening tools for anxiety and depression.

Psychological distress was common among participants, with 33% experiencing anxiety, 20% depression and 78% reporting elevated caregiver burden. Results showed caregiver guilt was more consistently associated with psychological distress than problem severity. Participants often felt guilt around failing as a caregiver and juggling competing demands. Perceived judgement may also influence guilt

and distress. Most participants felt judged harshly by society, 32% felt more guilty after receiving advice from others, and 44% felt pressure to keep their dog "no matter what". However, high-quality veterinary communication was associated with lower anxiety and depression scores. Results suggest owner distress may be associated not only with the severity of a dog's behaviour problems, but also with how owners perceive and interpret their experiences. The findings highlight the importance of recognising caregiver guilt and providing supportive communication when working with owners managing canine behaviour problems.

*Kogan L, Currin-McCulloch J, Bogie V (2026) Beyond the behavior: Caregiver guilt, burden, and well-being among owners of dogs with behavior problems. *pets* 3(2):22*





Human-cat “play” interactions may have a negative impact on welfare if cat stress signals are ignored

Human-cat play interactions can benefit cat welfare, strengthen social bonds, support natural behaviours, improve physical health, and reduce stress and boredom. However, interactive play requires both participants to engage voluntarily and find the interaction rewarding; otherwise “play” may instead cause stress, jeopardise health, damage trust, and increase injury risk. Recognising and respecting when cats do not want to play is therefore critical to whether “play” is beneficial or damaging. Of concern, studies suggest people struggle to notice cat stress during interactions and, even when stress is noticed, many choose to continue regardless.

To investigate why cat stress signals may be ignored during “play”, the authors analysed 1,100 comments on 11 online videos labelled as play, with clear examples of cat dissent (not wanting to play) or

stress including hissing, attempting escape and defensive behaviours that resulted in injury to a human. In some cases, videos showed interactions that appeared likely to cause distress or injury to cats.

Despite visible cat distress, 75-93% of viewer comments were positive. Viewers frequently justified their positive interpretations of interactions through misinterpretations of cat body language and misconceptions about cat behaviour. This included misreading negative cues as positive (e.g. tail thrashing, ears back) or misunderstandings of what “real” stress would look like, such as believing stressed cats would leave the interaction or draw blood. Viewers often rationalised defensive behaviours, including biting, as signs of affection. Others believed pushing past cat discomfort was necessary to “win them over” or help them become

more comfortable with people. While some viewers openly admitted to enjoying seeing cat discomfort, others brushed off visible distress as funny or “cute”. Viewers who raised concerns were often ridiculed or dismissed as overreacting, with others questioning their understanding of cat behaviour. These patterns suggest that processes beyond misinterpretation alone contribute to positive perceptions of harmful “play” including entrenched beliefs and cognitive biases. Results highlight a need to address these factors, alongside public education on the importance of recognising and respecting signs of cat stress.

Henning JSL, Nielsen TD, Hazel SJ (2026) Exploring viewer perceptions of videos depicting cat-dissented “play” and their potential to contribute to harmful interactions. Anthrozoös 1-25 <https://doi.org/10.1080/08927936.2026.270>

LIFE (Living Interactions and Functionality Evaluation): A welfare-focused alternative to traditional shelter dog coping assessments

Shelters use standardised behaviour assessments for a variety of purposes, including identifying dogs needing intervention. Assessments are often based on predicting post-adoption behaviour through a series of structured interactions that may involve potentially challenging or provocative stimuli. However, these interactions may be stressful, do not reflect real-world situations, capture extreme responses and may be inaccurate, performing only slightly above chance at predicting outcomes such as post-adoption aggression. Because of this, questions have been raised about their relevance and utility. Shelter environments are known to be stressful, causing degradations in dog behaviour in as little as a week. Dog stress responses include withdrawal, hyperactivity and aggression and are associated with reduced likelihood

of adoption. Assessments based on in-shelter behaviour that account for various stress and coping behaviours, and which can be administered early in a dog's stay and repeated regularly may provide additional information relevant to supporting welfare. Few tools have been created for this purpose.

This study validated the Living Interactions and Functionality Evaluation (LIFE) tool, an observation-based assessment of dog coping. In four contexts (kennel, walking, human interaction and controlled dog interaction) dogs were scored using behavioural indicators such as tense or loose body posture. Positive indicators added 2 points, while indicators of negative emotional states and poor coping reduced scores by -2 and -5 respectively. Staff at an Ohio shelter used the LIFE tool, and scores for 44 dogs were compared with expert ratings.

Staff ratings using LIFE demonstrated good inter-rater consistency and alignment with expert ratings. This indicates LIFE is a valid and reliable tool for evaluating dog coping across different shelter contexts. Differences in how well dogs coped across the four contexts, such as coping well during walking but struggling in the kennel, may help identify specific stressors and inform targeted interventions to support welfare. Findings support LIFE as a non-invasive tool for assessing how dogs cope within shelter environments and identifying potential welfare concerns.

*Herron ME, Martin A, Dowling-Guyer S (2026) [Development and validation of an observational behavior tool \(LIFE™\) for assessing canine coping in shelter environments](#). *animals* 16(14):2182*





Collecting structured data within community programs generates valuable welfare insights

Essential resources such as veterinary care are often inaccessible to vulnerable populations. To address this, outreach programs have been developed to bring care directly to those in need. These programs and related research have also helped to identify challenges preventing owners from accessing care, including finances, language barriers and limited transport. However, this information is typically collected using narrative case notes, making it difficult to assess community needs, allocate resources or evaluate program outcomes. To generate more informative data, structured, quantifiable assessment tools are needed.

This paper applied the Animal Needs Assessment tool to 519 cases handled by the ASPCA's community engagement program in New York City between 2021-2024. The Animal

Needs Assessment tool evaluates five environmental factors (food, water, hazards, resting place, and enrichment), five animal factors (illness, injury, grooming, body condition, and behaviour) and categorises cases according to level of concern. Cases were analysed to identify gaps and assess program success rates.

While physical issues (e.g., veterinary care) were most commonly cited in referrals, in-home evaluations identified environmental needs (e.g., enrichment, resting places) as the most common concern. On average, households were offered three services. These were most frequently veterinary care, followed by supplies, rehoming, and desexing. Cat owning households typically had more animals and higher rates of illness, hazards and enrichment deficits. Services were successfully delivered 93% of the time. Law enforcement

referral was strongly associated with lower rates of successful service delivery, while client openness at first contact was strongly associated with service delivery success. These findings suggest rapport-building may be an important component of effective case management. Social service referrals were associated with more serious animal welfare concerns, highlighting links between human and animal welfare and the potential value of proactive collaboration between social services and animal welfare agencies. These results demonstrate how implementing structured assessments within casework can help identify gaps, inform service delivery and evaluate program outcomes.

*Patterson-Kane E (2026) [Assessing animal welfare and service needs in a community-based program](#). *animals* 16(16):2496*

Overnight coats improve working dog sleep and may reduce energy expenditure

Working dogs on farms routinely cover distances of more than 20 km a day and often work for 9 hours during peak periods. These high physical demands can negatively impact welfare, with many working dogs struggling to eat enough calories to maintain optimal body condition. Environmental conditions may add to this issue, with ambient temperatures below 20°C and above 30°C requiring more energy to maintain core body temperatures. Providing working dogs with coats during colder months may therefore help reduce the amount of energy needed to keep warm.

To test whether coats could influence sleep and activity levels, eight adult working dogs in New Zealand were fitted with an activity tracker and randomly assigned to two experimental conditions: coat on overnight or no coat. All dogs were

housed outside. After five days, dogs switched conditions for a further five days, so that dogs who were previously in the coat condition now experienced the no coat condition.

Dogs tolerated the coat well and spent more time sleeping while coated, especially during cooler hours. They spent less time in other resting behaviours or being active, although overall activity levels remained similar in both conditions. Rather than reducing overall activity, coats appeared to alter the time when dogs were active. These findings suggest that overnight coat wearing may improve thermal comfort and support rest by increasing time spent sleeping, which may help dogs recover from physically demanding workdays. Overnight coating may also reduce energy expenditure associated with thermoregulation, although this was

not directly measured in this study. No clear differences were found in how well dogs digested energy or nutrients within this study. Conditions during the study period were mild (12°C average) and did not replicate a typical on-farm workday. Results may be more pronounced in colder, more typical working conditions. This study suggests coats may be a low-cost, well tolerated management tool that may increase sleep in working dogs during cooler conditions. Further research under colder and more typical working conditions would help clarify potential welfare benefits.

Wang T, Smit M, Cai X, Corner-Thomas RA, Draganova I, Andrews CJ, Thomas DG (2026) [Accelerometry-based assessment of overnight coat use on dog sleep and activity patterns: Implications for farm dog welfare](#). *animals* 16(13):2035





Crossbreeding brachycephalic dogs may improve health while preserving valued breed traits

Brachycephalic dogs (from the Greek *brachy* [short] and *cephalic* [head]), including pugs and bulldogs, are characterised by their flat faces. Despite extensive evidence linking extreme brachycephalic conformation to serious health and welfare concerns including Brachycephalic Obstructive Airway Syndrome, heat stress susceptibility, and eye, skin, joint and spinal issues, these breeds remain popular, and welfare-focused public campaigns have not significantly reduced demand. Crossbreeding brachycephalic dogs with non-brachycephalic breeds has been proposed as a way to retain valued breed traits while improving health, but evidence supporting improved health outcomes in these crossbreeds has previously been limited.

This paper compared the health and behaviour of 51 purebred pugs to 51 first-generation jugs (pug × Jack Russell

terrier) and 48 first-generation puggles (pug × beagle). Owners completed a detailed questionnaire incorporating dog behaviour, health history and dog-owner relationship quality, including validated measures for breathing, heat regulation, eating and sleep dysfunction, pain, quality of life, behaviour and human-dog emotional closeness. All dogs underwent a veterinary health examination by the same veterinarian, trained in the Respiratory Function Grading Scheme.

Monthly veterinary costs for pug owners were four times higher than for owners of crossbred dogs. Veterinary examination showed a large proportion of pugs suffered from clinically impaired breathing, eye and ear disease, skin-fold dermatitis and patellar luxation, or dislocating kneecaps. The health of jugs and puggles were comparatively better, with none showing clinically impaired breathing, likely due to longer

muzzles and wider nostrils. However, some brachycephalic-typical dental abnormalities persisted, sometimes in altered forms, and obesity was an issue, especially in puggles. Promisingly, alongside improved health outcomes, the three groups had similar behavioural profiles and dog-owner relationship quality, with crossbred dogs scoring higher for trainability. Given that most crossbred dogs in the study were first-generation crosses, crossbreeding may represent one approach for improving health and welfare outcomes while retaining characteristics valued by owners.

Youens E, O'Neill DG, Tivers M, Belshaw Z, Neufuss J, Packer RMA (2026) [A solution right under our nose? Crossbreeding extreme brachycephalic dogs results in better health outcomes while preserving behavioural profiles and dog-owner relationship quality](#). Anim Welfare 35:e41

FARMED ANIMALS

Breed choice, housing system and feeder space impact exploratory behaviour in hens

Fear is a known indicator of negative welfare. Frequent or intense fear can lead to chronic stress, poor health and problematic behaviours. In laying hens, fear can trigger panic, leading to escape attempts, injury, fractures or risk of smothering and subsequent mortality. Fear also suppresses exploration, a rewarding and mentally stimulating behaviour linked to positive welfare.

In a previous study, hen fear responses to an unfamiliar human and novel object were identified as risk factors for smothering in hens. Using data from this study, researchers investigated if differences in breed, management practices or environmental conditions might influence hen fear response. Fear and exploratory responses were assessed in 64 free-range or open-range

flocks between 30 and 46 weeks of age housed in single or multi-tier systems in Queensland and Victoria using a human approach test and novel object test. Responses were measured by analysing hen proximity to human or object.

Several factors, including feeding space, housing system and breed were associated with hen fear and exploratory responses. Hens housed in multi-tier aviary systems showed less fear of humans compared to hens in single tier systems. Lower feeder space per hen was associated with hens showing increased fear of a novel object. Breed analysis showed Hyline Brown hens were less fearful and more exploratory, approaching both human and novel object more often than ISA Brown hens. However, hen

behaviour varied within and between sites, suggesting that stockperson behaviour, attitudes and work culture may influence hen fear responses. These findings suggest that breed selection, housing system, feeder space and stockperson practices may contribute to fearfulness and exploratory behaviour in free-range layer hens. Consideration of these factors when breeding and housing hens may improve their welfare.

Fogarty M, Taylor PS, Fisher AD, Butler KL, Galea RY, Taylor JJ, Hemsworth PH (2026) [Hen fearfulness and exploration is associated with strain/breed, housing system and feeder space in Australian free-range commercial egg farms](#). Poultry Sci 105:107341



Pragmatism bias impacts farm animal research and welfare outcomes

Animal welfare research informs practice and improves welfare through advancing our understanding of animal interests and wellbeing. However, topics and methods chosen for research are influenced by operational constraints, reliance on industry resources, funding, and pressure from stakeholders. These factors can skew research away from animal-centred inquiry towards narrow topics and surface level fixes deemed convenient and acceptable to industry stakeholders. This creates significant gaps in our knowledge of root causes, long-term solutions or alternative systems. Without evidence to legitimise alternatives, progress and legislative change cannot be achieved, established systems become entrenched and welfare is reduced to what is possible within those systems.

The authors name this phenomenon “pragmatism bias” — the pragmatic

research choices researchers make to fit within existing systems, operational constraints, funding availability and industry interests. The paper describes how this bias manifests across farm-animal welfare research, discusses consequences, and provides recommendations.

Pragmatism bias manifests in topic and methodology choices. Topics favour symptoms over investigating root causes (e.g., managing over preventing tail biting in pigs) and constrain research to overt, industry approved issues within a small number of species, breeds and productive life stages. Methods are skewed towards production environments, observable indicators, and designs aligned with current practices. Together, this results in incremental gains and symptom-level fixes rather than systemic change. The authors further caution that the welfare tools built within

these constraints, such as precision monitoring and stress-resilient breeding, may be repurposed to push animals to their limits and increase production. Key recommendations include 1. Normalising consideration of pragmatism bias through transparency, professional dialogue, training and disclosure in manuscripts, 2. Increasing neutral funding opportunities promoting unconstrained, animal-centred research, 3. Expanding study design beyond refinement of already compromised systems to explore better alternatives and 4. Engaging with legal scholars to advance animal interests through legitimising formal representation.

Mandel R, Read E, Forkman B, Keeling LJ, Sandøe P, Tuytens FA, Nicol CJ (2026) Pragmatism bias in farm animal welfare science. Front Anim Sci 7:1841684

Play behaviour and ears forward may indicate positive emotional state in pigs

As welfare standards increasingly focus on positive mental states, measures are needed to improve welfare monitoring on farm. Pigs are highly intelligent animals capable of complex emotions. Studies indicate pigs demonstrate capacity for empathy, experience emotional contagion (where strong emotions in one animal influence others), engage in reconciliatory behaviours after fights, and comfort other pigs experiencing negative emotional states. Despite this, pigs are mostly housed in intensive farming systems that are likely to pose a risk to their welfare. Currently, welfare indicators in pigs capture negative emotions and indicators of positive emotions are lacking.

Four cross-institutional experiments were conducted on 124 pigs across Denmark, France, Spain and The

Netherlands. Female pigs were exposed to positive and negative contexts eliciting short-term emotional responses, including receiving or not receiving an expected reward, novel reward with or without loud noises post weaning, gentle or harsh human interactions, and social play or isolation. Recordings, ethograms, and salivary cortisol and oxytocin samples were analysed to identify potential, robust indicators of emotional state in pigs across varying ages, breeds and conditions.

Positive contexts were associated with increased play and ears pointing forward. Negative contexts were associated with increased escape attempts and ears pointing backwards. However, ear position was highly variable between institutes, suggesting other factors such as age, breed

or husbandry practices may also influence position. Pigs with more space allowance played more and had lower post-experiment cortisol levels, suggesting play and cortisol may be useful indicators for assessing housing impacts on long-term emotional state in pigs. While oxytocin did not vary consistently across contexts, cortisol increases were higher for pigs in negative contexts and pigs experiencing novel interactions. Play, escape, cortisol and ear position may be indicators of emotional state in pigs. The authors note that, for measures to be robust, multiple indicators should be assessed.

Reimert I, Franchi GA, Bagaria M, Canario L, Bolhuis JE, Döpjan S, Verbeek E, Fàbrega E, Pedersen LJ, Telkänranta H, Eggert A (2026) Teaming up for welfare: A cross-institute approach to identify robust indicators of emotion in pigs. animal 20(7):101871

Greater availability and palatability of alternative choices may support reduced meat consumption

Global meat production is a known contributor to greenhouse gas emissions and transforming the food system through reducing the consumption of meat has been offered as a means of addressing meat production's impact on climate change. The burden of responsibility for this change has largely been placed on consumer shoulders as meat consumption is a driver of demand. However, reduction may be challenging for individuals because meat is deeply embedded in cultural conventions, linked to social status, and is central to many traditional dishes. Despite, in many Western countries, dietary guidelines and advice on healthy eating recommending moderate or reduced consumption, change has been minimal and global meat production continues to rise.

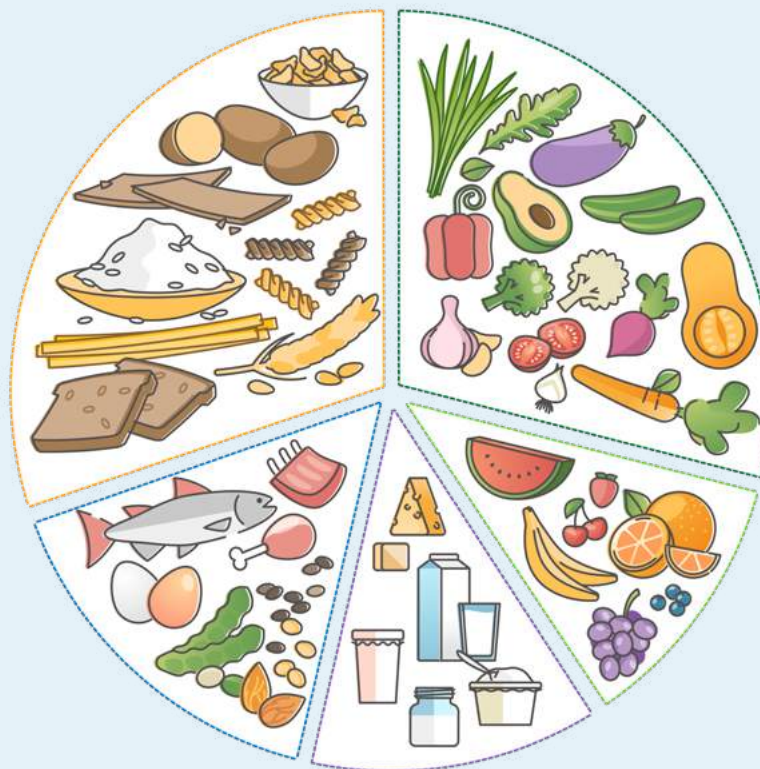
This paper investigates why recommendations for meat reduction

often fail despite strong motivations such as sustainability and health. It explores consumer roles in food system change, challenges associated with altering food habits, and the role of retailers, producers and regulators in supporting or resisting change.

Recommendations fail when they overlook the effort required, systems involved, and the influence of other actors. Reducing meat consumption requires people to disrupt their established routines, challenge cultural conventions, overcome perceptions of meat as the centrepiece of a meal and incorporate unfamiliar ingredients which may require additional planning, skills, or financial investment. This is further complicated within households, where competing needs, priorities and preferences of family members must be negotiated. Even when consumers want to change, they may lack opportunity or capability without

broader support. Retailers, food producers and regulators can help by increasing the availability, affordability, palatability and convenience of alternatives, and designing them to fit within household systems of planning and provisioning. Change may also be supported by efforts to alter cultural conventions, such as making smaller portion sizes or meat-free dishes more socially acceptable to serve. Findings indicate that food choices are made quickly, based on familiarity, ease and habit. Solutions that rely on individual change through informed choices alone are unlikely to succeed without broad systemic support to make change achievable.

*Lähteenmäki L (2026) **Consumer perspectives on reducing meat consumption: Why recommendations often fail to induce behaviour change.** Meat Sci 238:110099*



AI ‘prompt revision’ conceals reality of farm animal housing conditions

Generative AI is increasingly used to access information, with AI generated images especially persuasive in shaping public discourse. However, known flaws within models can embed misinformation and human biases into outputs. Several companies counteract this with prompt revisions that automatically rewrite user prompts to produce more diverse outputs. However, this can alter the original intention without the user’s knowledge and may introduce new biases. The impact of these processes on outputs related to animals is largely unknown.

This paper investigated if prompt revision alters AI generated images of animal housing conditions. Using DALL-E 3, 4,800 images were generated from 48 prompts with and without prompt revision enabled.

Prompts included variations in specificity (“basic”, “typical”, “reality”), species (cows, pigs), and region (none, North America, Europe or Oceania). Outputs were classified and compared to real-world statistics.

Prompt revision skewed outputs towards unrealistic, sanitised depictions of animal housing. Images showed romanticised versions of cows in open pasture and pigs in mud, and few regional differences. This persisted even when prompts explicitly requested realistic imagery. Conversely, with prompt revision disabled, images were more reflective of real-world conditions (confined indoor environments) and better matched regional statistics. Differences in the imagery generated by revised prompts compared to un-revised user prompts suggests

DALL-E 3 is “aware” of current farming realities but conceals them through revision. The authors suggest this could reflect “coded gaze”: where human developer biases and blind spots become encoded into models, intentionally or otherwise. This can result in models that discriminate against or erase viewpoints in conflict with their creators. If AI models conceal certain information, without alerting users to the possibility, dis- or misinformation may be spread. This has serious consequences for animal welfare and adds to growing concern over the social sustainability of current AI development.

*Sheng K, Tuytens FA, von Keyserlingk MA (2026) **Silencing controversial realities through prompt revision: The erasure of intensive livestock farming in text-to-image generative AI.** Technol Soc 88:103466*

Social dynamics and individual differences influence positive animal welfare in farmed animals

Beyond simply preventing suffering, positive animal welfare (PAW) means ensuring animals have opportunities to experience positive emotions, build resilience, and develop competence in species-specific skills. For many social farm animals, this includes opportunities for positive interactions and developing social skills and the ability to maintain social bonds and avoid negative interactions. Previous research has focused on reducing conflict, with current farming systems designed accordingly. Little consideration has been given to promoting positive interactions or understanding the influence of social dynamics and individual differences on animal welfare. If PAW-friendly systems are to become standard practice, evidence-based guidance for promoting positive social environments is needed.

This review focused on individual differences and social dynamics as key elements of farm animal welfare. Drawing on evidence across farm animal species, including cattle, horses, pigs and sheep, alongside relevant findings from other animals and humans, the review explores how individual differences may influence how animals perceive and experience social environments and, likewise, how social environments may influence individual welfare.

The review highlights how regular positive social interactions, such as grooming, play, social buffering, group stability and displays of prosocial, comforting behaviour contribute to positive welfare by reducing stress and increasing an animal’s sense of security. Positive social experiences early in life also appear to strengthen social skills,

confidence and reduce conflict later in life. Individual differences in sociability, sensitivity and cognitive ability between animals further shape how animals experience and contribute to social dynamics. For instance, some highly sociable individuals appear to act as “social glue”, helping to maintain group cohesion. PAW-friendly farming systems may therefore benefit from encouraging positive experiences during early life, keeping sociable individuals within established groups, prioritising group-stability and considering individual differences in sensitivity and social preferences when making management decisions. However, further research is still needed.

*Goursot C, Hintze S, Rørvang MV, Schmitt O, Arney D, Boivin X, Koni A, Montalcini C, Newberry RC, Tallet C, Šemrov MZ (2026) **The roles of individuality and social life in shaping positive animal welfare in livestock species.** animal 20(8):101878*

ANIMALS IN SPORT, ENTERTAINMENT, PERFORMANCE, RECREATION AND WORK

Social media discourse around high-profile equestrian incidents reveals polarised views on horse welfare

Social media has increased the reach and speed with which controversial equestrian practices become visible to the public, with problematic incidents increasingly attracting social media attention. Simultaneously, the inherent nature of social media, where viewers share, comment and discuss opinions, often within interest-specific groups, may offer valuable insights into public and industry-specific discourse around these issues.

This study used social media discourse to explore responses to welfare-compromising equestrian practices. A discourse analysis was conducted on 416 social media comments in response to two high-profile equestrian incidents: a dressage champion using a whip to strike at a horse 24 times during training, and a high-profile rider whipping and spurring a horse for

refusing a jump during an international showjumping competition. Comments came from a performance horse welfare equestrian group, general horse welfare advocacy groups, and public comments on the videos.

Results revealed two parallel, opposing discourses. Discourse 1 was critical of the equestrians, practices and industry, and expressed concern for horse welfare. In contrast, Discourse 2 was critical of public outrage, defended the equestrians and practices and expressed concern that outrage would damage industry reputation. Discourse 2 argued that incidents reflected 'poor horsemanship', not abuse, framed horses as wilfully uncooperative or manipulative rather than distressed, trivialised whip use, and justified aversive training methods with parent-child analogies and observations of

social behaviours between horses. Justification, euphemistic labelling, trivialisation, and blame-shifting, observed within Discourse 2, align with several mechanisms of moral disengagement, the outcome of which is reduced concern for animal welfare and prioritisation of human interests. The authors suggest polarised online discourses reflect "tribalism" (in-group loyalty that often creates an "us versus them" mentality) and argue approaches grounded in shared values, compassion, inclusion of horses' interests, and open discourse are needed to reduce polarisation and improve horse welfare outcomes.

Cheung E, Mills D, Ventura BA (2026) "At what line does poor horsemanship cross the line to abuse, for you?" Social media discourse around high-profile incidents in the performance horse world reveals polarised views on animal welfare. Anim Welfare 35:e38





Ridden exercise and pain scoring improve the accuracy of pre-purchase examinations in sports horses

Pre-purchase examinations (PPEs) are routinely conducted to identify any issues of concern prior to buying a horse. However, most PPEs do not include a ridden assessment and instead evaluate gait from observations of on-ground assessment exercises conducted without a rider. This is despite growing evidence that lameness often remains hidden until a horse is ridden and is frequently missed by riders and coaches during assessment. Ridden exercise is likely to generate more valuable pre-purchase examinations and may reveal signs of pain that are masked during in-hand (walking beside horse and guiding with a short rope) and on-the-lunge (horse moves in large circles around the handler while attached to a long rope) assessments.

This study incorporated ridden exercise into 25 PPEs, conducted by a single veterinarian over six months. Horses

were scored with the Ridden Horse Pain Ethogram (RHpE), which is used to detect musculoskeletal pain behaviour during riding. Horses also underwent a physical examination, gait assessments in hand and on the lunge, and an assessment of their competition history where available. Horses were then classified as reasonable risk (suitable for their intended purpose), suitable with reservations, or high risk, and tracked using official competition records for 3.5–4 years following the PPE.

Results showed clear differences in outcomes for horses with different risk ratings. Horses rated reasonable risk went on to compete successfully in 86% of cases compared to only 6% of high-risk horses. Ridden exercise elicited signs of lameness, saddle slip, canter dysfunction, and teeth grinding that were not evident during on-ground assessments. In particular, canter dysfunction was detected

36% more frequently during ridden assessment compared to assessment on-ground. Overall, PPE classifications using a riding assessment were consistent with long-term official competition outcomes with 91.7% accuracy. These findings show support for incorporating ridden exercise and RHpE scoring into standard PPE protocols. However, the study has important limitations including small sample size, assessment by a single clinician, and may be confounded by PPE classifications having direct influence on whether horses were purchased or not, which may have affected horse outcomes.

*Dyson S (2026) [An investigation of the role of ridden exercise, including application of the Ridden Horse Pain Ethogram, in pre-purchase examinations of sports horses](#). *animals* 16(13):2105*

Racehorse professionals agree welfare is important, but vary in how they define it

Animal welfare assessments are used to ensure compliance with welfare standards. However, existing assessments for horses have become outdated as expectations for animal welfare shift to encompass both prevention of negative states (fear, pain, distress) and promotion of positive states (comfort, pleasure, and vitality). Assessments aligned with current standards are needed, especially for high-performance industries such as horse racing. This requires an understanding of how people within the racing industry view and conceptualise horse welfare, and what indicators they use to assess it.

To inform new equine welfare assessment tools, a global survey was conducted of 233 racing industry practitioners. Questions explored participant views on quality of life and emotional states

in horses and their confidence in judging horse emotions. Content validity ratios were used to identify consensus amongst participants on the emotions and behaviours most indicative of welfare. The impact of participant role within the industry on responses was also explored.

Most participants believed emotional state is important for horse performance, felt confident in judging horse emotions, and believed racehorses have a good quality of life, though definitions of quality of life varied considerably. Participants showed consensus on happiness, anger, distress, and fear as important emotions for evaluating how horses are feeling. Eating well or being active/engaged were consistently considered as behavioural indicators of a 'good' mood, while not eating well or displaying a dull demeanour

were considered indicators of a 'bad' mood. While some agreement was observed for other indicators, such as defensive behaviour during handling, consensus was not reached. Almost 60% of participants felt their opinions had changed over time. Change was attributed to increased knowledge and experience as well as broader shifts within the industry. Overall, findings demonstrated high variability in participant interpretations of horse welfare, and related behaviour and emotions. The results indicate further research is needed to investigate objective indicators of horse welfare before appropriate assessment tools can be developed.

*Williams JM, Henshall C, Waran N, Randle H (2026) [Industry perceptions of thoroughbred racehorse emotions and quality of life: Implications for the development of an equine quality of life assessment tool](#). *animals* 16(11):1601*



ANIMALS IN RESEARCH AND TEACHING

Considering the welfare of invertebrates has practical benefits for research quality

Welfare and ethical protections exist for vertebrate animals used in research but the same is rarely true for invertebrate species. However, growing evidence suggests sentience is plausible for at least some invertebrates, including cephalopods (e.g., octopus), decapods (e.g., lobsters) and certain insects (e.g., bees), meaning they are likely to consciously experience sensations and emotions such as pain and pleasure. While ethical debate continues on the probability of sentience, little attention has been given to the practical benefits of extending welfare consideration to invertebrates.

Drawing from literature on vertebrate research, this paper investigated the practical benefits of considering invertebrate (primarily insect) welfare for improving scientific outcomes, maintaining public

support for research, and reducing occupational stress for researchers.

Findings indicated consideration of welfare could improve research quality. Differences in welfare undermine how reliably studies can be reproduced and how well findings translate outside of laboratory settings. Stress from poor housing or frequent handling can influence research findings and conclusions by altering behaviour and animal phenotype expression - observable traits influenced by genetics. For example, housing-related stress in mice has been found to affect whether rodent models of Alzheimer's disease produce cognitive deficits and modify antibody-related tumour growth. Similarly, in damselflies, predator stress alters which oxidative stress markers are pesticide affected, leading to conflicting conclusions about pesticide

effects. Improved welfare for insects in research may also improve social acceptability as a large proportion of the public believes insects feel pain, suggesting unregulated research on invertebrates may face growing societal scrutiny. Welfare considerations also benefit researchers, with higher animal welfare standards linked to greater occupational satisfaction and poor welfare conditions associated with occupational stress and compassion fatigue in vertebrate research. The authors argue consideration of welfare strengthens scientific validity, public trust, and workplace wellbeing and is a professional responsibility wherever sentience is plausible.

Cait J, MacLellan A, Adcock SJ, Barrett M (2026) From mice to moths: Practical reasons for considering animal welfare in research. J. Am. Assoc. Lab. Anim. Sci. <https://doi.10.30802/AALAS-JAALAS-26-039>





Biomedical animal experimentation highlights gaps between One Health philosophy and practice

One Health, established as a philosophical concept recognising the interdependence of human, animal and environmental wellbeing, has now evolved into a global health framework. Despite widespread adoption, inconsistencies persist between the original philosophical intentions of One Health and how the concept is applied in practice, often centring humans and failing to adequately consider the needs of animals or the environment as stakeholders. This is particularly evident in contexts where the needs of these stakeholders conflict, for example biomedical research using animals is often justified by the expected benefits to people.

This paper used historical, philosophical, bioethical and legal considerations to explore animal experimentation within One Health frameworks. The authors discussed common critiques and issues and explored alignment of animal-based research, with the One Health concept and bioethical principles.

One Health, as implemented in practice, continues to centre human outcomes by considering animals for their utility to people rather than as stakeholders with their own intrinsic value, undermining the stated goals of the One Health concept. The authors found that resolving the ethical conflict of using animals in biomedical research

is a complex issue, requiring systemic change and proactive inclusion of animals and the environment as equal stakeholders. With a true One Health approach, ethical frameworks for animal experimentation would weigh animal harm against the benefits for all living beings. The authors note realigning existing approaches to treat human and animal stakeholders equally requires investment in non-animal research alternatives and substantial reconsideration of research priorities, governance and ethical frameworks, arguing this is necessary to create a rigorous, sustainable and ethically coherent research ecosystem.

Ulman Yi, Kostomitsopoulos N, Camenzind S, Kitsara M, Pavone IR, Schober S (2026) Emerging bioethical conflicts: One Health and animal experimentation. Altern. Lab. Anim. 54(4):226-35

WILD ANIMALS

Ethical complexity in wildlife rescue: How do you triage welfare, wildness and ecological integrity?

Motivated by compassion, people may “rescue” wild animals without considering or understanding the potential consequences for animal welfare, ecosystems and conservation efforts. This can lead to animal rescue organisations facing decisions that current triage guidelines, focused on immediate animal welfare and practical constraints, do not address. Even seemingly straightforward “rescues” carry complex ethical implications for the welfare and ‘wildness’ of individual animals, the health and integrity of broader ecosystem systems and the ethical distribution of resources.

Three Australian wildlife rescue scenarios are used to illustrate the challenges, ethical dilemmas and competing priorities faced when triaging rescued animals. Within each scenario, the authors examine the factors shaping triage

decisions and explore their potential consequences and the complex ethical questions they reveal.

The scenarios demonstrate complex trade-offs between competing ethical and ecological priorities. While hand-rearing an orphaned magpie saves a life, it risks taking away their ability to survive in the wild. Similarly, treating wombat mange may reduce immediate suffering caused by the mite infestation. But treatment can increase stress if they are held in captivity, or, if treated in the field, risk ineffective dosing and environmental contamination that may harm ecosystems. Rescuing fire-injured koalas may improve immediate welfare with appropriate care. But questions can remain about long-term welfare, use of food sources that are important to wild populations, and, with costs estimated

at \$16,000 per koala per week, the ethics of spending large amounts of resources on individual animals when there are many animals in need.

Triage decisions are currently shaped by prognosis, resources, regulatory requirements and rescuer motivations, with less consideration given to long-term welfare and ecological outcomes. The authors conclude that triage decisions can be improved through training to improve ethical reasoning, transparency in how decisions are made and implementation of an ethical review process that considers and assesses long term outcomes across individuals, populations and ecosystems.

Campbell-Ward M, Palmer C, Quain A Sandøe P (2026) [Easy rescues, difficult decisions: Advancing the ethical dialogue in wildlife triage, treatment and rehabilitation](#). Anim Welfare 35:e43





A relative global vulnerability index for assessing marine mammal species vulnerability to plastic pollution

Plastic pollution is a growing threat to the health of humans, animals and the environment. Marine mammals are particularly vulnerable to plastic pollution. Soft plastics, such as plastic bags, can be mistaken for prey when ballooned in water. When marine mammals ingest this plastic it can cause internal damage, obstruct the stomach, or lead to choking or suffocation, causing deaths in many species including whales, dolphins, seals, and manatees. Discarded fishing nets and other plastic debris in the ocean can also trap or entangle animals, causing physical trauma and infection as well as death from drowning or starvation if animals are unable to escape. While the effects on individuals are well documented, the impacts at a population-level are largely unknown.

In this study, a relative global vulnerability index was developed for estimating and comparing marine mammal species vulnerability to macroplastic pollution. A trait-based risk assessment approach was adopted, based on available knowledge of species life-history traits, to score 117 marine mammal species. Eleven traits were used to assess likelihood of exposure, species sensitivity, and population resilience, creating a relative vulnerability score.

Overall, sirenians (dugong, manatee) were identified as the most vulnerable group, with low population resilience and high exposure to macroplastics. Pinnipeds (seals) and fissipeds (otters) were identified as least vulnerable overall, though pinnipeds were highly variable in their vulnerability, with the Hawaiian monk seal scoring the highest

vulnerability of any species and the Southern elephant seal the lowest. The West Indian manatee was found to be most vulnerable to ingestion risks, while the vaquita was most vulnerable to entanglement. Rankings generally aligned with the available population-level literature. Population size and generation length appeared to be good predictors of overall vulnerability, with small populations and slow reproduction rates associated with higher vulnerability. These findings support the index as a potential tool for informing research, guiding conservation efforts and reducing the impacts of macroplastic pollution on marine species.

Fredette-Roman C, Polidoro B, Rolsky C, Murphy EL (2026) [A global ranking of the relative vulnerability of marine mammals to macroplastic pollution. Conserv. Conserv Biol](#) 40(4):e70271.

New York City whale watching operators often fall short of responsible ecotourism standards

Whale watching is a popular pastime that is often considered an eco-friendly, non-exploitative opportunity for tourism with potential to raise awareness of conservation efforts. However, vessels used for whale watching ecotourism do not always prioritise conservation goals and may disturb whales, especially in busy urban marine environments, such as New York, where whales experience pressure and disturbance from ships, fishing, pollution, and other human activities. Research on the impacts of whale watching within these environments is limited and it is not known if vessel operators are complying with relevant local and international benchmarks for welfare and education.

This study assessed the vessel related welfare risk and quality of conservation education delivered by commercial whale watching operators in New York

City. Eight whale watching trips, run by companies with or without an official "Whale SENSE" certification, were scored by two trained observers using a regional certification benchmark (Whale SENSE "On the Water" evaluation), an international benchmark (the World Cetacean Alliance Global Best Practice Guidance), and a Higher-Order Thinking Skills framework which considered whether operators encouraged analysis, evaluation, synthesis, and interactive engagement.

Results indicated that certified operators generally performed better than uncertified operators, but differences were minimal. Regardless of certification, operators were frequently too close to the whales, blocked whale travel paths, and also demonstrated lack of compliance with welfare-relevant vessel handling standards. Educational content for

all operators was poor, with limited accessibility or multilingual options and shallow messaging that was unlikely to encourage critical thinking. Operator practices may cause disturbance and whale stress, increase the risk of vessels colliding with whales, and are unlikely to promote conservation values in tourists. The findings suggest that certification is helpful but does not guarantee responsible behaviour from operators. The authors propose stronger enforcement of existing laws and guidelines, especially distance rules and highlight a need for operators to provide more engaging educational programming that supports conservation awareness.

Sima J, Chou LS, Yang WC (2026) Cetacean welfare risk and the educational integrity of ecotourism: A multi-framework assessment of whale-watching practices in the New York Metropolitan Area. animals 16(13):1955



TRANSPORTATION OF ANIMALS

Transport is linked to higher risk and severity of bruising in calves

Transportation is a known health and welfare risk in cattle, especially for young calves. In New Zealand, surplus unweaned calves are routinely transported from farms for slaughter. While legislative changes have successfully reduced transportation-related mortality in this group, less is known about the welfare of calves who survive. Bruising on carcasses is widely recognised as a marker of negative welfare, indicating injury prior to death. However bruising may occur at several points in the pre-slaughter process including on farm, at loading, during transport, at unloading, and during handling prior to slaughter, making it difficult to determine which bruising is caused by transportation alone.

To measure the impact of transport on the likelihood and severity of bruising, researchers compared bruises on 5,229 calves slaughtered after transport with those of 247 calves slaughtered on farm (never transported). Bruises were scored by size and location on the body.

Transported calves were more likely to show bruising than calves slaughtered on farm. Of transported calves, 71% had at least one bruise of 1.5 cm or more, compared with 21% of calves slaughtered on farm. Calves who had been transported were also more likely to have larger bruising and multiple bruises. Bruises were most commonly located on the stifle (the joint below the hip), followed by the elbow and

hindquarters. These locations suggest transport-related bruising may be linked to hard flooring, crowded conditions, and handling during loading or unloading. These findings highlight transport as a significant welfare risk for calves. The authors suggest targeted interventions to reduce bruising and improve calf welfare during transport including non-slip, cushioned flooring, lower stocking densities to allow calves to lay down safely and careful handling during loading and unloading.

Deeming L, Cuttance E, Chambers G, Todd P, Brew S, Laven R (2026) [The prevalence, severity, and location of bruising of surplus unweaned calves under commercial transport conditions in New Zealand](https://doi.org/10.1080/00480169.2026.2695906). N Z Vet J <https://doi.org/10.1080/00480169.2026.2695906>



MISCELLANEOUS

People show selective moral leniency toward culturally embedded animal exploitation practices

Moral judgements of animal exploitation practices, such as using animals for food or sport, are influenced by a number of factors including cultural context. Research suggests that culture influences moral reasoning early, with children as young as four more likely to view animal consumption as morally acceptable when framed as culturally important. Although people generally oppose harming animals, they often support animal exploitation tied to cultural identity or tradition. This moral selectivity may permit established behaviours and traditions to continue while protecting a person's perception of their own morality, and that of their culture. However, little is known about how these processes influence views of similar practices in other cultures.

Two surveys investigated the influence of culture on moral evaluations of

in-group (local) versus out-group (foreign) practices. Responses from 1318 participants in America, Norway, Spain and Australia were analysed for ideology, national identity, speciesism (discrimination based on the belief that one species holds greater moral value) and moral views on practices including rodeos, whaling, bullfighting and kangaroo hunting.

Participants demonstrated moral leniency toward in-group practices compared to foreign practices. For example, Spanish participants supported bullfighting more than whaling or kangaroo hunting. Participants with strong national identity or Right-Wing Authoritarianism ideology showed higher support for in-group practices. Higher speciesism scores and support for animal exploitation broadly, regardless of culture, were observed in participants

with Social Dominance Orientation ideology. Interestingly, neither Right-Wing Authoritarianism ideology nor national identity was associated with support for kangaroo hunting in Australia. The authors suggest this may be because it is not perceived as a symbol of national identity, suggesting nuance in how 'cultural' practices are viewed based on how embedded they are in culture. Findings suggest people selectively relax moral concern for animals when cultural identity and tradition are implicated, highlighting the need to consider these factors when approaching animal-welfare issues.

*Dhont K, Leite AC, Hodson G, Milfont TL, Salmen A (2026) **Selective moral leniency toward culturally embedded animal exploitation: The role of identity and ideology.** Soc Psychol Pers Sci <https://doi.org/10.1177/19485506261469897>*



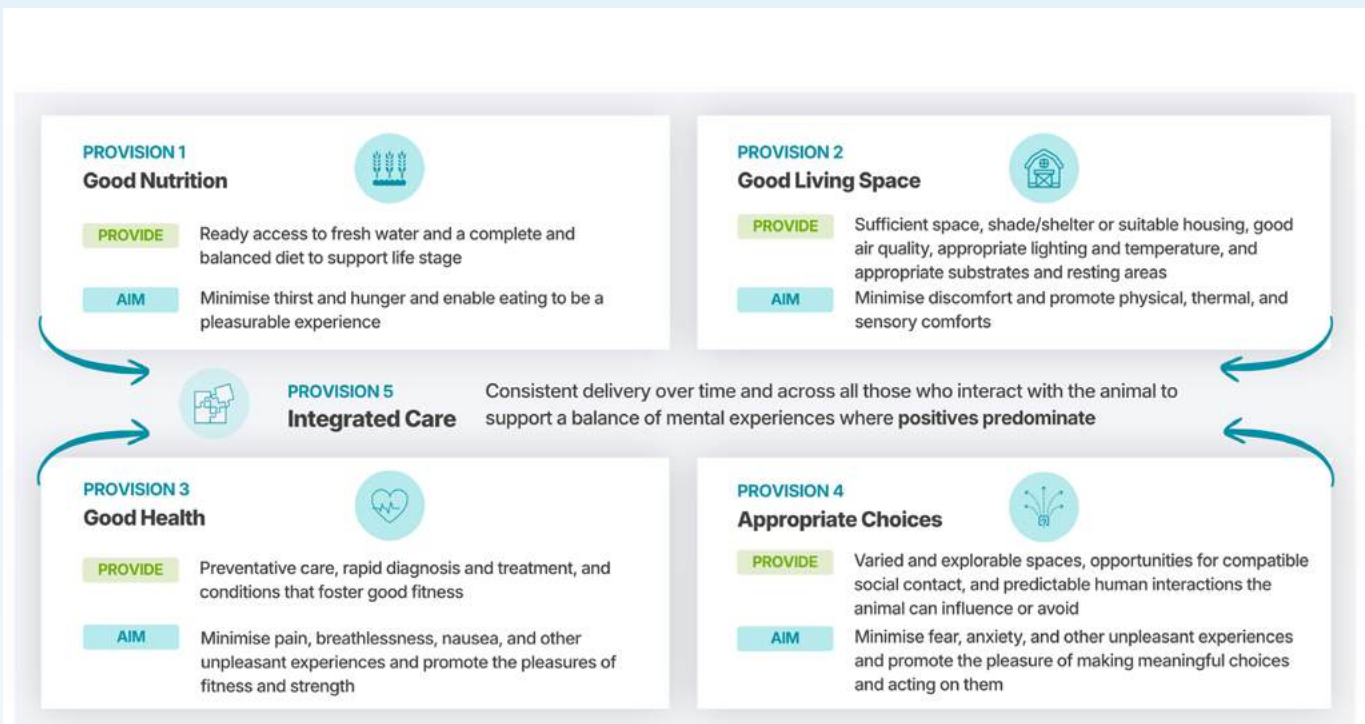


Image: Figure 1. The updated Five Provisions and Welfare Aims. Source: Katherine E. Littlewood, Ngaio J. Beausoleil, and David J. Mellor, *Updating the Five Provisions: Aligning Welfare-Focused Care with the Five Domains Model* (animals, 2026), Figure 1. Licensed under CC BY 4.0.

Updates to the Five Provisions: Addressing inconsistencies and distinguishing care from welfare

The Five Domains Model is a framework for assessing animal welfare. It includes four domains where information is collected: Nutrition, Physical Environment, Health and, Behavioural Interactions, while in the fifth domain, Mental State, this information is collated and used to estimate animals' overall welfare. The Model is updated regularly to align with current knowledge. In 2016, 'The Five Provisions and Welfare Aims', was developed as a companion framework to help apply the Model to animal care. It considers what is provided to animals rather than underpinning an assessment of animal welfare. It covered Good Nutrition, Good Environment, Good Health, Appropriate Behaviour and Positive Mental Experiences. However, since its creation, it has fallen out of alignment with the Model itself.

This paper updates The Five Provisions to align with the present Model and current research. The authors address critiques and inconsistencies, clarify common points of confusion, and provide recommendations for use.

Three Provisions are renamed to align with the current Model. "Appropriate Behaviour" becomes "Appropriate Choices", reflecting Model revisions highlighting animal interactions with other animals, humans, and their environment, and the importance of choice within these interactions. "Good Environment" becomes "Good Living Space", resolving confusion introduced by a 2020 Model revision. "Positive Mental Experiences" becomes "Integrated Care" to clarify that it is not a separate input, but a culmination of the other provisions over time and across all caregivers. To further

distinguish between care (what is provided) and welfare (the animal's experience), the paper pairs each provision with explicit welfare aims. For example, Good Nutrition → should minimise thirst, hunger and make eating pleasurable. It also outlines how the Five Domains works with the Five Provisions, and where to use each model. The authors emphasise the need for users to clarify whether they are using the Model to assess an animal's mental experience, or to catalogue what care has been provided to them. While each use is valid, the authors note that both must recognise positive animal experience as the intended outcome and ultimate measure of welfare success.

Littlewood KE, Beausoleil NJ, Mellor DJ (2026) **Updating the Five Provisions: Aligning welfare-focused care with the Five Domains Model.** *animals* 16(12):1927

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