

# Animal-assisted intervention

## Definition

Animal-assisted interventions are professionally facilitated interactions between an unfamiliar animal and a person or group used to improve individual health or well-being. Types of interventions include animal-assisted therapy, education, and activities.

## Introduction

Animal-assisted interventions (AAs) are a subset of *human-animal interactions*, a fundamental aspect of the human experience that captures the mutual and dynamic exchanges between people and other animals. Distinguished from affiliative relationships (*pets*), *service animals*, and emotional support animals, AAs involve interactions facilitated by a trained professional or para-professional (e.g., handlers, researchers, teachers, therapists) where an unfamiliar animal serves to confer psychophysiological benefits to a person or group. Dogs are the most commonly used animals in AAs, though many incorporate horses or other species. Interventions are diverse in delivery, environment, purpose, structure, and target-age demographic and have inspired scientific inquiry from a vast array of disciplines. As such, AAs are partitioned into three types: animal-assisted therapy, education, and activities (AVMA, 2019). Further, multi-disciplinary interest has spurred a number of theories for understanding the effects of animal interventions, as well as a movement to prioritize animal welfare in interventions.

## Types of animal-assisted interventions

AAs' goal-directed, professional-facilitated, and time-bound nature distinguishes them from human-animal interactions involving pets and service animals. Types of AAs—animal-assisted therapy, education, and activities—can be distinguished by their structure and goals.

### Animal-assisted therapy

Animal-assisted therapies (AATs) are interventions that incorporate an animal into a professionally developed and delivered treatment plan to improve human physical or psychological functioning (AVMA, 2019). Professionals use AATs to achieve specific physical, psychological, or behavioral goals. For instance, animals in neurorehabilitation therapies for children and adults with conditions such as cerebral palsy, multiple sclerosis, and spinal cord injury facilitate physical activity and recreation while promoting well-being (Muñoz Lasa et al., 2015). Animals in psychological therapies confer emotional benefits, such as those shown to ease patients' distress in cognitive behavioral therapy (Hunt & Chizcov, 2014). Animals also play integral roles in behavioral therapies for children and adults, like promoting positive social interactions among individuals with autism spectrum disorder (Grandin et al., 2015).

## Animal-assisted education

Animal-assisted education (AAE) is an intervention directed or delivered by education professionals to meet educational goals (AVMA; 2019). AAEs are implemented in classrooms for both typically developing students and those with special needs and range from primary classrooms to college campuses. Animal-assisted reading programs, for instance, are commonplace in primary classrooms to improve students' experience with reading and, thus, reading performance (Fung, 2017). Animals are also used to promote motivation and concentration for students with special needs and, further, to improve their behavioral and emotional outcomes (Brelsford et al., 2017).

## Animal-assisted activities

Animal-assisted activities (AAAs) are loosely structured interventions facilitated by a professional or para-professional that center an animal as a motivational or social tool with aim to improve individuals' quality of life (AVMA, 2019). AAAs are rich in variety, lacking the rigid structure necessary in other interventions. For example, AAAs have been effectively used to decrease the stress of children during doctor and dentist visits, ease chemotherapy for oncology outpatients, and increase food intake among nursing home residents with dementia (Friedmann et al., 2010).

## Theories of action

Multi-disciplinary investigations of human-animal interactions have revealed an abundance of therapeutic effects, such as reducing physiological stress (e.g., heart rate, blood pressure; Vormbrock & Grossberg, 1988), facilitating social interactions (e.g., individuals with autism spectrum disorder and dementia; Grandin et al., 2015; Muñoz Lasa et al., 2015), and improving academic performance (e.g., reading literacy, motivation; Brelsford et al., 2017). Such diverse interest has given rise to many theories to explicate these therapeutic effects. Theories range from the neural level (e.g., activation of oxytocin system; Beetz et al., 2012) to the ecological level (e.g., biophilia; Wilson, 1984). Researchers most commonly attribute the benefits of AAI to biophilia and social support theories (Fine & Beck, 2015).

## Biophilia

Biophilia, or the *biophilia hypothesis*, postulates that humans have an innate tendency towards and affinity for life (Wilson, 1984). This concept has been used as a building block to understand the therapeutic effects of natural environments (e.g., Ulrich, 1983) and is now commonly extended to the similarly therapeutic potential of animal interactions (Friedmann et al., 2010; Beetz et al., 2017). Experiences in natural environments and interactions with animals share the ability to reduce stress and anxiety. For example, the mere presence of an animal can decrease physiological reactions to short-term stressful situations (Demello, 1999). Importantly, the biophilia hypothesis also acknowledges differences in the type and effect of animal species, both on an individual and cultural level (Wells, 2019). Objections to biophilia, however, claim that empirical evidence of such affinity is both lacking and difficult to obtain (Herzog, 2002; Joye, 2011).

## Social support

Animals provide social support to humans that alleviates the effects of challenging circumstances (Wells, 2019). Social support from animals in AAls have been primarily observed in two ways, where animals facilitate social interactions or serve as social mediators. For example, some individuals with autism spectrum disorder benefit from AAT because the animal can provide them with the support necessary to initiate social interactions (Grandin et al., 2015). Animals provide social support as mediators in reading programs, on the other hand, by fostering a more comfortable learning environment for students (Fung, 2017). Further, animals can serve as alternatives to other humans, as demonstrated by animals that attenuated adults' physiological stress responses to a stressful situation more than did a friend (Pohleber & Matchcock, 2013).

## Animal welfare

Affiliative and service animal interactions occur repeatedly between an exclusive human-animal pair and, though distinctive in purpose (i.e., bond and service, respectively), showcase evolved behaviors between humans and animals. Animal-assisted interventions, however, are comparatively novel. These interactions require animals to interact in an affiliative manner (i.e., peacefully attend to people and/or be petted) in a confined space with an unfamiliar human for an extended period of time (Butler, 2013; Ng et al., 2015). AAls are rapidly increasing across a variety of institutions, including airports, hospitals, and schools. The rising demand of AAls underscores the need to prioritize and maintain the welfare of the animals. To prevent or mitigate any related distress, advocates have put forth three welfare tenets to uphold during any interaction (Fraser et al., 1997; Ng et al., 2015). First, animals' physical well-being must not be at risk, such that they are free from hunger, thirst, pain, and disease. Second, their affective well-being must be maintained by ensuring animals have freedom from discomfort, fatigue, and fear. Finally, they must be able to engage in behavior that is natural *and* appropriate in the present environment. Conveying the necessity to maintain both human and animal welfare to researchers and professionals affords animals ethical treatment as they serve humans in AAls under these evolutionarily novel circumstances.

## Conclusion

Animal-assisted interventions are a promising supplement to conventional therapies and daily activities alike to improve the health and well-being of individuals. The therapeutic potential of AAls has sparked the interest of researchers across many scientific domains to better understand their mechanisms of action. That, in tandem with the ever-increasing presence of AAls across schools, health care systems, and other institutions, highlights a need to prioritize animal welfare during interventions. Further research efforts and stringent devotion to animal welfare will enable AAls to continue their rapid growth across many aspects of the human experience.

## Cross references

- Animal-Assisted Education
- Animal-Assisted Therapy
- Anthrozoology
- Canine-Human Interaction
- Human-Animal Interaction
- Interspecies Interaction
- Pets
- Service Dogs

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