

Health benefits of pets: results from the Australian People and Pets Survey

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INTRODUCTION

The Australian People and Pets Survey (November 1994) is, so far as we know, the first nation-wide representative survey in any country to document the health benefits of pet ownership. It shows that dog owners and, less certainly, cat owners enjoy better health than non-owners, and it gives a preliminary account of the mechanisms which explain the differences. Further, because results are drawn from a national representative sample, it is possible to make initial estimates of the health cost savings, both to government and households, which are due to pet ownership. This paper focusses on the physical health and mental health benefits of pets; the budgetary implications will be developed in a subsequent paper.

PREVIOUS RESEARCH AND THE CONTRIBUTION OF THIS STUDY

Previous research in Australia and the United States has shown promising indications of a relationship between pet ownership and better health. Anderson, Reid and Jennings (1992) of the Baker Medical Research Institute in Melbourne conducted a heart risk screening study in which volunteers were given a medical examination and also completed a questionnaire which included questions about pet ownership. Analysis indicated that pet owners have lower blood pressure and cholesterol levels than non-owners and are therefore at less risk of heart disease. The results held for both men and women but with greater benefits for men. The researchers checked that their results were not spurious and held good when statistical controls were used to compensate for the effects of age, income, smoking, weight and other heart risk factors.

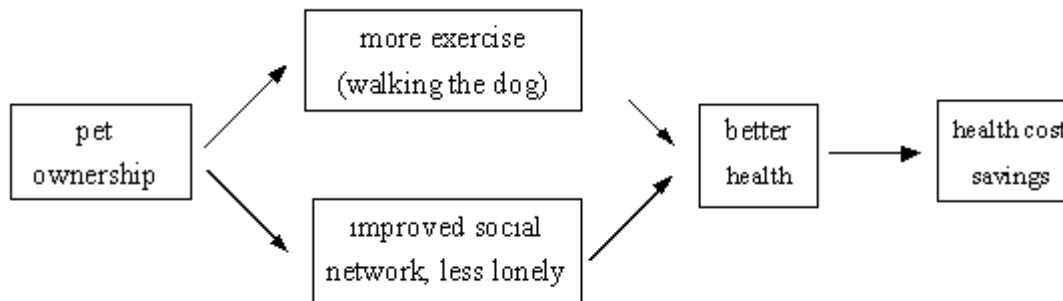
In a crucial American study Judith Serpell (1990a) showed that the relationship between dog and cat ownership and improved health is not merely correlational but probably causal. In her study people who had not recently owned a dog or cat acquired or were given one. Their health, psychological well-being, self-esteem and exercise levels were measured before getting a pet and then six and ten months later. The longitudinal results strongly indicated a causal relationship; acquiring a dog or cat produced a subsequent improvement in health and psychological well-being and dog ownership led to more exercise.

Several other studies have confirmed the general thrust of Anderson et al. and Serpell's findings, and have further explored the mechanisms through which pets produce better health. Baun et al. (1988) showed that petting their own dog directly lowered the blood pressure of people with hypertension. DeSchraver and Riddick (1988) showed that the same result can be achieved by watching fish swim peacefully around in an aquarium. In a controlled experiment Rossbach and Wilson (1989) found that being photographed with one's dog (rather than alone or with flowers!) makes one appear more likeable and so may improve social interactions. In another prospective study Serpell (1990b) found that older people with pets became less stressed by major life events than non-pet owners and made fewer subsequent doctor visits. Finally, in a famous study, Friedmann et al. (1980) found that patients who owned pets were less likely to die in the year following a heart attack than patients who had no pet with them at home.

It should be noted that not all studies unambiguously indicate that pets have health benefits (a good review is Beck and Katcher, 1984). However, one problem in many studies has been a failure to distinguish between the main carer of a pet and other household members. Plainly, if pets confer benefits, the main carer is more likely to gain than others (although there could well be some side-benefits to others). In the present study, interviews were conducted with main carers and it was their health that was at issue.

Reviewing previous research led us to formulate the model at Figure 1 of the mechanisms through which pet ownership might improve health:

Figure 1: Model for assessing the health benefits of pets



The model consists of five testable hypotheses, shown by the five arrows. The first two show possible linkages between pet ownership and health-enhancing lifestyle. Pet owners may take more exercise than non-owners, especially those who have a dog and take recreational walks to exercise it and (incidentally?) themselves. In the People and Pets Survey dog owners reported taking 4.1 walks per week on average, compared with 2.6 for non-owners. A second mechanism by which we hypothesise that pets may improve health is by improving social networks of people. If pets are in the home when friends and other guests arrive, it seems likely that they provide an easy subject of conversation and warm interest and so may help to improve social contacts. They may also reduce loneliness, especially for people who have poor human networks (see below).

To summarise, the first two hypotheses relate pet ownership to potentially health-enhancing behaviours. The next two relate these behaviours or mechanisms to improved health. The final hypothesis to be tested in a later paper is that better health results in expenditure savings for both governments and private households.

THE PEOPLE AND PETS SURVEY

Sample

The People and Pets Survey was sponsored by the Urban Animal Management Coalition (Chair: Dr Robert Kibble). The research was designed by independent consultants Dr Chris Baldock, a veterinary epidemiologist, Mr Malcolm McHarg, a health consultant, Mr Alec Robinson, a computing contractor, and the writer.

Interviews were conducted by The Roy Morgan Research Centre, one of Australia's leading social and market research companies. The sample was a national, stratified, probability sample of just over 1000 people (N=1011) interviewed by telephone in November 1994. The sample size and sampling procedures were broadly the same as for Morgan's well respected, accurate election surveys. The only difference was that the consultants required a sample of Australian residents aged 16 and over rather than 18 and over as in election surveys.

The survey provides *representative samples of pet owners and non-owners*. The questioning sequence was as follows - whoever answered the telephone was first asked if the household had a pet and, if so, what type. This gave an accurate national picture of pet ownership. Then, if the household had a pet (or pets), the interviewer asked to interview the main carer of the dog(s) (if any), or if there was no dog, the main carer of the first pet mentioned.¹ The assumption here (a little crude but, we felt, pragmatically reasonable) was that if there was a dog in the family it would, in a sense, be the 'main' pet. If there was no dog, then the first named animal would serve.

So interviews were conducted with the main carer in all households (60% of the total) which had pets. In the remaining 40% of households, interviews were conducted on pet related issues and on health issues with a representative sample, using The Roy Morgan Research Centre's standard respondent selection procedures.

To summarise, we can have a high degree of confidence that our pet owning and non-pet owning samples are accurately representative of the population groups from which they are drawn.

To provide context for the results in the main body of this report, it should be noted that 40% of households own one or more dogs, 27% own cats, and less than 15% own other types of pets (birds, fish, horses etc.) These estimates are in line with estimates from numerous other Australian surveys.

Health measures

The focus of this report is health, so it is important to specify how respondents' health was measured. Two questions were crucial:-

During the last year, how many times would you say that you have been to the doctor - I mean any sort of doctor, your family doctor or specialists. About how many times?

I'd like to ask you a few questions about any medicine you may be taking at present. Are you taking medication, either tablets or liquid, for any of the following conditions (*read out*): high blood pressure, high cholesterol, sleeping difficulties, a heart problem.

We also included questions to assess exercise levels (including 'walking the dog'), frequency of petting or grooming one's animal, and questions to measure social networks (ie closeness to family and friends, and loneliness), plus perceived 'closeness' to one's pet.

Methods of data analysis

It is well established that utilisation of the health system (including doctor visits) is related to gender and age. Women and older people (and so especially older women) are heavy users of the system compared to men and younger people. Consequently, in all the analyses reported here, it is essential to check that health benefits which might at first appear to be due to caring for a pet 'really' are due to this, and are not 'really' due to gender-age differences in the distribution of pet ownership.

Various statistical procedures were used to 'control' for gender and age, including multiple regression analysis and structural equation modelling using the LISREL software (Joreskog & Sorbom, 1990). However, at the most straightforward level, all results have been checked using the following gender-age breakdowns:

Table 1: Gender-age analysis

Gender-Age Groups	N
Men under 25	69
Men 25-54	190
Men over 55	86
Women under 25	82
Women 25-54	388
Women over 55	196
	(N=1011)

The need to 'control' for gender and age is confirmed by the finding that more women than men are pet-carers and that older people have fewer pets (especially fewer dogs) than younger people (there is no strong relationship between socio-economic status and pet ownership).

RESULTS

Overall health benefits

Table 2 gives crucial results showing the better health and (presumably) quality of life which flows from owning a dog and/or cat.

Table 2: Differences in health between pet owners^a & non-owners (N=1011)

	Doctor visits: last year	% on medication	N ^b
No dog nor cat	5.0	19%	459
Owens dog or cat	4.4*	12%**	540
Owens dog, no cat	4.6	11%	269
Owens cat, no dog	4.2*	15%	127
Owens dog and cat	4.4	11%**	144

a. Pet owners are defined as the main carers of pets. In pet owning households all interviews were conducted with the main carer.

b. The total in this column exceeds the sample size of 1011 because the categories are not mutually exclusive.

* Pet owners and non-owners differ at the .10 significance level (1-tailed test).

** Pet owners and non-pet owners differ at the .05 significance level (1-tailed test).

It can be seen that dog and cat owners need to go (or actually go) to the doctor less often than non-owners, and are considerably less likely to be taking medication for heart problems, high blood pressure, high cholesterol or sleeping difficulties. The first row of the table shows the average annual number of doctor visits and the probability of being on medication, of people in households with no dog or cat. These figures may be regarded as baselines; an indication of where pet owners would be without their pets. Compared with non-owners, it can be seen that all categories of dog and cat owners appear to be in better health. Statistical significance tests (see the asterisks) were undertaken to see if use of the health system among pet owners was significantly lower than among non-owners. The results indicated that all categories of owners were in significantly better health as measured by either doctor visits or use of medication, but not necessarily both.

Overall, these results are quite strongly indicative of the health benefits of caring for a dog or cat (or both), although it is essential that the evidence be replicated in future national surveys in order to have greater confidence in its soundness.

It was noted earlier that women are heavier users of the health system than men, and older people of course are heavier users than young adults and middle-aged people. Could it be that the apparent differences in favour of pet owners shown in Table 2 are really due to pet ownership being associated with gender and age, rather than 'really' due to pets as such? Table 3 answers this question by showing average doctor visits and medication use for each of six gender-age groups.

Table 3: Health benefits of pets: Gender-age groups (N=1011)^a

	Doctor visits in last year		Taking medication	
	Owns dog and/or cat	Non-owners	Owns dog and/or cat	Non-owners
Men under 25	3.7	4.9	0%	0%
Men 25-54	2.6	1.9	9%	5%
Men over 55	5.3	5.9	29%	34%
Women under 25	4.6	6.5	6%	0%
Women 25-54	4.3	4.4	4%	5%
Women over 55	6.7	7.6	40%	50%

a. Sub-sample sizes are shown in Table 1. Due to small numbers, differences between pet and non-pet owners were not statistically significant at the .05 level.

Table 3 indicates that in all gender-age groups (except men aged 25-54) pet owners have to go to the doctor less often than non-owners. Among older men and women use of medication also appears considerably lighter among pet owners. It should be noted that, due to small sub-sample sizes, none of these gender-age differences is statistically significant. The importance of Table 3, however, is that it broadly confirms the finding in Table 2 that pets confer health benefits, and that the benefits are not just a statistical artefact due to both pet ownership and use of the health system being associated with gender and age.

A point of particular interest is that three gender-age groups who go to the doctor a lot, namely young women, older women and older men, appear to benefit most from pets. This is an initial indication that pets may substantially reduce the nation's health costs.

Pets improve social networks, reduce loneliness and are especially beneficial to non-partnered people

The People and Pets Survey provides strong evidence that having a pet improves people's social networks by reducing loneliness, particularly if a close bond is formed between owner and pet. Pet owners, especially dog owners, reported feeling lonely less often than did non-owners. Fifty-eight per cent of pet owners said they 'got to know people and made friends' through having pets. Similarly, 62% of owners said that having a pet around when people visited them made it easier 'to get into conversation and create a friendly atmosphere'. Seventy-nine percent of owners found it comforting to be with their pet 'when things go wrong'. Finally, 91% said they felt very 'close' to their pet - almost as many who felt very close to their family. This presumably indicates that in most pet-owning households pets are regarded as very much part of the family.

Pets, and particularly dogs, appear to offer special benefits to non-partnered people: singles, separated and divorced people, widows and widowers. Non-partnered people generally have less supportive social networks than the partnered. The People and Pets Survey indicates that, to a non-trivial extent, dogs as companion animals can substitute for deficiencies in the human network of the non-partnered. Non-partnered people who reported feeling close to their dog made significantly fewer doctor visits and took less medication than non-partnered people who were not close to their dog.² In short, for non-partnered people (in contrast to the partnered) there are health benefits derived from the human-animal bond which are over and above the benefits which all dog owners enjoy. This relationship between better health and closeness to one's dog appears to hold good for men and women, old and young and people at different income and status levels.³

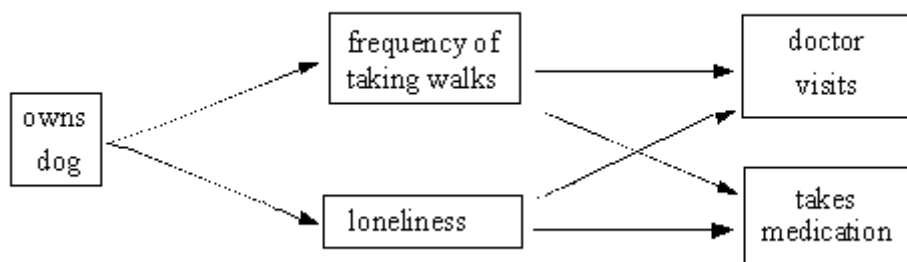
Are two dogs (or two cats) better than one?

If caring for a dog or cat is good for your health, mental health and social networks, is it then true that two dogs or two cats are twice as beneficial as one? The answer, alas, is 'no'. People who own multiple animals have neither better nor worse health and networks than people with one animal. Many vets recommend that people have two dogs (and perhaps two cats) as companions for each other. This may be good advice but unfortunately provides no extra human benefits!

Mechanisms through which health benefits occur

Building on the results of the previous section, we hypothesised that pet ownership may improve health through encouraging owners to take more exercise (specifically more recreational walks) and by improving social networks and/or reducing loneliness. Preliminary inspection of results (correlations) showed that our 'mechanisms' model only looked promising for dog owners, so Figure 2 simply splits the sample into dog owners and others.

Figure 2: Mechanisms through which dogs may improve health (N=1011)^{ab}



a. The coefficients are standardised regression coefficients (Betas). All results are net of gender, age and socio-economic status.

b. n.s. = not significant at the .05 level.

The results in Figure 2 support only the first part of our 'mechanisms' model but not the second part. Caring for a dog does increase the chances that one will take recreational walks and does reduce loneliness, but there are no statistically significant links between taking more walks or being less lonely and better health (as indicated by frequency of doctor visits and use of medication).

So the conclusion from the analysis so far is that caring for a dog or cat is (1) of overall benefit to health and (2) that owning a dog increases the amount of exercise one takes and also reduces loneliness, but (3) these two changes to one's lifestyle are not by themselves (ie net of other important variables like gender, age and social status) responsible for health improvements costs.

CONCLUSIONS, IMPLICATIONS & FUTURE RESEARCH REQUIREMENTS

The main conclusion of this report is that caring for a dog or cat enhances one's health and quality of life. An implication to be explored in future research is that the existence of large numbers of pets in Australian families (40% own dogs and over 25% own cats) may well save large sums of money in the government health budget, as well as reducing private expenditure on health. It follows that, if dog and cat ownership could be increased, further savings would result. It is worth noting here that women's health perhaps benefits somewhat more than does men's from pet ownership (see Table 3) and that women are heavier users of the health system. So if a campaign to increase pet ownership were successfully focused on women (especially older women) the savings would be all the greater.

The results of the People and Pets Survey strongly indicate that future research on health benefits and health savings will have substantial pay-offs. A first essential scientific requirement is to replicate the present study, preferably with a larger sample so that group differences can be more reliably assessed. It would also be extremely valuable to collect data on other possible benefits and savings arising from pet ownership, including perhaps lower rates of hospitalisation and lower pharmaceutical usage.

It is also important to recognise that the People and Pets Survey only assessed benefits to the main carers of pets who were aged sixteen and over. A more comprehensive study is needed which also gauges potential benefits to family members besides the main carer and, additionally, investigates benefits to children. Much remains to be done but it is already quite clear that the health benefits and cost savings due to pets are very considerable.

Footnotes

¹ Interviews where the main carer aged 16 or over. Children under 16 were not interviewed

² The 'closeness to pet' index combined (averaged) answers to four agree-disagree questions. 'I feel close to my pet', 'When things go wrong it is comforting to be with my pet', 'Having a pet around when people visit me, makes it easier to get into conversation and create a friendly atmosphere', and 'I have sometimes got to know people and make friends through having pets'

³ Not all partial correlations were significant at the .05 level but the relationships were strong enough and the overall pattern clear enough to provide some confidence that results were not spurious and would hold up in larger survey

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