Lean on me: animal–human interactions

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The COVID-19 pandemic has resulted in unprecedented challenges for people and societies globally. As we cope with the isolation of physical distancing policies, many lean on their relationship with non-human animals for support. Elucidating the perceptual and cognitive abilities of our animal companions is an important component in understanding the relationship between animals and humans. This Special Issue highlights the cognitive aspects of the animal–human interaction, with a focus on the non-human animal. Our call for this Special Issue welcomed investigations across a wide range of species, yet it is not surprising to see that research about dogs came to dominate this issue. When we envisioned this Special Issue, it was with hope that by the time of publication, we might be in a position to reflect back on the pandemic—a look in the rearview mirror, if you will. Although this was clearly optimistic, we found the knowledge gained through these publications to be timely. The collection of studies reported in this Special Issue allows us to gain a better understanding of animal–human interactions and cultivate future research questions to be addressed during this challenging time.

We begin the Special Issue with several studies aimed at understanding the social interactions of dogs and humans. Stevens and colleagues examine how dogs and owners need to work together to train good canine citizens, and Hare and Ferrans' review expounds upon the importance of understanding cognitive processes to enhance working dog programs. Harvie and colleagues show that during the first minute of a casual walk, the owner's, as well as the dog's, state influences heart rate. However, inter-species interactions may be complicated by perceptual and behavioral differences. Thompkins et al. examine brain areas supporting human face familiarity and emotion in dogs, while Correia-Caeiro and colleagues report that dogs and humans

look to different body parts, during intra- and inter-species interactions, to extract emotional information. When gaining information from humans, Pelgrim and colleagues show that dogs may use past experience when deciding which human informants are likely knowledgeable. Dogs also rely on human chemosignals, as D'Aniello and colleagues report that female dogs show interest in happy strangers, whereas under fearful conditions, both males and females seek out their owner over a stranger. Although many studies focus on human adults, Wanser et al. report that family dogs also synchronize their behavior with familiar children. Continuing the investigation of lifespan changes, Bray and colleagues examine how executive function and social gaze improve with age in dogs.

One cannot think of our interaction with dogs without conjuring images of the playful puppy. Thus, how we interact with dogs during play is also explored in this issue. Mitchell reports that dogs at play tend not to satisfy human verbal commands, whereas Mehrkam and colleagues show that owner attention facilitates social play by dogs. Furthermore, Merritt argues that human–dog play needs to be understood through the interaction itself, rather than just through just the lens of either play partner.

The concluding articles look to the future. Krueger et al. explore robotic dog–human interactions as a model for human–robot attachment with applications to robot-assisted therapy. Miklósi and colleagues close off the Special Issue by proposing a human–companion animal partnership approach to understanding animal–human interactions from an ethological perspective, including an exploration into artificial companions for humans.

We hope you enjoy the variety of topics presented in this special issue, with the knowledge gained enriching your scientific and personal animal–human interactions to help you carry on through 2021.

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