

A Comparative Study of Pet Owners and Non-Pet Owners to find out the Difference between their Physical, Mental, and Social Well-Being

Deepa Raghunath¹, Deepika Rathore¹, Harish Shukla¹, Nitisha Bilaye¹, Naman Sahu¹, Nayan Gupta¹, Krati Sharma¹

¹Department of Community Medicine, Mahatma Gandhi Memorial Medical College, Indore, Madhya Pradesh, India

ABSTRACT

Introduction: The human-animal bond is a mutually beneficial and dynamic relationship between people and animals that influence the health and well-being of both. While many of us intuitively understand the benefits of positive interactions with animals in our lives, an emerging body of research is recognizing the impact the human-animal bond can have on individual and community health. **Objective:** The objective of this study was to study the effects of keeping pets on the physical, mental, social, and emotional well-being of participants. **Methodology:** A cross-sectional study was done on predecided sample of 120, i.e., 60 pet owners and 60 non-pet owners randomly selected from residential areas of Indore city, to compare the effects of keeping pets on the physical, mental, social, and emotional well-being of participants using appropriate scales for various parameters. **Results:** About 63.33% of pet owners were found physically healthy, while only 20% of non-owners were physically healthy and 76.66% were having mild-to-moderate physical problems. Pet owners are found to be happier in comparison to non-pet owners ($P < 0.001$). None of the pet owners were found to have low self-esteem, as opposed to 36.6% of non-pet owners who were found to have low self-esteem. 43.33% of non-pet owners were found to have moderate anxiety levels while only 13.33% of owners had moderate anxiety ($P = 0.011$). 86.66% of pet owners were found to have no depression; in contrast, 40% of non-owners had severe depression ($P < 0.001$). 86.66% of pet owners were found to have no depression; in contrast, 40% of non-owners had severe depression ($P < 0.001$). Only 46.66% of pet owners were found to be lonely as compared to 80% of non-pet owners. **Conclusion:** The study shows that pet owners are physically more healthy, mentally more happier, less anxious, less depressed and are more social in comparison to non-pet owners.

Key words: Pet owners, non-pet owners, physical, mental and social well being

INTRODUCTION

Dogs, cats, and other pets have become an integral part of our everyday lives and the relationship that exists between humans and animals has become known as the human-animal bond. The human-animal bond is a mutually beneficial and dynamic relationship between people and animals that influence the health and well-being of both. The company of a pet relaxes and entertains people, but the benefits of pet ownership go beyond simple joy. People of all ages, both healthy and ill, benefit from living with a pet.

Many studies have shown that there are health benefits for owners who develop close bonds with a pet.^[1-4] Benefits ranged from higher survival rates from myocardial infection,^[5] low risk of cardiovascular diseases,^[6,7] lower blood pressure

and cholesterol levels,^[8,9] reduced risk of asthma and allergic rhinitis,^[10,11] and better psychological well-being^[5] than people who do not have a pet.

Pets also motivate people to be more active and social. Walking the dog provides not only physical exercise but also an opportunity to interact with humans such as other dog owners and curious children. During stressful times, the comfort of a pet protects against depression^[12-15] and loneliness.^[16-18] However, in some studies, the effectiveness of the presence of home pets on the prevention of loneliness and social isolation and improvement of subjective well-being has been questioned.^[3,19,20]

The daily comfort, social interaction, and motivation provided by pets improve cardiovascular health and lower

Correspondence: Dr. Deepika Rathore, Department of Community Medicine, Mahatma Gandhi Memorial Medical College, Indore, Madhya Pradesh, India. Phone: +91-9098359350. E-mail: rathore.gwl@gmail.com

blood pressure. Even relaxing with, talking to or simply watching an animal can lower a person's blood pressure.^[19]

Animal companionship is commonly linked to lower death rates and better long-term health.

Hence, this study is an attempt to find out the impact of keeping pets on the physical, mental, social, and emotional well-being of human beings by doing a comparative study between owners and non-owners of pets.

METHODOLOGY

This comparative study was done for 3 months on predecided sample of 120, i.e., 60 pet owners and 60 non-pet owners matched for their age and gender were randomly selected from residential areas of Indore city. Those who gave informed consent to participate in the study were included in the study.

A predesigned semi-structured questionnaire containing questions for demographic and general information such as age, sex, and type of pet and specific questions based on various scales for the assessment of physical, mental, and social well-being, was administered to the study subjects.

Cohen and Hoberman inventory of physical symptoms^[21] was used for the assessment of physical well-being, which asks participants to report which of 33 symptoms (e.g., headaches) they had experienced in the past 2 weeks. The total number of symptoms experienced was summed, with greater scores reflecting participants experiencing more physical illnesses and symptoms. Range of score: 0–132.

Score	Category
≤12	Healthy
13–25	Mild physical problems
26–40	Moderate physical problems
>40	Severe physical problems

Rosenberg self-esteem scale^[21] was used to assess self-esteem, in which participants rate their agreement with 10 statements (e.g. “all in all, I am inclined to feel that I am a failure”) on a scale ranging from 1 (strongly disagree) to 4 (strongly agree). Range of score: 10–40. The sum of participants' responses (reverse coded for 5 items) was calculated, with larger scores indicating greater self-esteem:

Score	Category
10–24	Low self-esteem
25–35	Moderate self-esteem
36–40	High self-esteem

Hamilton Anxiety Rating Scale^[21]

Hamilton anxiety rating scale was used for the assessment of anxiety. The scale consists of 14 items, each defined by a series of symptoms and measures both psychic anxiety (mental agitation and psychological distress) and somatic anxiety (physical complaints related to anxiety). The options are graded from 0 (indicating symptom not present) to 4 (very severe) Range of score: 0–56.

Sum of all the 14 items is calculated, with larger score indicating greater anxiety:

Score	Category
0–17	Mild anxiety
18–24	Mild-to-moderate anxiety
25–30	Moderate-to-severe anxiety
31–56	Very severe anxiety

Revised UCLA Loneliness Scale^[21]

Participants reported how often they experience 20 different descriptions of loneliness (e.g., “How often do you feel that no one really knows you well?”) on a scale ranging from 1 (never) to 4 (always). Range of score: 20–80.

The sum of participants' responses (reverse coded for nine items) indicated the extent to which one experienced greater loneliness:

Score	Category
20–40	No loneliness
41–60	Average loneliness
61–80	Frequent loneliness

Center for Epidemiological Studies Depression Scale^[21]

Subjects endorse the extent to which they have experienced 20 different affect-related symptoms in the past 2 weeks (e.g., “I felt that everything I did was an effort”) on a scale ranging from 0 (rarely or none of the time, less than once a day) to 3 (most or all of the time). Range of score: 0–60.

The sum of subjects' responses was calculated, with greater scores indicating more depressed affect:

Score	Category
0–14	No depression
15–21	Mild to moderate depression
>21	Severe depression

After calculating the scores for each of the scales for each individual in the study and categorizing them according to the criteria described above, the data were entered into the SPSS software and analyzed to compare the physical

symptoms, self-esteem, happiness, anxiety, depression, and loneliness levels between pet owners and non-pet owners. Continuous data were expressed in terms of mean and standard deviation. Categorical data were expressed in terms of proportion. For ordinal data, Mann–Whitney test was applied as test of significance. $P < 0.05$ was considered statistically significant.

RESULTS

The present study was planned to compare the physical, mental, social, and emotional well-being of 60 pet owners and 60 non-pet owners. The mean age of pet owners is 29.03 ± 10.34 and that of non-pet owners is 28.90 ± 8.22 . The two groups did not differ significantly from each other in age, gender, and socioeconomic status. Among pet owners, 85% are having dog as their pet followed by cat (6%) and the most common reason of keeping a pet is that they like animal, they consider their pet as a family member. Pet owners feel that companionship and unconditional love are the most fulfilling aspect of being a pet owner.

On the basis of various scales, following results were obtained. According to physical score assessment, 63.33% of pet owners were healthy, while only 20% of non-owners were physically healthy. 33.33% owners and 76.66% non-owners had mild-to-moderate physical problems. On applying Mann–Whitney test, there is a significant difference observed ($P = 0.002$) as shown in Table 1. According to self-esteem score assessment, none of the 60 pet owners were found to have low self-esteem, as opposed to 36.6% of non-pet owners who were found to have low self-esteem. 13.33% of pet owners were found to have high self-esteem while none of the 60 non-owners had high self-esteem, $P < 0.001$ [Table 2]. According to anxiety score assessment, 43.33% of non-owners were found to have moderate anxiety levels while only 13.33% of owners had moderate anxiety, $P = 0.011$ [Table 3]. According to depression score assessment, there is a significant difference between pet owners and non-pet owners ($P < 0.001$). 86.66% of pet owners were found to have no depression; in contrast, 40% of non-owners had severe depression, $P < 0.001$ [Table 4]. According to the loneliness score assessment, non-pet owners were found more likely to be lonely than pet owners. Only 46.66% of pet owners were found to be lonely as compared to 80% of non-pet owners, $P = 0.007$ [Table 5]. According to the happiness score assessment, 70% of pet owners were happy, while only 36.6% of non-pet owners were happy. Pet owners are found to be happier in comparison to non-pet owners, $P < 0.001$ [Table 6].

DISCUSSION

The human-animal bond is a mutually beneficial and dynamic relationship between people and animals that influence the health and well-being of both. Spending time with animals

Table 1: Comparison between pet owners and non-pet owners on the basis of physical symptoms scale

Physical symptoms	Groups		Total <i>n</i> =120	<i>P</i> value
	Pet owners <i>n</i> =60	Non-pet owners <i>n</i> =60		
Healthy	38	12	50	0.002 (significant)
Mild problems	12	26	38	
Moderate problems	8	20	28	
Severe problems	2	2	4	

Table 2: Comparison between pet owners and non-pet owners on the basis of self-esteem scale

Self-esteem level	Groups		Total <i>n</i> =120	<i>P</i>
	Pet owners <i>n</i> =60	Non-pet owners <i>n</i> =60		
Low self-esteem	0	22	22	0.001 (significant)
Moderate self-esteem	52	38	90	
High self-esteem	8	0	8	

Table 3: Comparison between pet owners and non-pet owners on the basis of anxiety scale

Anxiety level	Groups		Total <i>n</i> =120	<i>P</i>
	Pet owners <i>n</i> =60	Non-pet owners <i>n</i> =60		
Mild	52	34	86	0.011 (significant)
Moderate	8	26	34	

Table 4: Comparison between pet owners and non-pet owners on the basis of depression scale

Depression level	Groups		Total <i>n</i> =120	<i>P</i>
	Pet owners <i>n</i> =60	Non-pet owners <i>n</i> =60		
Low depression	52	22	74	<0.001 (significant)
Mild-to-moderate depression	4	14	18	
Severe depression	4	24	28	

can significantly reduce pain, anxiety, depression, and fatigue in people with a range of health problems.

In this study, the various aspects of physical, mental, and social well-being are compared between pet owners and non-pet owners using different scales.

In the present study, it is found that 70% of pet owners were happy, while only 36.6% of non-pet owners were happy. Pet

Table 5: Comparison between pet owners and non-pet owners on the basis of loneliness scale

Loneliness level	Groups		Total n=120	P
	Pet owners n=60	Non-pet owners n=60		
No loneliness	32	12	44	<0.007 (significant)
Average loneliness	22	32	54	
Frequent loneliness	9	16	25	

Table 6: Comparison between pet owners and non-pet owners on the basis of happiness scale

Happiness level	Groups		Total n=120	P value
	Pet owners n=60	Non-pet owners n=60		
Very sad	0	12	12	<0.001 (significant)
Sad	0	8	8	
Neutral	18	18	36	
Happy	22	18	40	
Very happy	20	4	24	

owners are found to be happier in comparison to non-pet owners. 43.33% of non-owners were found to have moderate anxiety levels while only 13.33% of owners had moderate anxiety.

This was similar to the findings of Marcus *et al.* (2012)^[22] in which it was found that there were benefits within participants' mood from therapy dog visits - significant improvements were reported for pain, mood, and other measures of distress among patients after the therapy dog visit but not the waiting room control.

In their study, participants were a large sample of mixed chronic pain patients that either spent clinic waiting time with a therapy dog or waited in the outpatient waiting area before their appointments. Those who spent time with a therapy dog saw changes in positive feelings including high self-perceptions of calm, pleasantness, and cheerfulness.

In another study, anxiety reduction was observed after a therapy dog intervention for patients with psychotic disorders or other psychiatric conditions (Marcus *et al.*, 2012).^[22]

In another study conducted by Berry *et al.*,^[23] in 2013, found that anxiety also decreased among children with autism spectrum disorders when an assistance dog was integrated into the family.

In the present study, it is found that number of persons with no depression is significantly higher among pet owners in

comparison to non-pet owners which is similar to the findings of many other studies conducted by Barker and Wolen (2010)^[24] which stated that pet ownership is associated with reduced stress, where pets may act as a buffer during stressful events.

In this study, on the basis of physical score assessment, it is found that 63.33% of pet owners were healthy, while only 20% of non-owners were physically healthy which is similar to the findings of study conducted by Mieke and Sandra,^[25] in 2011, who stated that having a pet has been claimed to have beneficial health effects and evidence shows that dogs can affect people in a positive way. In another study conducted by Allen *et al.*,^[8] in 2002, found that couples with pets had significantly lower heart rate and blood pressure during baseline, and faster recovery following stress.

Limitation

Due to lack of adequate time, we had selected a small sample size (60+60); in spite of small sample size, we have successfully achieved our objective.

CONCLUSION

Despite the methodological limitations, the present study found that pet owners are physically healthy, mentally happier with high self-esteem, less anxious, as well as depressed and more socialized in comparison to non-pet owners.

Recommendations

As the health benefits of pet ownership become more widely understood, there is a need to put a great effort to include animal as a type of therapy for the sick or elderly. In today's scenario, when the mental illnesses are on rise, psychiatric service dogs can be used to assist people with depression, anxiety, schizophrenia, bipolar disorder, etc. Pets can be used to provide companionship to the elderly, the single child, the divorced, or just any person looking for affection among those who are interested in owning pets. It is the need of hour to involve the pet in health research and practices.

REFERENCES

1. Andersson L. Loneliness research and intervention: A review of the literature. *Aging Ment Health* 1998;2:264-74.
2. Garrity TF, Stallones L. Effect of pet contact on human well-being: Review of recent research. In: Wilson CC, Turner DC, editors. *Companion Animals in Human Health*. London: Sage Publications, Inc.; 1998.
3. Gilbey A, McNicholas J, Collis GM. A longitudinal test of the belief that companion animal ownership can help reduce loneliness. *Anthrozoos* 2007;20:345-53.
4. Cline KM. Psychological effects of dog ownership: Role strain, role enhancement, and depression. *J Soc Psychol* 2010;150:117-31.

5. Friedmann E, Katcher AH, Lynch JJ, Thomas S. Animal companions and one year survival of patients after discharge from a coronary care unit. *Public Health Rep* 1980;95:307-12.
6. Anderson WP, Reid CM, Jennings GL. Pet ownership and risk factors for cardiovascular disease. *Med J Aust* 1992;157:298-301.
7. Parslow RA, Jorm AF. Pet ownership and risk factors for cardiovascular disease: Another look. *Med J Aust* 2003;179:466-8.
8. Allen K, Shykoff BE, Izzo JL Jr. Pet ownership, but not ace inhibitor therapy, blunts home blood pressure responses to mental stress. *Hypertension* 2001;38:815-20.
9. Allen K. Are pets a healthy pleasure? The influence of pets on blood pressure. *Curr Dir Psychol Sci* 2003;12:236-9.
10. Ownby DR, Johnson CC, Peterson EL. Exposure to dogs and cats in the first year of life and risk of allergic sensitization at 6 to 7 years of age. *JAMA* 2002;288:963-72.
11. Nafstad P, Magnus P, Gaarder PI, Jaakkola JJ. Exposure to pets and atopy-related diseases in the first 4 years of life. *Allergy* 2001;56:307-12.
12. Holbrook MB, Stephens LD, Day E, Holbrook SM, Strazar G. A collective stereographic photo essay on key aspects of animal companionship: The truth about dogs and cats. *Acad Market Sci Rev* 2001;1:1-16.
13. Wells DL. The effects of animals on human health and well-being. *J Soc Issues* 2009;65:523-43.
14. Kanamori M, Suzuki M, Tanaka M. Maintenance and improvement of quality of life among elderly patients using pet-type robot. *Japanese J Geriatrics* 2002;39:214-8.
15. Tamura T, Yonemitsu S, Itoh A, Oikawa D, Kawakami A, Higashi Y, *et al.* Is an entertainment robot useful in the care of elderly people with severe dementia? *J Gerontol A Biol Sci Med Sci* 2004;59:83-5.
16. Baumeister RF, Leary MR. The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychol Bull* 1995;117:497-529.
17. McNicholas J, Collis GM. Dogs as catalysts for social interactions: Robustness of the effect. *Br J Psychol* 2000;91 (Pt 1):61-70.
18. Banks MR, Banks WA. The effects of animal-assisted therapy on loneliness in an elderly population in long-term care facilities. *J Gerontol A Biol Sci Med Sci* 2002;57:M428-32.
19. Miltiades H, Shearer J. Attachment to pet dogs and depression in rural older adults. *Anthrozoos* 2011;24:147-54.
20. Parslow RA, Jorm AF, Christensen H, Rodgers B, Jacomb P. Pet ownership and health in older adults: Findings from a survey of 2,551 community-based australians aged 60-64. *Gerontology* 2005;51:40-7.
21. McConnellAR, Brown CM, Shoda TM, Stayton LE, Martin CE. Friends with benefits: On the positive consequences of pet ownership. *J Pers Soc Psychol* 2011;101:1239-52.
22. Marcus DA, Bernstein CD, Constantin JM, Kunkel FA, Breuer P, Hanlon RB, *et al.* Animal-assisted therapy at an outpatient pain management clinic. *Pain Med* 2012;13:45-57.
23. Berry A, Borgi M, Francia N, Alleva E, Cirulli F. Use of assistance and therapy dogs for children with autism spectrum disorders: A critical review of the current evidence. *J Altern Complementary Med* 2013;19:73-80.
24. Barker SB, Wolen AK. The benefits of human-companion animal interaction: A review. *J Vet Med Ed* 2008;35:487-95.
25. Mieke R, Sandra B. About cats and dogs. Reconsidering the relationship between pet ownership and health related outcomes in community-dwelling elderly. *Soc Indicators Res* 2011;102:373-88.