

ANIMALS AND COMMUNITY HEALTH:

How do animals help improve the lives of people?

A research summary prepared by

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Humans have been living with domestic animals for thousands of years. With horses, for at least 6,000 years. With cats, for at least 5,000 years. With sheep and goats, for at least 9,000 years. With dogs, our most ancient animal companions, for at least 12,000 years¹; probably even up to 100,000 years. The entire history of human civilisation has been accompanied by, and in many ways was dependent on, the animals which lived within our communities. It has even been suggested that the rise of technology and civilisation over the last 12,000 years would not have been possible without the "lucky break" of living near animals suitable for domestication.² It means that human communities have for a long time been mixed species ones. Put in this context, the modern popularity of pet keeping, at a time when most people no longer have regular contact with other animals, is hardly surprising. The most interesting fact about modern pet keeping, however, is that it can actually improve our lives.

The roles played by the animals in our lives appear to shift in emphasis as we move through different life stages. Since the late 1960s, these roles and their impact on us have been studied by scientists and researchers. Such work has contributed to the growing literature on what we now call the study of Human/Animal Interactions (HAI), or *anthrozoology*. New work is appearing all the time, but the key areas in terms of the impact of pets on human health can be loosely categorised as follows:

1. Physiological Effects and Cardiovascular Health

The impact of animal companions on cardiovascular health was first recognised in the early 1980s, and it is the area of research which really made the medical community take notice of the "pets are good for you" premise:

- American psychiatrist Aaron Katcher examined the effect of social support on the survival of people one year after suffering a heart attack, and found to his surprise that pets made a significant difference. Analysis of variables, including severity of initial disease, showed pet ownership contributed an additional 4% to the patient's chance of survival.³ The results have since been replicated in a larger study of 369 subjects.⁴
- Allen *et al* reported in the journal *Hypertension*, that pet ownership reduced blood pressure responses to mental stress.⁵ In the study, researchers evaluated the effects of pet ownership on blood pressure responses to mental stress before and during ACE inhibitor therapy (medication for blood pressure). Blood pressure medication lowered resting blood pressure, but responses to mental stress were significantly lower among pet owners relative to those who only received medication. The conclusion was that ACE inhibitor therapy alone lowers resting blood pressure, whereas increased social support through pet ownership lowers blood pressure response to mental stress – providing a buffering effect against stress.
- Anderson *et al's* study of 5,741 participants attending a free screening clinic at the Baker Medical Research Institute in Melbourne found that pet owners had lower levels of risk factors for cardiovascular disease, including lower systolic blood pressure and plasma triglycerides, and in men,

lower cholesterol, than non pet owners.⁶ These results held true even after controlling for cigarette smoking, diet, body mass index or socioeconomic profile.

2. General Health

Cross sectional studies like Anderson *et al's* have the disadvantage of not being able to prove cause and effect. Perhaps people who are healthy are more likely to own a pet, for example, rather than the health benefits being a result of pet ownership. Longitudinal designs which examine the health of an individual before and after pet acquisition add weight to the argument:

- English scientist James Serpell conducted a longitudinal intervention study where three groups of people were recruited and the first given dogs, the second cats, and members of the third did not receive a pet. Before the intervention, all three groups had similar results for a self reported assessment of general health. One month later, the reports of minor illnesses and complaints had substantially reduced in the pet groups, and in the case of the dog group (but not the cat), this remained true for the ten month duration of the study.⁷ The difference between the dog and cat effect may be because dog owners take more exercise.
- In a longitudinal study of 225 occupants of nursing homes, half the group were given pet budgerigars. The conclusion six weeks later was that "budgerigars can effectively intervene in processes of aging, not only delaying deficitary processes, but also increasing the physical, social and psychological quality of life in old age."⁸

Several studies have shown that pet ownership may influence the need for medical services.

- In a United States study of 938 Medicare enrollees, pet owners reported fewer doctor contacts during a one year period than non-owners.⁹
- Jorm *et al's* subsequent examination of Australian Medicare records of elderly subjects (mean age 79.9) which found no difference in use of health services between pet owners and non pet owners,¹¹ indicates that the health benefits may not extend equally to all members of the community. It still seems, however, that animal companionship may have a significant impact on the nation's health.
- German, Australian and Chinese data indicate that pet owners make fewer annual doctor visits than non-owners, and that the relationship remains statistically significant after controlling for gender, age, marital status, income and other variables associated with health. Research by Headey *et al* has compared Australian pet owners to pet owners in Germany and China, and found that the health benefits of pet ownership for the general community exist in the populations of all three countries, particularly for the long term pet owners.¹⁰ The German and Australian results were the first national representative surveys to show that (1) people who continuously own a pet are the healthiest group (2) people who acquire a pet after not previously owning one are the second healthiest group and (3) people who cease to have a pet or never had one are the least healthy groups.

3. Psychological Health: Loneliness and Companionship.

One of the first scientifically recorded instances of the use of animals in a therapy setting was described by psychiatrist Boris Levinson in the late 1960s. In a now famous incident, Levinson had been having trouble

making any connection with a particularly withdrawn boy. When, by chance, he happened to have his dog Jingles with him during a therapy session, for the first time, he saw a response in the child who started to interact with the dog. Levinson continued bringing Jingles to the sessions and before long, the boy started interacting directly with him. So successful was this approach that this form of Animal Assisted Therapy was subsequently used by Levinson to establish a "bridging" relationship with most of his young patients. Animal Assisted Therapy (AAT) and Animal Assisted Activities (AAA) are now used in a wide range of therapeutic and institutional settings.

- A study of the impact of cat ownership on mental health by Cheryl Straede and Richard Gates found that "cat owners had significantly (better) scores for psychological health, indicating a lower level of psychiatric disturbance, and could be considered to have better psychological health than the non-pet subjects."¹²
- Psychiatrist Aaron Katcher has pointed to the importance of touch in people's lives, and the scarcity, other than with pets, of socially accepted situations in which we may touch others.¹³
- In one study of elderly persons who had recently lost a spouse, pet ownership and strong attachment to pets were associated with significantly less depression.¹⁴ Pets appear to provide a powerful buffering effect against grief and stress.
- Another study of widows found non pet owners reported a deterioration in health after death of a spouse, whereas pet owners did not.¹⁵

4. Children, Social Development, and Family Life

Pets are an integral part of Australian childhood, with families with children being the most likely group within the community to have a pet. More than being a simple playmate and confidante, pets may also aid childhood development, particularly the development of nurturing and social skills.

- A study of school children by Guttman *et al* showed that pet owners were not only more popular with their classmates, but seemed to be more empathetic as well.¹⁶
- Self esteem has been shown by several researchers to be higher in children or adolescents who have a pet.¹⁷ All these factors may help explain the finding by Reinhold Bergler that in a group of German teenagers, feelings of loneliness, restlessness, boredom, despair, depression and futility did not arise so often in dog owners, while this group also thought life was more fun, and had a more positive outlook on life.¹⁸
- As part of a large study of the physical activity and sedentary behaviours of children by Salmon *et al*, it was found that young children in families with pets – particularly dogs – took more family walks than those without pets.¹⁹ Older children in families with pets rated outdoor play with pets second only to play with friends. And young teenage girls reported feeling safer when walking alone with their family dog, an important finding when we are more and more concerned about community safety.

In the twenty-first century as family sizes drop, pets are also becoming more important as an outlet for the human nurturing instinct. The urge to nurture is a basic human instinct - one which has evolved to make sure that we look after our children and fellow tribe members for indefinite periods. Yet with many women delaying

or even rejecting childbirth, pets provide an essential outlet for this powerful instinct. It's not surprising, therefore, that more and more people treat cats and dogs as their "children". Real children, too, have an urge to nurture, and given that they no longer care for large groups of siblings, pets not only offer the opportunity to nurture, but also to develop nurturing skills.

5. Pets and the Immune System

Western cultures report increasing rates of asthma and allergic disease, with pets often implicated as a causal factor. An interesting development in research in recent years, however, has demonstrated the opposite may in fact be the case: the presence of cats and dogs in the home from an early age may actually 'acclimatise' the developing immune system so that it is less sensitive to allergens in later life.

- Gern *et al* published in the *Journal of Allergy & Clinical Immunology* that having a dog in infancy is associated with reduced allergic sensitization and atopic dermatitis.²⁰
- Dr June McNicholas from Warwick University UK found that children from pet owning families have less school absenteeism through illness, and are more likely to have normal levels of immune function than children from non-owning families.²¹ Dr McNicholas measured levels of salivary immunoglobulin A (slgA) in children of pet owning and non-pet owning households. Salivary immunoglobulin A was selected because of its ease of collection and because it is regarded as an indicator of immune function. 'Health' was also measured in behavioural terms through percentage attendance at school. It was found that pet ownership was significantly associated with better attendance rates across all primary/junior classes at school in one Warwickshire school, but was especially evident in lower school classes (ages 5-8 years). Translated into school attendance this difference was up to 18 half-days more school attendance for children aged 7-8 years. Examination of salivary immunoglobulin levels (slgA) suggests that levels found in pet owning children were more likely to be within normal ranges at all times of testing than were those from non-pet owning children whose levels showed significantly more variability below and above normal range of function.

It appears that the presence of pets in the home has some regulatory or stabilizing influence on the immune functioning of children.

6. Pets and the Elderly

The role of pets in the lives of the aged is particularly significant for those who live in a nursing home or in some situation of assisted care. Numerous studies show pets provide one of the few interventions capable of permanently lifting the atmosphere of hospices and nursing homes.

- A study of a dog in a hospice in the 1980's showed that patients spent less time alone than before the dog arrived, and staff members reported it gave everyone something to talk about.²²
- An Australian study by Patricia Crowley found that 18 months after acquiring a Whippet, residents of a nursing home had reduced tension and confusion and reported less fatigue.²³
- Mara Baun has shown that pets can induce a social response from people with advanced Alzheimer's disease, even those who do not respond to people.²⁴

- An intervention study using animal-assisted therapy (AAT) was conducted by Richeson *et al* to measure the effects on the subjective well-being of 37 nursing home residents. The residents, with no recorded cognitive impairments (mean age 82.5 years) were randomly assigned to 1 of 3 groups: control, AAT, or student visitors. The AAT group showed statistically significant increases in overall satisfaction with life when compared to the control and student-visitors groups, and statistically significant increases on the feelings 'enthusiastic', 'attentive', 'interested', and 'inspired' when compared to the control group.²⁵

Despite all this evidence, many nursing homes still do not allow pets, and fear of giving up their animal companion is a serious concern for many in the community.

For the rest of the elderly population still living in their own home, pet ownership has many benefits. The social facilitation and companionship functions have already been mentioned, but pets also boost activity levels.

- A substantial Canadian study by Parminda Raina of 1,054 aged over 65 revealed pet owners are more able to maintain activities of daily living (ADL) over a one year period.²⁶ Dogs in particular help keep people active, and provide a routine and a "reason to get up in the morning."
- Similar findings came from a Japanese study which investigated the relationship between pet ownership and the level of daily activity (used as a measure of general health) in elderly women living at home. They found that there was a positive correlation between pet ownership and the level of instrumental activity of daily living (IADL). Saito *et al* concluded that it is possible that keeping a companion animal may be linked to better overall health in the elderly.²⁷

7. Pets in the community

Research interest in pets in health is now exploring the idea that pets may help people to build social bridges in our communities, by acting as social lubricants with neighbours or strangers, or even as motivators for walking and use of parks. This in turn facilitates exchanges of greetings and other interactions between people who may not otherwise interact with each other. These social bridges can be collectively thought of as the 'glue that holds society together', also known as *social capital*.

- Health researchers in Western Australia have begun to investigate the positive role that pets play in our local communities. Through a random telephone survey of 339 Perth residents, they found that pet ownership was positively associated with social contact and interaction, and with perceptions of neighbourhood friendliness.²⁸ This building of social capital through greater interaction between members of the community is known to have positive effects on the health and economic viability of a society.
- Peter Messent, in his study of people walking with and without a dog in an urban park, has shown that the presence of a dog dramatically increases the number and length of conversations with other people.²⁹ Pets provide a focus for conversation and a means of "breaking the ice" - especially important for some elderly people, or for those with obvious disabilities, such as people in a wheelchair.³⁰ This effect is often referred to in the literature as "social facilitation".

This area of social research is only beginning to be uncovered, and promises to yield some fascinating findings on the role of pets in people's lives and in their community.

More information

This paper presents only a few examples from the history of research into the relationship between people and companion animals. Hundreds more scientific articles can be searched online at www.anthrozoology.com.au, a website portal to the world of human animal interaction research.

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