

CRUISING FOR CANINE CONNECTS-DECONSTRUCTING HOMELESS DOGS AND THEIR PERCEIVED MENACE

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ABSTRACT

The review traverses social as well as natural sciences, the combination of zoologists' knowledge about zoonotic diseases and animal behavior along with social scientists' understanding in addressing the very pertinent problem of Human-Dog interaction in Urban Ecologies. It would help in taking better care of dogs as well as humans, both of whom deserve better. Many humans especially children and youngsters, elderly and people with disabilities find themselves ill-equipped to either deconstruct dog behavior or deal with an oncoming one. This faulty communication, even if non-verbal, adds to the air of suspicion, terror and aggression between the two cohabiting species. We propose a Translational Research that involves multidisciplinary integration among basic as well as clinical practice, population and policy based research.

Keywords: human-canine conflict, ethology, evolution, zoonosis, policies and remedies

Introduction

"Each and every one of us has a chance to make a difference. No matter how small. The thing is, suffering is not species-specific and when one of us suffers, we all suffer." (Jennifer Myers, student, on stray dogs at the Puerto Rico beaches)

All over the world, dogs have given rise to a series of human and animal health as well as welfare concerns. So a much needed effort has gone into managing dog populations without causing them any suffering. It has been an established fact that the prevention and control of dog-transmitted zoonoses, improves lives and even livelihoods besides contributing to poverty alleviation. In several settings, unwanted, unhealthy or unvaccinated dogs are still found roaming. The availability of food waste due to changes in society, such as urbanization and increased human densities, combined with irresponsible modes of ownership, have had a multiplier effect on free roaming dogs. These dogs give rise to many human and animal health and welfare concerns in urban spaces and other human habitats WHO(2011). Richard Dawkin's *"The Selfish Gene"* had elicited a widespread scientific and public debate of how humans are placed among all the other inhabitants on earth Dawkins & Davis (2017). Edward O. Wilson (1975a) thus quoted "Let us now consider man

in the free spirit of natural history. In this view, the humanities and social sciences shrink to specialized branches of biology; history, biography, and fiction are the research protocols of human ethology, and anthropology and sociology together constitute the sociobiology of a single primate species". The study traverses veterinary, sociological as well as political aspects of understanding the nuances of animal-human behavior, activism, policy initiatives as well as possibilities of implementation regarding the same. Even though not all dogs bite, and not all dogs that bite have rabies, it is essential to lend a more *dignified and terror free existence* to dogs as well as humans. Human rights of terror free /bite-free existence are as important as animal rights of a dignified living. This human dog relationship also problematizes the notion of *Urban Animals*; who is the animal, and who is human may need to be revisited Fox et. al. (1975), Rubin & Beck (1982). Some countries like Holland have been able to make their streets completely *stray dog free*.

Evolution of "tameness" in dogs: developing human-dog relationship

Dogs continue to play a major role in the lives of people around the world today. The ancestors of dogs were probably the wild wolves as genetic evidences suggest the splitting of dogs from the wolves between

27,000 and 40,000 years ago. The domestication of these wild animals may have two evolutionary reasons; one they are good companion to humans during their hunting expedition and second they shared surplus meat leftover by hunter-gatherers during ice-age. The evolution of domestication and its behavioural study on the “tameness in dogs”, an extensive study was conducted by Dmitry Belyaev (1979) in silver foxes (*Vulpes vulpes*). He chose silver foxes as these are close enough to the domestic dog's jackal and are reasonable starting point for a selection experiment. The behavior of wild dogs being predators and scavengers and hunting in packs, does not qualify them to be the best companions for humans. Indeed ‘tameness’ along centuries have vastly changed the behaviour of wild dogs towards people. The taming of wild wolves has resulted in a friendly attitude with less likelihood to attack us or run off, thus, few complex traits were inculcated as tameness evolved (Price (2002)). Silver foxes are also bred commercially for their fur, so were readily available for Belyaev's experiment (Dugatkin (2018)). Since tameness is a complex character, he selected traits broadly ranging from aggressive, fearful, and friendly to inquisitive responses towards the alchemists. Following Mendelian method of selection breeding, he then selectively mated the tamest foxes for 18 generations till the behavioral characteristics were close enough to echo those of domestic dogs. Thus, he concluded that the variation in tameness among the foxes had a genetic basis and responded to positive selection pressure. Apart from the observed behavioural changes, Belyaev also measured changes in various hormones mainly for serotonin, which is known to suppress aggressiveness and plays a central role in regulation of stress and sex hormone secretion. Surprisingly he noted increased levels of serotonin and female hormones like estrogen and progesterone and low levels of corticosteroids with atrophied adrenal gland. These changes in physiological profile were also accompanied by changes in the reproductive cycle and external appearance such as drooping ears, turned-up tails and variegated coat colours began to appear, features that are familiar in domestic dog breeds. Thus, domestication of dogs is in

concert with the underlying mechanisms of genetics and neurobiology.

Coexistence between dogs and humans

A new study found that strays in India, when presented with two covered food bowls, were more likely to approach the one an experimenter pointed towards them. Researchers in India studied whether 160 stray dogs would react to commands like gesturing toward a bowl. Almost 80 percent of these strays, went to the one to which the experimenter had pointed, regardless of the experimenter having done it briefly or repeatedly. This response is indicative of the fact that untrained stray dogs are capable of following complex pointing cues from humans (Volsche (2019)). Dogs share an intertwined evolutionary history with humans; this close contact has prompted dogs to develop a number of skills that allow them to communicate with people, including interpreting human emotion. Bhadra and her team of researchers found it “quite amazing” that stray dogs without a history of close human interaction were able to “follow a gesture as abstract as momentary pointing (Bhattacharjee et. Al. (2017, 2018, 2019)). This means that they closely observe the human, whom they are meeting for the first time, and they use their understanding of humans to make a decision,” Bhadra adds. “This shows their intelligence and adaptability.” The study suggests that untrained dogs can relate to humans, despite likely having had traumatic experiences with them (Majumder et. Al. (2016)). Researchers pointed towards the need for giving them their space as well as building a sense of empathy for what seems to be another species. Otherising/villianising them would trigger emotions of loneliness, fear as well as aggression amongst dogs.

Dog-associated zoonotic diseases and adverse effect on human-health and community well-being– An old and still neglected problem

Diseases that are transmitted to humans from both pet and wild animals are termed as Zoonoses. Farm animals, pets and wild animals are potent reservoirs of zoonoses pathogens and dogs are responsible for the transmission

of several zoonotic diseases to humans as well as wild animals. Though, current evidence supports the fact that pet dogs pose a minimal zoonotic risk to their human companions; but they still pose health hazards to immunocompromised humans (people with AIDS/HIV, cancer, immune-deficiency disorders, recipient of donor organs, and even pregnant women) Ghasemzadeh et. al. (2014). Moreover, apart from domestic dogs, the increase in the population of stray and semi domestic dogs in urban areas has increased the risk of zoonoses diseases. About 5 million people throughout the world are annually bitten by dogs. Dog bite and fecal oral transmission to humans are noted for quite a few viral, bacterial and protozoan infections Oehler et. al (2009), Ghasemzadeh & Namazi (2015). The almost fatal infection in humans is the Rabies, caused by a virus. Bacterial pathogens like Salmonella, Campylobacter and Leptospirosis cause severe gastroenteritis and liver and kidney disease. Protozoans like Giardia, can cause severe gastroenteritis, Roundworms (*Toxocaracanis*) and tapeworms (*Echinococcus species*) can cause severe liver problems. Fungal infections are also known to get transmitted from dogs. Skin lesions and infections are easily transmitted by *Microsporiumcanis*; while scabies is caused by the mite *Sarcoptescabiei*, *Cheyletiella* mites, and harvest mites (*Trombicula species*).

Apart from humans, dogs can potentially transmit pathogens to wild animals as they transit between wildlife environments and urban areas, interacting with wild animals and humans. Considering the existence of multi-host pathogens, the role of dogs as “spillover bridge” cannot be overlooked. It is clear that the circulation of dogs between wildlife environments and urban areas facilitate the transmission of infectious diseases, besides damaging native species (Fig. 1). Finally, the role of dogs as mediators of reverse-zoonosis (pathogen transmission from humans to wild animals) is hardly explored and needs intense study. Apart from zoonoses, a range of other issues such as injuries and trauma to humans and other animals (livestock and pets); road accidents caused by dogs; impact on wildlife and the environment, including noise pollution, fouling of public parks and open spaces; and

impact on the local economy, particularly tourism are a few human-dog conflicts.

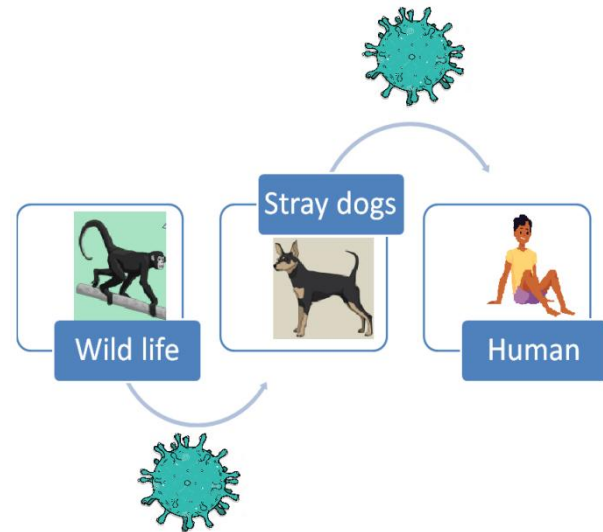


Fig. 1 Potential roles of dogs in the transmission of pathogens.

Paybacks of the human-dog relationship: Covid -19 and bidirectional relationships

Even though human-dog relationship has many negative aspects there are some positive sides to the benefits of this relationship. Irrespective of the level of economic development or religious heritage, dogs are still considered man’s best friend. Interactions with animals may help with depression and anxiety, particularly under stress-prone conditions. Human–animal interactions may even improve peer-to-peer social relationships, as well as enhance feelings of respect, trust, and empathy between people. Interestingly, it has also been shown that stress and poor well-being of dog owners negatively affect the well-being of their companion animals. Such a scenario may lead to high costs and considerable public health risks. Accordingly, we hypothesized that the COVID-19 pandemic, and the related social isolation, might lead to dramatic changes in human–dog bidirectional relationships Barker & Barker (1988).

As our climate continues to change, more disasters including pandemics will likely occur, highlighting the importance of research into crisis-driven changes in human–animal relationships. The objectives of this study were to investigate: (1) how the COVID-19 pandemic affected adoption and abandonment of dogs at shelters, and the public’s general interest in adopting a dog; (2) the

association between the quality of life of owners and their dogs during the pandemic; as well as (3) the effect of the pandemic on the development of new behavioral problems and on the relinquishment rate of dogs by their owners Ditchkoff et. al. (2006).

As humans and dogs are both social animals, these findings suggest potential benefits of the human–dog relationships during the COVID-19 pandemic, in accordance with the One Welfare approach implying that there is a bidirectional connection between the welfare and health of humans and non-human animals. The recent COVID-19 pandemic led to uncertainty and severe health and economic concerns. Previous studies indicated that owning a companion animal, such as a dog or a cat, has benefits for good mental health. Interactions with animals may help with depression and anxiety, particularly under stress-prone conditions.

Human–animal interactions may even improve peer-to-peer social relationships, as well as enhance feelings of respect, trust, and empathy between people. individual’s impaired quality of life and their perceptions of a parallel deterioration in the quality of life of their dogs and reports of new behavioral problems. As humans and dogs are both social animals, these findings suggest potential benefits of the human–dog relationships during the COVID-19 pandemic, in accordance with the One Welfare approach that implies that there is a *bidirectional connection* between the welfare and health of humans and non-human animals. As our climate continues to change, more disasters including pandemics will likely occur, highlighting the importance of research into crisis-driven changes in human–animal relationships.

However COVID-19 pandemic, and the related social isolations, led to significant changes in human–dog bidirectional relationships. Using unique prospective and retrospective datasets, our objectives were to investigate how people perceived and acted during the COVID-19 pandemic social isolation, in regards to dog adoption and abandonment; and to examine the bidirectional relationship between the well-being of dog owners and that of their dogs. Studies have focussed on new aspects of the COVID-19 pandemic by investigating the

human–dog relationship during this crisis. Dog adoptions, abandonment, as well as the association between the well-being of the owners and their perceptions of the quality of life of their dogs, were examined. Overall, in contrast to some of the initial concerns, all dog adoption measures significantly improved as the social restrictions became stricter (Fig 2). Furthermore, there was a clear association between an individual’s quality of life and their perceptions of their dog’s quality of life and behavior, as well as the probability of their relinquishing their petMorgan et. al. (2020).

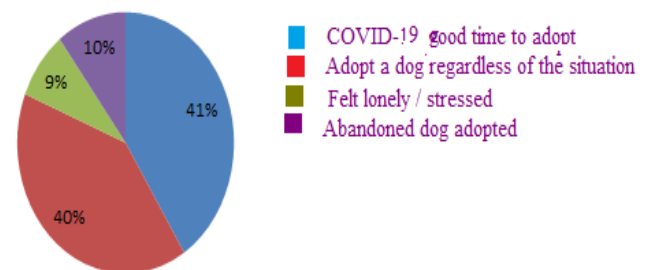


Fig. 2: Percentage of the reasons to adopt a dog specifically during the COVID-19 pandemic.

While it may be clear why people kept their companion animals, the motivation to acquire a new dog through adoption, particularly during the COVID-19 related lockdown, is less intuitive. Many people shared that they adopted a dog since they had been planning to adopt prior to the COVID-19 outbreak, as well as the fact that people were at home and more available to the new challenge. They admitted that a dog could reduce feelings of stress and loneliness.

Is cruelty about our superiority?

This is the most ironical aspect of the environmental coexistence of species. Even when stray dogs are known to not have attacked any human, the tendency to fear them to the point of physically assaulting them, seems to have become quite a common practice. Undoubtedly, there are some dogs that can get to be very vicious and ferocious and such attacks by dogs in cities are not unheard of. What we need to reflect on is the reason for this insecure cum aggressive behaviour. Is there some way we could build a stress free environment where dogs feel as safe as humans? As Karlekar suggests that we need to include animals in our moral universe. The

work by Karlekar (2008) '*Savage Humans and Stray Dogs*' investigates the 2007 mass slaughter of dogs in Bangalore and elsewhere representing India's first documented research into a specific instance of cruelty towards animals. Some people may have the tendency to find cruelty "funny" or to damn the other by demonizing it. Karlekar comes to the conclusion that the line between Nazis exterminating Jews and men murdering dogs is thin. Despite Gandhiji having stated that the greatness of a nation and its moral progress can be judged by the way its animals are treated, people tendency to exploit, assault and even murder dogs, remain unabated.

Significant Legal Facts and Provisions for animal rights

The urban settlement is prevalent with coexistence of some form of wildlife. Though these animals have well adapted to the human-dominated landscapes, they are often considered inconvenient and are harmed or killed mostly via ineffective methods. Humans are themselves responsible for the shift in this ecosystem but killing wildlife simply because they are considered a nuisance is not justified. These anthropogenic activities have resulted in animal welfare violations and wasted resources. Humans can indirectly improve ecosystem health by harmonious coexistence and avoiding maltreating wildlife in and around our communities. It brings in agricultural stability, food security, and the creation of new sustainable economies (e.g., ecotourism).

Many humans look at stray dogs as a menace and a threat. A few unfortunate dog bites are enough to trigger people against stray dogs and perceive them all as prospective enemies. Usually, a dog bites only when provoked, sick or in pain. In fact, according to a study conducted by The American College of Veterinary behaviourists published in Psychology Today, sometimes dogs might not even prefer to interact physically Bekoff (2013). In 2019, in a judgement passed by the High Court of Punjab and Haryana, what was reiterated was that animals and birds have legal rights, akin to human beings. This was a landmark judgement in animal welfare laws which declared citizens as guardians of animals

and reminded them of ensuring their welfare plus protection. The judge went to the extent of coining the aptly named directive entitled "Live and let live" Srivastava (2020).

India has some noteworthy Legal Facts and Provisions in this Matter Gill et. al. (2021): For instance, Article 21 from the Indian Constitution protects all forms of life, including those coming from the animal world. Plus, Article 51A(g) reminds all of the fundamental duty to inculcate compassion for living beings. These two articles, according to the Supreme Court of India are a reminder to the fact that animals have a right to lead a life with inherent worth, dignity and security. According to the Prevention of Cruelty to Animals Act, 1960, Animal Birth Control (Dogs) Rules, 2001 ('ABC Rules') have been framed and prescribe comprehensive rules relating to stray dogs, amongst others. Under the ABC Rules, stray dogs are to be sterilised, vaccinated and then released in their familiar settings. In fact, what has been outlined in these rules is that in any conflict, the provision which favours the animals, would prevail.

The future for human-dog coexistence

Speaking of the pathos that binds the humans with non-humans, French philosopher Derrida (2008) refers to the animalistic behaviour of human beings through which they position themselves to a level of privilege in the entire creation²⁴. He rejects the almost glib, largely imperialist, even if well intentioned, move of claiming to see from the point of view of 'the other'. He criticized two kinds of representations, one set from those who observe real animals and write about them but never meet their gaze, and the other set from those who engage animals only as literary and mythological figure. He did not explicitly consider ethologists and other animal behavioral scientists, but in as much as they engage animals as objects of their vision, not as beings who look back and whose look their own intersects, with consequences for all that follows, the same criticism would apply Weisberg (2009).

In India, Humane Society International (2019) launched 'Abhya Sankalp' that is adopted by Dehradun Municipal Corporation, members of Uttarakhand's legislative assembly along with

the local residents promotes peaceful and harmonious coexistence between human beings and street dogs. This initiative looks into mass street dog sterilization and vaccination projects in Dehradun, Mussoorie, Nainital, Vadodara and Kodaikanal. It also encourages communities to ensure dog welfare and feed them only in specific feeding spots. Finally, within the realm of the laws governing free-roaming street dogs, they should be relocated where they face minimum human-animal conflict. Despite urbanisation and increasingly

busy plus stressful lives in cities, humans do not mind the proposition of companionship. The idea of companion animals has been very popular in large cities Karanikola et.al. (2012). If one plans well and implements effective strategies, stray dogs could not only be collected from roads and colonies but vaccinated and sterilised, besides being adopted by those who are interested. It could act as a therapeutic drive for those who are looking for unconditional love and companionship.

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