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Measuring attachment and other aspects of affiliative behaviour in the domestic dog

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Owners largely differ in their relationship with their dogs but dogs seem to show specific attachment behaviour toward their owners. The Strange Situation Test (SST), originally developed for studying mother–infant relationship in humans, was applied to assess dog attachment in many studies. The behavioural patterns observed in owner–dog dyads fulfilled the operational criteria of attachment.

Dogs' use of the owners as secure base is clear manifestation of a specific, individualised attachment relationship that is analogous to the mother–infant bond. The security providing role of the owner was also supported by less response in the dogs' HR level to threatening social stimuli in the presence of the owner than in separation.

Test results with shelter dogs challenged the concept that owners should develop a bond with their puppies otherwise no attachment can be built. The increased need for social contact with humans in shelters can lead to a relatively rapid formation of attachment to a potential attachment figure even in adult dogs.

Significant species-specific behavioural differences towards their human caregivers were found between dogs and extensively socialized wolves in the SST, which could be best explained by selective processes of domestication. Similar differences between dog and wolf pups make unlikely that the dog's attachment toward the owner can be derived directly from the pup–mother relationship in wolves, but rather due to dogs' specific attachment system that is functionally analogue to that present in humans.

Finally, the dog may help us to explore brand new areas of 'interspecific' interactions in social robotics. Being able to adapt to the complex human environment due to its effective cooperating and communicative skills with humans, the dog seems to be the most successful human 'product' for both functional and social purposes. The dog is a promising model for designing social behaviours for our future non-humanoid robotic helpers.