



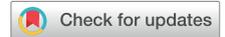
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Editorial

Welfare in companion animals is too often neglected



When most people think of ‘welfare concerns’, or of ensuring that our interventions lead to ‘good or improved welfare’, they are thinking of production animals. It’s considerably past time to consider the welfare of companion animals, where we define ‘companion animals’ not by species, but by relationship as those who live in a companion role. If we grasp this world view, we then we must realize that in the traditional 5 Freedoms Model, veterinary care and training situations often fail to meet the conditions of freedom from fear and distress and freedom to express normal behavior—even if that behavior is to tell us that they are afraid of and possibly traumatized by our care, or our attempts to learn to deliver care. While more attention is welfare is now being paid to quality of life (QoL) and valence of affective domain states (Mellor, 2016), the contributors to these can be found in the original 5 Freedoms and should not be lost.

It is in this spirit that Koster et al. (2019) discuss the potential beneficial effects of classical music on heart rate variability in dogs used in veterinary training. Laboratory or colony dogs are often used to teach veterinary students physical examination skills and other interventions. By definition, the students’ abilities to understand canine behavior and to respond to dogs’ needs may be lacking. Furthermore, the nature of uncertainty and change faced by laboratory dogs in their daily lives is seldom considered, yet such uncertainty is a major stressor in all species studied. Here, heart rate variability, a measure of the predominance of parasympathetic tone over sympathetic tone, indicates that for the 16 dogs studied, the presence of classical music lowered all parameters evaluated in a statistically significant manner. It’s also possible that the humans were calmer and so behaved differently toward the dogs. In an age where new, expensive and largely untested supplements are touted for every behavioral pattern, music is a cheap, readily available, non-invasive and, depending on volume and style, a relatively risk free intervention. Such studies should be expanded.

Urine marking behaviors can affect QoL for dogs if these behaviors affect access to preferred social environments. Urine marking behaviors can become life threatening if humans perceive that they are affecting their own QoL. With this background, McGuire (2019) compared scent marking behavior before and after gonadectomy in shelter dogs in an attempt to obtain some of the only data on the frequency of this set of behaviors. The remarkable finding in this data is the profound role for individual variation across males. For females, ovariohysterectomy (OHE) did not affect urination, defecation or ground scratching patterns. For males, the most robust effect reported was for urine marking, largely considered the most sexually dimorphic of the scent marking behaviors studied, but the effect was neither absolute nor universal. Shelter dogs may not be

representative of pet dogs, but the findings in this study justify expansion of the methodology to other canine populations.

Fukuzawa and Sasahara (2019) do an excellent job of portraying both the environmental urgency posed by alien species invasions, and how difficult it is to ascertain that you can be sure a dog can detect them in a valid manner. Detector dog training and outcomes are often not subjected to rigorous testing and statistical outcome evaluation, and so may be flawed. This paper suggests that imposition of such techniques can help.

This issue of preventing dog bites arouses passions. This is also true for the researchers who seek to decrease risk, if the paper by Vučinić and Vučević (2019) is indicative. Their paper uses the novel approach of interrogating newspaper reports for data about dog bites in Serbia, and provides some of the only epidemiological data for that country. Interestingly, as is the case for all other credible papers pertaining to dog bites, the role for human oversight and management that encourage appropriate canine behaviors cannot be overstated.

If one of our goals is improving the welfare of canine patients undergoing OHE, pain relief matters. Costa et al. (2019) evaluate the effect of intraperitoneal analgesia as an adjuvant to one anesthesia protocol, with beneficial outcomes. The more options we have to treat pain, the closer we can come to our goal of meeting the patient’s welfare needs.

Everyone loves dogs that participate in animal assisted therapy, but do the dogs love being involved? Clark et al. (2019), in a small but well designed pilot study, evaluated the effect of frequency of visit on dogs’ salivary cortisol levels with cortisol acting as marker of the stress response induced by the visit. In this study, increasing visits to twice a week decreased cortisol levels, again suggesting that familiarity and predictability matters.

Shelters can spare dogs exposure to horrible events, but may also, themselves, be distressing stimuli. We seldom investigate how often sheltered dogs exhibited behavioral problems while being sheltered. Normando et al. (2019) sought to understand how best to evaluate the level of behavioral problems across multiple shelters using 3 assessment methods: a structured interview with staff, an assessment of behavior done by shelter staff and an assessment of behavior done by a behavior specialist. This paper demonstrates that it is not sufficient to be well-meaning, interested in and caring for the dogs. Without training, many behavioral problems, including stereotypies, are missed. Failure to recognize behavioral concerns means failure to intervene.

Oxytocin continues to get a lot of attention as a hormonal facilitator of interaction and social bonding. Powell et al. (2019) review the literature about effects of interacting with dogs on humans and

suggest that the time has come for more empirical, data-driven research.

Feral cats pose conservation concerns where predation on sensitive species or habitat displacement is a concern, and they pose public health risks in populous areas. For these reasons, one approach has been to trap-neuter-release to prevent the population from growing. To redress the focal concerns, management of the colonies, including feeding, is required. Gilhofer et al. (2019) investigated factors contributing to the welfare of cats under such circumstances. The willingness to approach a care giver acts as a proxy for many physical, physiological and behavioral attributes of well-being, and suggests that validated protocols for managing such colonies could be developed.

Daniels et al. (2019) take novel approach to evaluating the putative causal link between crib biting and gastric ulcers where crib biting is suggested to be an attempt to ameliorate the pain/discomfort of gastric ulcers by using basic saliva to buffer high stomach acid. This pathological study of stomachs of horses sent to slaughter showed that stomachs of crib-biters and non-crib-biters were not anatomically or physiologically different. This finding suggests that both the behavioral and physiological pathology could be independent responses to external stressors. Although in this study, there was no causal link between the physiology and behavior, the study critically demonstrates why behavior must be assessed and that routine assessments of stress are needed to fully evaluate medical conditions.

Williams et al. (2019) used remote heart rate measurement technology to assess the maintenance workload of racehorses actively engaged in interval training, and asked whether the results had any relevance for trainers to better meet the horses' physiological needs. Not surprisingly, measure heart rate was more accurate than trainer visual inspections in determining anaerobic thresholds and response to training. With the heart rate measures, such thresholds were often exceeded at a gallop.

Supplements are seductive across species because they purport to offer a range of calming benefits—something welfare enhancement protocols would favor—without risk. But do they work? Ijichi et al. (2019) asked this question for the putative use of Zylkène (alpha-casozepine) in aiding horses to load transport lorries. Transport of horses is stressful but common, so increased equine calm and compliance would be beneficial. Heart rate, heart rate variability, cortisol and infrared thermography of eyes were all used to measure overall arousal, as were behavioral measures frequently associated with stress, distress and uncertainty. There was no significant effect of the alpha-casozepine on any of the parameters evaluated with the exception of time to load. This effect is unlikely to be biologically meaningful, since the difference between the groups was less than half a second. Accustoming horses to transport early in life and ensuring that they feel safe and in control over the ability to load transport may have a far reaching effect, yet we lack studies on an intervention that has always been available.

Because long-term stress assessments can be potent measures of welfare in production animals, large scale assessment tools that facilitate this are desirable. Hair cortisol is one measure that has proved useful to measure historical or ongoing stress. Nejad et al. (2019) ask a very practical question for those who may be sampling large numbers of cows: does body region matter? No, it does not, which should further decrease resistance to such assessments.

Both Freitas-de-Melo et al. (2019) and Calderón-Leyva et al. (2019) remind us of how important mating and nurturing behaviors are for species that feed so much of the world. Surely, investing in protocols that provide for behaviors the individuals would choose would be smart.

As Hurtado-Parrado et al. (2019) note, Mongolian gerbils are so common as pets and research animals that we may think we know

what is to be known about them. As usual with such assumptions, they are found to be false. Sleeping behavior of these gerbils was established to be crepuscular, but readily disrupted by changing in housing which also affected water intake. Such data allow us to suggest that sleep cycle pattern and water consumption be tested for use as parameters to use to ascertain welfare state.

Finally, in one of the most interesting papers in this issue, Warwick et al. (2019) ask about how we keep snakes. No one in the modern age can reasonably expect that most captive situations meet reptiles' needs. As the gerbils demonstrated changes in sleep and sleep deprivation occur when there is a stressor and indicate potential welfare concerns. One can only assume that there is a silent epidemic in a species that almost without exception is housed in a manner that prohibits stretching to their full body length. For welfare needs of companion animals to be taken seriously, understanding the perspective of the species—as they would see themselves - is essential. It's also rare.

Those interested in working dogs (service and support dogs, detection dogs for explosives, contraband, and wildlife, military and police dogs) should consider participating in the upcoming International Working Dog Conference (IWDC) in Stockholm, Sweden taking place 1-5 September 2019. Abstracts are now being accepted and registration is now open (<https://iwdc.iwdba.org/>). This is a meeting of diverse, passionate individuals that is being held in a country known for its commitment to working dog programs and science. This is an ideal meeting for people just entering the field, and for those who are looking for like-minded collaborators.

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